A text dump on The New Atlantis Journal

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The Journals Wikipedia Page

The New Atlantis is a journal founded by the social conservative advocacy group the Ethics and Public Policy Center, now published by the Center for the Study of Technology and Society. It covers topics about the social, ethical, political, and policy dimensions of modern science and technology. The journal is editorially reviewed, however is not peer-reviewed on scientific topics. It is edited by Ari Schulman, having previously been edited by co-founders Eric Cohen and Adam Keiper.

The journal's name is taken from Francis Bacon's utopian novella New Atlantis, which the journal's editors describe as a "fable of a society living with the benefits and challenges of advanced science and technology." An editorial in the inaugural issue states that the aim of the journal is "to help us avoid the extremes of euphoria and despair that new technologies too often arouse; and to help us judge when mobilizing our technological prowess is sensible or necessary, and when the preservation of things that count requires limiting the kinds of technological power that would lessen, cheapen, or ultimately destroy us." Writing for National Review, editor Adam Keiper described The New Atlantis as being written from a "particularly American and conservative way of thinking about both the blessings and the burdens of modern science and technology." New Atlantis authors and bioethicists publishing in other journals have also similarly referred to The New Atlantis as being written from a social conservative stance which utilizes religion.

Subjects

The New Atlantis tends to publish views in favor of technological innovation but wary of certain avenues of development. For example, the journal has generally advocated nuclear energy;(11) space exploration and development through public–private partnerships,(12) including manned missions to Mars;(13) biofuels;(14) and genetically modified foods.(15) But it has expressed ambivalent or critical views about developments in synthetic biology(16) and military technologies like drones, chemical weapons,(19) and cyberwarfare.(20) Articles often explore policy questions on these and other issues, sometimes advocating particular policy outcomes, especially on health care,(21) environmental management,(22) and energy.

The journal has published widely on bioethics, including issues such as stem cell research,(24) assisted reproduction,(25) cloning,(26) assisted suicide,(27) organ and tissue donation,(28) the purported link between vaccines and autism,(29) and informed

consent.(30) Articles on these issues often highlight the potential for dangerous or degrading developments, including concerns over human dignity,(31) with many articles examining human enhancement,(32) and life extension,(33) and historical precedents for abuse in eugenics(34) and population control.

The journal also features broader philosophical reflections on science and technology, and tends to be skeptical of what its authors consider to be speculative overreach common in popular discussions. Examples include articles that have defended the existence of free will in light of developments in neuroscience,(36) questioned the wisdom of using brain scans in courtrooms,(37) and described how growing knowledge of epigenetics has undermined common claims about genetic determinism.(38) While the journal has sometimes aired libertarian views about human enhancement and transhumanism,(39) its contributors generally tend to question whether technologies like artificial intelligence,(40) friendly artificial intelligence,(41) and genetic enhancement are possible or desirable.

The journal has also published widely on the interpersonal effects of the Internet and digital technology. It has featured articles on subjects like Facebook, cell phones,(47) multitasking,(48) e-readers,(49) GPS and navigation, and virtual reality.(51) A 2006 article by Matthew B. Crawford advocating the intellectual and economic virtues of the manual trades(52) was noted as a best-of-the-year essay by New York Times columnist David Brooks,(53) and was subsequently expanded into the bestselling(54) book Shop Class as Soulcraft. The journal also frequently publishes essays on philosophical and literary questions relating to science and technology.

Criticism

Sexuality and Gender Special Report

In August 2016, Paul R. McHugh, at the time a retired professor,(59) co-authored a 143-page review of the scientific literature on gender and sexuality in The New Atlantis. In September 2016, Johns Hopkins University faculty members Chris Beyrer, Robert W. Blum, and Tonia C. Poteat wrote a Baltimore Sun op-ed, to which six other Johns Hopkins faculty members also contributed, in which they indicated concerns about McHugh's co-authored report, which they said mischaracterized the current state of science on gender and sexuality. More than 600 alumni, faculty members and students at the medical school also signed a petition calling on the university and hospital to disavow the paper. "These are dated, now-discredited theories," said Chris Beyrer, a professor at the public health school and part of the faculty group that denounced McHugh's stance.(63)(64)(65) Brynn Tannehill, a board member of the Transgender United Fund wrote that "this isn't a study, it's a very long Opinion-Editorial piece."

Other reception

Writing for the National Review in a 2003 column, the conservative author Stanley Kurtz described The New Atlantis as influential on thinking about science and technology.

Richard John Neuhaus, former editor of the conservative journal First Things, wrote that The New Atlantis is "as good a publication as there is for the intelligent exploration of questions in bioethics and projections—promising, ominous, and fantastical—about the human future,"(69) and a writer in The American Conservative described the journal as a source "of fresh ideas on the Right."(70) National Review columnist Jonah Goldberg described The New Atlantis as "a new and interesting magazine" that "seems to be trying to carve out the space for the government to stop the more offensive aspects of biotechnology."

By contrast, the liberal bioethicist Jonathan D. Moreno has said that the journal offers "a very dark vision" about science and technology, but that it "makes an important point about the need to worry about the ends as well as means in science"(72) and that its "writers were young, smart, and had a good understanding of the political process and the making of public policy."(9) Bioethicist Ruth Macklin criticized The New Atlantis as representative of a conservative movement in bioethics that is "mean-spirited, mystical, and emotional" and that "claims insight into ultimate truth yet disavows reason."

The journal has particularly gained a reputation among the transhumanist movement for its criticism of human enhancement. James Hughes, a techno-progressivist and at times director of organizations such as the World Transhumanist Association and the Institute for Ethics and Emerging Technologies, notes that the journal "has published influential attacks on artificial intelligence, nanotechnology, biotechnology, reproductive technology, and life extension." The artist and designer, Natasha Vita-More, wife of British transhumanist philosopher, author, and cryonicist Max More, has described it as a "journal known as a ring of bioconservatives bent on opposing the cyberculture." Meanwhile, the organization founded by her husband, the Extropy Institute, has called it "a high-powered rallying point for the neo-Luddites."

Book series

The New Atlantis also publishes a book series, New Atlantis Books, an imprint of Encounter Books. As of December 2012, six books have been released:

- In the Shadow of Progress: Being Human in the Age of Technology ISBN 9781594032080 (2008), by Eric Cohen
- Imagining the Future: Science and American Democracy ISBN 9781594032097 (2008), by Yuval Levin

- Neither Beast nor God: The Dignity of the Human Person ISBN 9781594032578 (2009), by Gilbert Meilaender
- Merchants of Despair: Radical Environmentalists, Criminal Pseudo-Scientists, and the Fatal Cult of Antihumanism ISBN 9781594034763 (2012), by Robert Zubrin
- Why Place Matters: Geography, Identity, and Civic Life in Modern America ISBN 9781594037160 (2014), edited by Wilfred M. McClay and Ted. V. McAllister
- Eclipse of Man: Human Extinction and the Meaning of Progress ISBN 9781594037368 (2014), by Charles T. Rubin

Can There Be a Conservative Futurism?

> The retreat from time is not a winning answer to our tech malaise.
> John Ehrett

It's hard to imagine a corporate motto that has aged more than Facebook's old *Move fast and break things*, although Google's *Don't be evil* is a close second. The world did move fast, and many things were broken.

People who did not live through the 1990s mostly don't feel this sting. They will never know firsthand the optimistic energy that once swirled around anything having to do with "cyberspace." The very word — now quaintly dated — implied a glorious technological adventure to come, a whole new world to be conquered and explored, as the Moon once was.

But now, in our deeply polarized moment, one of the few issues on which left and right agree is that something has gone wrong with digital tech. Maybe it's the design psychologists, who made products as addictive as possible. Maybe it's the algorithms that surface incendiary content for the eyes of millions. Maybe it's the faceless content moderators, arbitrarily tweaking the rules of public discourse. Maybe it's all of these and more.

There is also a widespread sense that *something* must be done. In a May 2022 poll, 44 percent of Americans said they preferred stricter regulation of Big Tech companies. In response, policymakers have generated a steady stream of reform bills — virtually all of which languish in congressional committees. This is because, while couched in superficially similar language, the left's and right's critiques proceed from rival premises: the left opposes corporate power and seeks to impose stricter speech norms, while the right points to censorship and political meddling. The philosophical gulf is wide.

Where does the debate go from here? Vast intellectual and political energy has been poured into understanding the effects of digital tech. Thus far, though, the "techlash" has primarily taken the form of a negative proposition: *We don't want this*. Much less has been said about what kind of future is worth moving *toward*.

It is important that we fill that void. Without an affirmative vision, the tech tycoons will remain in the driver's seat. Without clear redirection, political efforts to rein in tech will prove Sisyphean.

The political right faces a particular challenge — and opportunity — for thinking constructively about the technological future. The challenge is that, to many in the

conservative tradition, technological progress is often no progress at all, but merely leaves us more estranged from nature and from each other. Technological progress is in effect a move *away* from a divinely ordered cosmos. The opportunity is that conservatism has deep intellectual resources that can help to overcome this concern, while offering a constructive vision that may appeal to those outside the tradition.

Conservative critics of Big Tech must offer a vision of technology that goes beyond today's policy concerns, which disproportionately involve the Internet, and that focuses on material, not merely digital, creativity. This vision must be postliberal but not premodern: It must avoid the liberal association of progress with secularization, and be rooted in abiding principles of human flourishing. In more theological terms, it must be a vision of technological progress rooted in eternity.

The Pastoralist's Dilemma

Long before concerns about social media and the Internet became politically salient, technological progress had an uneasy valence in right-leaning thought (as it often did on the left too). Agrarian conservatives who valorize the pastoral life cannot help but react with horror to the destructiveness of industrialization, remembering the menace of William Blake's "dark Satanic Mills" despoiling England's "green and pleasant Land."

It is a familiar theme. When, at the close of J.R.R. Tolkien's *The Lord of the Rings*, his valiant hobbits return to their homeland of the Shire, they find that the scenery is not as they left it. In place of rolling green hills and farms, "through rows of new mean houses along each side of the road, they saw the new mill in all its frowning and dirty ugliness: a great brick building straddling the stream, which it fouled with a steaming and stinking outflow." In Tolkien's imagination, with the advance of industry come unimagined horrors. Better to forgo that path.

This anti-industrial impulse comes out of a deeper critique. For many intellectual traditionalists, the story of modern technology is a story of *war against givenness*. On this account, the modern technological mindset is born of a dissatisfaction with created reality as it is, manifesting as a perverse desire to bend the stuff of nature to human will. The critique was perhaps most famously formulated by Martin Heidegger, who argued in the 1950s that modern technology amounted to "a challenging [*Herausfordern*], which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such."

Echoes of this point remain common, including among Christian writers. For the theologian Kathryn Tanner, as she writes in her book *God and Creation in Christian Theology*, a distinctively modern mindset grasps "the world as a realm of constants and rules useful for purposes of control," and identifies "the real substance of things ... with what is of the greatest importance for the purposes of calculation and control." Carl Trueman, a church historian and cultural critic, strikes a similar note in *The Rise*

and Triumph of the Modern Self, explaining that the modern mentality "sees the world as so much raw material out of which meaning and purpose can be created by the individual."

From this perspective, the struggle for technological mastery is a struggle to usurp the prerogative of the God who creates. When the mania for human creation and manipulation is left unchecked, the world becomes sterile and desacralized, mere stuff to be manipulated with no regard for intrinsic purpose.

No doubt there is some truth to this. But it is a critique that is far more persuasive in the halls of a university than in the public square. It is, after all, a critique that leaves the traditionalist open to the taunts of Enlightenment apologists like Steven Pinker or Yuval Noah Harari: *You'd take the world back to the Dark Ages, without medicine and electricity and running water. You'd condemn humanity to ignorance and rule by the strongest. Is this your "common good"?*

Some traditionalist critics might bite the bullet and respond that the human race really was better off, existentially and morally, in an age when life spans were short, suffering was normal, and the threat of death was omnipresent. For Heidegger, it is in the anxious awareness of death that we find the meaning of human existence. Maybe, then, the premodern age was a kind of spiritual crucible that modernity rejects at its peril.

But again, this view resonates with very few — and vanishingly few even of those are willing to trade civilization's comforts for the deep-ecological radicalism of, say, a Paul Kingsnorth, or even the more modest agrarianism of a Wendell Berry. The retreat from time cannot, for most people, pose a serious alternative to today's technological moment. And so conservatives seemingly find themselves caught in a dilemma: surrender limply to the currents of history, or insist in vain on returning to a past before humanity's original industrial sin.

But what if the dilemma is a false one?

Before Progress

In his seminal 1965 essay "The Lonely Man of Faith," Rabbi Joseph B. Soloveitchik argued that the two accounts of Adam's creation in the Book of Genesis reflect two fundamental aspects of the human person: one active and one contemplative. The Adam of Genesis 1 is created in God's image and placed into communion with others like him, tasked with taking dominion. Such a creature "acquires dignity through glory, through his *majestic* posture vis-à-vis his environment." And this dignity "cannot be realized as long as he has not gained mastery over his environment. For life in bondage to insensate elemental forces is a non-responsible and hence an undignified affair." He is a scientist, an explorer, a co-creator.

The Adam of Genesis 2, for his part, cuts a quite different figure: summoned from the dust by God, who breathes into his lungs the breath of life, and called into spiritual covenant with his Creator. He is contemplative, mystical, rooted.

As Soloveitchik stresses, a certain fruitful tension must always exist between these two Adams. And if Soloveitchik is correct, whether in his reading of the text or his view of human life, then our drive for technological mastery is not something perverse. It is no crude defiance of the created order, but rather something woven into the very essence of human beings. To abandon the first Adam's majestic imperative, to forfeit the hope of transforming chaos into ordered mastery, is to be something less than human.

Conservatives who fear technological progress evidently don't share this perspective. To better understand why they find the march of industrialization lamentable, we must consider their understanding of history, which is arguably more pagan than Christian.

The Christian transformation of the pagan West introduced a view of history as a linear progression, a conception of time as hurtling from creation to consummation. We now take this view for granted. Among other things, we see it reflected in the modern liberal idea of the arc of the moral universe bending from oppression to liberation.

By contrast, for pagan civilizations that preceded the Christianization of the West, time was fundamentally cyclical. As the historian of religion Mircea Eliade wrote in the 1959 edition of his book *The Myth of Eternal Return: Cosmos and History*, "the chief difference between the man of the archaic and traditional societies and the man of the modern societies with their strong imprint of Judaeo-Christianity lies in the fact that the former feels himself indissolubly connected with the Cosmos and the cosmic rhythms, whereas the latter insists that he is connected only with History." In particular, "for Christianity, time is real because it has a meaning — the Redemption."

Eliade himself was sympathetic to the traditional side of this equation, to the "negative attitude toward history" — that is to say, "archaic man's refusal to accept himself as a historical being." And over the years, many philosophical conservatives have shared Eliade's sensibility. Progressive history, with its promise and warning of an apocalypse, frightens us. This linear view of time means that we are headed toward a destination known only uncertainly, and that we are forgoing the reassuring rootedness of cyclical history that once gave shape and order to existence. The nostalgia of conservative intellectuals is thus less for a lost Christian past, as they often think of it, than for the pagan past that Christianity supplanted.

But Eliade, surrounded as he was by the theologies of liberal Protestantism, may have misjudged the logic of Christian time-consciousness, which is not a rejection of cosmic order. Rather, it apprehends the eternal in and beyond history. Here God is neither fully dissolved into history, with all its tragic vicissitudes, nor removed from it entirely. The Creator is both transcendent of, but also immanent to, all things. In this view, history can only be seen as a progression because the world of transience and change has an unchanging eternal foundation that gives history its direction. Historical events do not conflict with what is eternal. Rather, historical events are *images* of the

eternal, unique disclosures of *what has always been* and is gradually coming into clearer view.

So critics like Eliade are perhaps too quick to link the Judeo-Christian revolution to a sense of history devoid of eternal grounding. For him, this revolution means that human beings can no longer rest content with givenness, but must strive endlessly toward a "freedom" that revolts against repetition. These critics have viewed history as anchored in specific, unrepeatable events — such as creation, the Mosaic covenant, Christ's Passion, or final redemption — which ultimately undermine a sense of the world's intrinsic meaningfulness. But this argument assumes that the course that history took is the one it *had* to take. Therefore, as a result of its Judeo-Christian roots, modernity *must* have the particular form it has.

Perhaps, though, that assumption is wrong, because beyond the West there may be an alternative "modernity" to be found, opening onto different horizons.

The Common Task

The name Nikolai Fedorovich Fedorov is little known to Westerners today, although he was hardly better known during his own lifetime in nineteenth-century Russia. A strange, shabbily dressed man committed to a fearfully ascetic lifestyle, Fedorov passed his days as a mostly obscure Moscow librarian, despite drifting through intellectual circles that included such luminaries as Tolstoy and Dostoevsky. He was easy to dismiss as an uncredentialed outsider, far removed from the intellectual mainstream.

But beneath the surface, Fedorov was the architect of a vision of the future unlike any other, a radical alternative to what most in the West are capable of imagining today. His writings, even now, crackle with the fire of strange genius.

Emphasis on *strange*: many of Fedorov's ideas sound outrageous, even unthinkable to modern ears. They spill across disciplinary lines, they upset familiar binaries, and they burst the boundaries of traditional Christian thought. But as odd or disquieting as some of his claims are, there is nonetheless something thrilling about his work: a futurism animated by a bold interpretation of Christian theology.

At the heart of Fedorov's intellectual project was his conception of the "Common Task" confronting all people: human beings were created by God as the agents *through whom* He would ultimately resurrect the dead. That idea is exactly as astonishing as it sounds: Fedorov imagined the Common Task as a scientific crusade leading to an unfolding process of physical revivification, by which — over time — every human soul who ever lived and died might be materially reassembled and called back to life.

This Common Task, on Fedorov's account, was a function of filial obligation — what the Latin tradition called *pietas*. For Fedorov, one owes it to one's forebears to restore them to the communion of the living, to overcome the death and sickness and decay that tears apart the deepest human bonds. Every man stands as "a son,

grandson, great-grandson or descendant, that is, a son of all the deceased fathers and not a vagrant in the crowd, devoid of kith and kin" — and as such, he possesses a "duty to the deceased fathers."

The war against death would also bring an end to class struggle, "which can be overcome only given a higher purpose — the participation of all in knowledge and in art, both directed towards solving the problem of loss of kinship and its restoration."

It must be emphasized that Fedorov's dream was not a secular project with a Christian veneer. His Common Task was nothing so crude and self-serving as the "cryopreservation" technologies favored by today's Silicon Valley moguls. Rather, for Fedorov, it was a task ordained by God to be accomplished by human hands. "The Creator restores the world through us and brings back to life all that has perished." And it was this destiny, for Fedorov, that rendered time ultimately meaningful: "the Resurrection of Christ was the beginning and history is the continuation."

The "Cosmists" inspired by Fedorov's work would go on to divide into various factions. Some, like the rocket pioneer Konstantin Tsiolkovsky, took him to be a scientific visionary with mystical inclinations, with his signal contributions being his dream of physical immortality and mastery over nature. Others, like the theologian Sergei Bulgakov, emphasized his themes of spiritual oneness rather than those of scientific progress. The core of Fedorov's vision — science and faith being subsumed in the higher unity of God's hand in time — fell out of view.

To be sure, Fedorov's Common Task bears the marks of a distinctly Russian self-consciousness, one defined — as Fedorov scholar George M. Young puts it — by "nationalism, Orthodoxy, and autocracy." And the precise shape of Fedorov's dream is not just bizarre, but positively ghoulish. The notion that the bits and pieces of shattered lives could be cobbled back together savors more of *Frankenstein* than the Gospel of John. And even viewed as charitably as possible, the Common Task promises a resurrection not to glory, but to merely unending life. As generations of speculative-fiction authors have shown, that possibility poses a horror all its own.

Far more significant than Fedorov's specific conclusions, though, is his method: an approach to technological advancement self-consciously anchored in an ancient tradition. His model is a dramatic counterexample to the notion that science *as such* must push traditional faith to the margins — the notion that Charles Taylor describes as the "subtraction story" of modernization. Rather, his work dissolves that harsh dualism: the active and contemplative Adams stand reconciled. The real question is how to repurpose that methodological insight.

We don't need to adopt Fedorov's particular resurrection project to acknowledge the more important point: his Common Task is a proof-of-concept for a distinctly traditionalist kind of futurism. Fedorov's dream is more "conservative," in the explicitness of its theological commitments and its driving concern for *pietas*, than much of what passes for conservative thought today. But at the same time, it is a stark refusal to take as a given the world as it is, as if *transformation* were a dirty word. Its intellectual

motive-spring is the possibility of human creativity bringing into being a very different modernity than the one prevailing today.

Building for the Future

What might a vision of technology "after" Big Tech look like? It is a future that draws this much from Fedorov: to speak of the presence of God in time is to glimpse an eternal light behind the shifting, tragic clouds of temporality. A conservative futurism must root itself in the principle of eternity, mirroring that divine timelessness where possible. Let's sketch out some practical implications of this new emphasis.

To begin with, the Internet and its derivative products need not be ignored, if that were possible, but rather should be brought into a social framework built in accordance with higher principles. To that end, Internet infrastructure — server and cloud hosting systems, payment transfer networks, and so forth — should be classified as public utilities, no more authorized to discriminate between users than are water or electric companies. The rationale for such a move, though, must go beyond "prevention of censorship" or "limitation of corporate power." Too often, efforts to impose such neutrality requirements on tech systems are conceived as rearguard actions, desperate steps to counter a near-omnipotent sociopolitical "regime." That is the wrong mindset.

Rather, the accent here lies on the *public* in "public utility." There is an implication of permanence: a public utility is a kind of technology intended to perdure, one that multiple generations will have a stake in stewarding responsibly. Furthermore, by making these services into public utilities, we can subordinate them to regulation by existing political communities, rather than leaving them to be forces of disruption. The public-utility approach will be an acknowledgment that Internet technologies have wrought dramatic change, but that it is a change that can be disciplined.

This approach could inaugurate a new kind of responsibility. For instance, elected representatives of a local area might choose not to invest in server-system upgrades intended to power ever-more-immersive simulated realities, if they decide that such changes would be harmful to the flourishing of the community and its children. Conversely, another region might choose to direct such upgrades to software companies' improvement of virtual meeting technologies, with the goal of producing better alternatives to what Mark Zuckerberg seems to imagine offering in the metaverse — as Jon Stokes puts it, "lame gatherings in soulless, quasi-sci-fi spaces that essentially reimplement the modern office in digital form." Local approaches might differ, but the common thread will be that communities, informed by their beliefs and traditions, must hold the reins where possible.

More broadly, though, digital tech should play a decidedly smaller role in today's technological imagination. A renewal of interest in the "meatspace" of the physical world is long overdue. For example, in the past half-century there have been no seri-

ous breakthroughs in building materials. Most structures are assembled using cheap and familiar techniques and resources, and are demolished when the time comes for redeveloping the space. This should change.

Where possible, policymakers should promote massive reinvestment in research and development in materials science, oriented to the goal of building things that last. Similarly, they should pour resources into reviving and updating building styles that respect the human scale, and that feature the ornamentation that modern architects widely eschew. Many temples and public structures bearing the eternalizing stamp of ancient civilizations survive to this day. There is no reason that today's houses of worship, public buildings, and infrastructure should be built with any less care — and why not improve those techniques and materials in the process?

Similarly, the discipline of computer science should reorient itself toward preservation over transformation and displacement. Enough things have been broken in the rush to move fast that it is now time for a different course. One pressing task is the development of data preservation technologies that resist disc rot and physical damage. As library scientist Marc Kosciejew observes in his call for "Digital Vellum" to help ensure the long-term preservation of data, "books that are created on high-quality and acid-free paper can last for centuries," whereas today's electronic files easily just disappear.

This concern has become particularly urgent in light of recent efforts to selectively edit artistic and literary works in order to remove content deemed offensive to contemporary sensibilities. While this problem is not new — as Fedorov put it, "progress makes fathers and ancestors into the accused and the sons and descendants into judges" — widespread shifts away from physical media ownership have made it particularly ominous. Physical storage technologies resistant to deletion and destruction can serve as repositories of truth.

These and similar technological projects would be modest beginnings. But as Fedorov saw, a conservative futurism must go further.

Our Cosmic Destiny

Soloveitchik's first Adam is called to exercise dominion over creation, but his duty extends beyond that. He is also commanded by God to be fruitful and multiply. And reading those directives together — the mandate to discipline natural forces through skilled human creativity, and the mandate to bring new eternal souls into being — implies a radical conclusion. The earth's ability to sustain a growing population may have some ultimate limits, but the answer must neither be a surrender to naturally high mortality rates nor a Malthusian antinatalism.

Rather, Fedorov's cosmic vision may have been right: Human beings were created to take to the stars, to fill not merely the earth but the cosmos. For him, "the prejudice

that the celestial expanse is unattainable to man has grown gradually over the centuries, but cannot have existed *ab initio*. Only the loss of tradition and the separation of men of thought from men of action gave birth to this prejudice."

In his recent book *The Decadent Society*, Ross Douthat remarks that "the end of the space age has coincided with a turning inward in the developed world, a crisis of confidence and an ebb of optimism,... an abandonment of both ideological ambition and religious hope." He also laments the loss of confidence in raising families, marked by widespread demographic decline. He is right, and these are related. A species capable of spacefaring — of exploring strange new worlds, breaking new ground, and raising churches and synagogues and mosques atop Olympus Mons — would be one that is capable of sustaining families greater and more lasting than ever before.

Walter Miller's celebrated 1959 novel *A Canticle for Leibowitz* concludes with a migration of the Church to the stars — a reunion with "colonists who were sons of the Church, cut off from the flock by interstellar distances." But it is a flight from a planet beleaguered by nuclear war, a bittersweet coda at best. Yet, in our world, migrating to the stars doesn't need to be a tragic vision, but can be a glorious one. Instead of a future dominated by the specter of human extinction, we can pursue an ecumenical Great Commission, an extension of our traditions into new civilizations, on a galactic scale.

Conservatives have, in a sense, won the argument about Big Tech. The poisonous effects of Internet-centric culture and a screen-mediated world are now well known across partisan lines, and sooner or later a reckoning will come. What form it will take is unclear, but the writing is on the wall.

Conservatives must now offer something different: meaningful answers to the question of why we need innovation, and better answers than "because we can." But those answers need to not be short-circuited by the story of a war on givenness. They can draw on an understanding that human creativity is a participation in an infinite creative act, reorienting technological investment into the service of a higher good.

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John Ehrett, "Can There Be a Conservative Futurism?," *The New Atlantis*, Number 71, Winter 2023, pp. 46–55.

From Tech Critique to Ways of Living

In the 1950s and 1960s, a series of thinkers, beginning with Jacques Ellul and Marshall McLuhan, began to describe the anatomy of our technological society. Then, starting in the 1970s, a generation emerged who articulated a detailed *critique* of that society. The critique produced by these figures I refer to in the singular because it shares core features, if not a common vocabulary. What Ivan Illich, Ursula Franklin, Albert Borgmann, and a few others have said about technology is powerful, incisive, and remarkably coherent. I am going to call the argument they share the Standard Critique of Technology, or SCT. The one problem with the SCT is that it has had no success in reversing, or even slowing, the momentum of our society's move toward what one of their number, Neil Postman, called *technopoly*.[1]

The basic argument of the SCT goes like this. We live in a *technopoly*, a society in which powerful technologies come to dominate the people they are supposed to serve, and reshape us in their image. These technologies, therefore, might be called *prescriptive* (to use Franklin's term[2]) or *manipulatory* (to use Illich's[3]). For example, social networks promise to forge connec-tions—but they also encourage mob rule. Facial-recognition software helps to identify suspects—and to keep tabs on whole populations. Collectively, these technologies constitute the *device paradigm* (Borgmann[4]), which in turn produces a *culture of compliance* (Franklin).

The proper response to this situation is not to shun technology itself, for human beings are intrinsically and necessarily users of tools. Rather, it is to find and use technologies that, instead of manipulating us, serve sound human ends and the *focal practices* (Borgmann) that embody those ends. A table becomes a center for family life; a musical instrument skillfully played enlivens those around it. Those healthier technologies might be referred to as *holistic* (Franklin) or *convivial* (Illich), because they fit within the human lifeworld and enhance our relations with one another. Our task, then, is to discern these tendencies or *affordances* of our technologies and, on both social and personal levels, choose the holistic, convivial ones.

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[1] Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York: Random House, 2011).

[2] Ursula M. Franklin, *The Real World of Technology*, rev. ed. (Toronto: Anansi, 2004).

[3] Ivan Illich, *Tools for Conviviality* (New York: Harper & Row, 1973).

[4] Albert Borgmann, Technology and the Character of Contemporary Life: A Philosophical Inquiry (Chicago: University of Chicago Press, 1987).

The Standard Critique of Technology as thus described is cogent and correct. I have referred to it many times and applied it to many different situations. For instance, I have used the logic of the SCT to make the case for rejecting the "walled gardens" of the massive social media companies, and for replacing them with a cultivation of the "digital commons" of the open web.[5]

But the number of people who are even *open* to following this logic is vanishingly small. For all its cogency, the SCT is utterly powerless to slow our technosocial momentum, much less to alter its direction. Since Postman and the rest made that critique, the social order has rushed ever faster toward a complete and uncritical embrace of the prescriptive, manipulatory technologies deceitfully presented to us as Liberation and Empowerment. So what next?

The Rise of Technopoly

One must begin, I think, by grasping why the SCT has been so powerless. First, it has been articulated primarily in books. Not many people read books at all, and a tiny fraction of those who do read books ever read ones that develop complex and countercultural ideas. Second, human beings are lazy herd animals. Or, to put it in less pejorative terms, the vast majority of people will always choose options for action that conserve mental energy without alienating them from their peers and aspirant peers. The SCT offers no answer to this tendency. Moreover, . . .

I'm sorry, am I depressing you? Perhaps so. A quick scan of my emotional faculties suggests that I am depressing myself. But my rational faculties tell me that useful thinking depends on an accurate assessment of the circumstances under which one thinks. And a rational assessment of the current moment must begin with the recognition that the forces against which Illich, Franklin, Postman, and Borgmann contended—and against which Borgmann still contends—have progressed with dramatic speed in the past forty years.

This progression is the inevitable result of three trends, all occurring within the context of global capitalism:

- Moore's Law: In 1965, an electrical engineer named Gordon Moore—then the co-founder of Fairchild Semiconductor Laboratory, later the co-founder of Intel—wrote a paper claiming that the number of components on a given integrated circuit had for some time been doubling every year, and would continue to do so for the foreseeable future.[6] Others pegged the period of doubling at eighteen

[5] Alan Jacobs, "Tending the Digital Commons: A Small Ethics toward the Future." *Hedgehog Review* (Spring 2018). https://hedgehogreview.com/issues/the-human-and-the-digital/articles/tending-the-digital-commons.

[6] Gordon E. Moore, "Cramming More Components onto Integrated Circuits." https://newsroom.intel.com/wp-content/uploads/sites/11/2018/05/moores-law-electronics.pdf.

months,[7] but whatever the specifics, the *effect* has been not just a great increase in readily available computing power but also the placement of that computing power within smaller and smaller containers.

- The mining of lithium: Lithium can be mined directly—mines may be found in the United States (primarily Nevada), Canada (primarily Quebec), and China, among other places—but direct mining is prohibitively expensive in comparison to extraction from salars (salt flats) or briny lakes. Most of the world's lithium comes from salars in Bolivia, Argentina, and Chile. Lithium is the essential component of the batteries that power our increasingly small devices.

- The spread of wireless telecommunications networks: Wireless telecommunications networks are based on an astonishingly diverse set of technologies, involving multiple means of safely transmitting multiple kinds of signals from one location to another.

These three developments are of course built upon an infrastructure subject to many other developments. And all are able to work in smoothly harmonious concert only because of the spread of a global economic order that allows the relatively free passage of raw materials and finished products alike around the world. The result is the global dominance of what Shosha-na Zuboff calls "surveillance capitalism,"[8] a dominance that is limited only by the following factors:

- A potential slowing of miniaturization, which is to say, the possible falsification of Moore's Law (though quantum computing may eventually provide a practical solution to such slowing);

- Limits to the world's supply of lithium, potentially accelerated by the use of lithium batteries in automobiles (though a potentially significant new supply has just been discovered in Cornwall, England)[9];

- Spottiness in fast wireless coverage in parts of the world (which will likely be addressed by various initiatives, such as the introduction of Internet satellites by Amazon, SpaceX, and other companies);

- The possible intensification of global political conflicts, especially between China and the West.

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[7] Michael Kanellos, "Moore's Law to Roll on for Another Decade." CNET, February 11, 2003. https://www.cnet.com/news/moores-law-to-roll-on-for-another-decade/.

[8] Shoshana Zuboff, The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power (New York: Public Affairs, 2019).

[9] Stephen Beard, "Lithium May Fuel a Mining Revival in England's Cornwall." *Marketplace*, October 19, 2020. https://www.marketplace.org/2020/10/19/lithi-um-may-fuel-a-mining-revival-in-englands-cornwall/.

Any of these, or any combination thereof, could slow the spread of surveillance capitalism; but none of them promises imminent danger to it, and there are potential workarounds for them all.

We are therefore moving ever closer to an environment in which prescriptive, manipulatory technologies are ubiquitous and totalizing—not to say totalitarian, necessarily, although perhaps we do want to say that. A Uighur from western China, faced with an open, full-scale deployment of the most powerful surveillance technologies in the world, would probably want to say that. And it seems increasingly likely that the Chinese government's treatment of the Uighurs—who, as Muslims who are ethnically Turkic rather than Han Chinese, make exceptionally convenient guinea pigs—is but a trial run for a system that will ultimately be deployed in the whole of China, and exported to other autocracies.[10] It also seems very likely that the Xinjiang re-education camps prefigure the future of China.

"Life versus the Machine" in the West

Technopoly in the West, by contrast, has tended to deploy carrots rather than sticks, largely through advertising. It is of course possible to resist those carrots, to practice what Paul Kingsnorth calls "life versus the machine," though only at significant cost. It has been Kingsnorth's writerly mission in recent years to articulate what such resistance to the siren-song of technopoly might look like—and why this resistance is necessary:

> Any action which hinders the advance of the human industrial economy is an ethical action, provided it does not harm life.
>
> Any action which knowingly and needlessly advances the human industrial economy is an unethical action.[11]

The "human industrial economy" is Kingsnorth's term for technopoly conceived in relation to the whole of the natural order. While the proponents of the SCT tend to focus their arguments on what technopoly is doing to *us*, to human beings, they are not unaware of the consequences of prescriptive, manipulatory technologies for the rest of the world. By adding Kingsnorth's insights—and those of other thinkers of similar character, especially Wendell Berry—to those of the SCT, we can see more clearly that every depredation of the human is also a depredation of the natural order, and vice versa.

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[10] Ross Andersen, "The Panopticon Is Already Here." *The Atlantic* (September 2020). https://www.theatlantic.com/magazine/archive/2020/09/china-ai-surveil-lance/614197/.

[11] Paul Kingsnorth, "Life versus the Machine." *Orion*. https://orionmagazine.org/article/life-versus-the-machine/.

We might think of the shifting relationship of human beings to the natural world in the terms offered by German sociologist Gerd-Gunter Vofi, who has traced our movement through three different models of the "conduct of life." The first, and for much of human history the only conduct of life, is what he calls the *traditional*. Your actions within the traditional conduct of life proceed from social and familial circumstances, from what is thus handed down to you. In such a world it is reasonable for family names to be associated with trades, trades that will be passed down from father to son: Smith, Carpenter, Miller. But the rise of the various forces that we call "modernity" led to the emergence of the *strategic* conduct of life: a life with a plan, with certain goals—to get into law school, to become a cosmetologist, to get a corner office.

Quite recently, thanks largely to totalizing technology's formation of a world in which, to borrow a phrase from Marx and Engels, "all that is solid melts into air,"[12] the strategic model of conduct is replaced by the *situational*. Instead of being systematic planners, we become agile improvisers: If the job market is bad for your college major, you turn a side hustle into a business. But because you know that your business may get disrupted by the tech industry, you don't bother thinking long-term; your current gig might disappear at any time, but another will surely present itself, which you will assess upon its arrival.

The movement through these three forms of conduct, whatever benefits it might have, makes our relations with nature increasingly instrumental. We can see this shift more clearly when looking at our changing experience of time, and our understanding of the values inscribed in the passage of time. Within the traditional conduct of life, it is necessary to take stewardly care of the resources required for the exercise of a craft or a profession, as these get passed on from generation to generation. For an excellent example of how this works, see *The Wheelwright's Shop* by George Sturt, a 1923 book for which Albert Borgmann has expressed great regard.[13] The wheelwright must know a great deal about timber. Knowing that good timber for wheels is not easily found, he must also practice care for the forests in which such timber is found. The practice of wheelwrighting requires knowledge of and attention to an entire woodland ecosystem.

But in the progression from the traditional to the strategic to the situational conduct of life, *continuity of preservation* becomes less valuable than *immediacy of appropriation*: We need more lithium today, and merely hope to find greater reserves—or a suitable replacement—tomorrow. This revaluation has the effect of shifting the place of the natural order from something intrinsic to our practices to something extrinsic. The whole of nature becomes what economists tellingly call an *externality*.

It might seem useful to understand a little more clearly how the arguments of the SCT intertwine with the arguments of environmentalists, post-environmentalists (like the ecomodernists), and naturalists (as they were once called) or "nature-lovers," if we

[12] "Manifesto of the Communist Party." https://www.marxists.org/archive/marx/works/1848/communist-manifesto/ch01.htm.

[13] Borgmann, Technology and the Character of Contemporary Life.

can possibly reclaim that now frivolous term. But to pursue this understanding would only be to expand the population of a rudderless and leaky boat, soon to be swamped by the wake of the mighty ocean-liner of technopoly. We still don't have a way to shift the course of that Leviathan, much less to slow its progress. The question, as we think about moving beyond the Standard Critique, is whether there can be such a way. And at least one answer comes from a surprising source: Daoism. But we can't go there by a direct route.

The Danger of "Human Resources"

The philosophical ancestor of the Standard Critique is Martin Heidegger. This is not to say that all the proponents of the SCT have read Heidegger, though some of them (such as Borgmann) have drunk deep from that peculiar well. I mean only that Heidegger, especially in his famous essay "The Question Concerning Technology," provides a specifically philosophical account of the issues that the SCT attempts to address.

Much could be said about Heidegger's strangely compelling exposition— which asks what the essence of technology is—but a few points require our attention here. First, because "technology itself is a contrivance," an "*instru-mentum*," we are led to *think* instrumentally about it. It is a contrivance for mastery, and we therefore naturally think in terms of how *we* can master *it*. But when we look more carefully at how technology is a means that we try to master for specific ends, says Heidegger, we realize that we too, as much as the Great Externality called nature, become raw material in the process. Consider—to re-enter via Heidegger the lifeworld of George Sturt's wheelwright—a modern forester:

> The forester who, in the wood, measures the felled timber and to all appearances walks the same forest path in the same way as did his grandfather is today commanded by profit-making in the lumber industry, whether he knows it or not. He is made subordinate to the orderability of cellulose, which for its part is challenged forth by the need for paper, which is then delivered to newspapers and illustrated magazines.

There is a whole economic system here of which the forester has willy-nilly become a part. Trees make timber, which makes cellulose, which makes paper, which makes newspapers—and because the process is repeated and ongoing, all that material has to be held in "standing-reserve," that is, regarded as a resource waiting to be used. And so too the forester. Now, as a human being he is not mere standing-reserve; but as a forester he is. Sturt's account of the transformation of the craft of the wheelwright provides an equally vivid account of this situation.

As Mark Blitz has written—in one of the clearest expositions I know of Heidegger's engagement with technology—within the governing logic of our current moment

> all things increasingly present themselves to us as technological: we see them and treat them as what Heidegger calls a "standing reserve," supplies in a storeroom, as it were, pieces of inventory to be ordered and conscripted, assembled and disassembled, set up and set aside. Everything approaches us merely as a source of energy or as something we must organize. We treat even human capabilities as though they were only means for technological procedures, as when a worker becomes nothing but an instrument for production. Leaders and planners, along with the rest of us, are mere human resources to be arranged, rearranged, and disposed of. Each and every thing that presents itself technologically thereby loses its distinctive independence and form. We push aside, obscure, or simply cannot see, other possibilities.[14]

This is what Heidegger means when he speaks of the technological "enframing" or "positionality"—the German word is *Gestell*—of human life. It gradually turns us all into "standing-reserve," as when we speak with equal facility of "natural resources" and "human resources."

This technological enframing of human life, says Heidegger, first "endan-ger[s] man in his relationship to himself and to everything that is" and then, beyond that, "banishes" us from our home. And that is a great, great peril.

The Way Beyond Heidegger

The philosopher Yuk Hui, a native of Hong Kong who now teaches in Germany, thinks that Heidegger is the most profound of recent Western thinkers on technology—but also that it is necessary to "go beyond Heidegger's discourse on technology."[15] In his exceptionally ambitious book *The Question Concerning Technology in China*[16] and in a series of related essays and interviews, Hui argues, as the title of his book suggests, that we go wrong when we assume that there is *one* question concerning technology, *the* question, that is universal in scope and uniform in shape. Perhaps the questions are different in Hong Kong than in the Black Forest. Similarly, the distinction Heidegger draws between ancient and modern technology—where with modern technology everything becomes a mere resource— may not universally hold.

Hui explores, for instance, Kant's notion of the *cosmopolitan*, and the related role of print technology. A central concept in Enlightenment models of rationality, the

[14] Mark Blitz, "Understanding Heidegger on Technology." *The New Atlantis* (Winter 2014). https://www.thenewatlantis.com/publications/understanding-heideg-ger-on-technolog.

[15] Yuk Hui, "Cosmotechnics as Cosmopolitics." *e-flux* 86 (November 2017). https://www.e-flux.com/joumal/86/161887/cosmotechnics-as-cosmopolitics/.

[16] Yuk Hui, The Question Concerning Technology in China: An Essay in Cosmotechnics (Falmouth, UK: Urbanomic, 2016).

cosmopolitan is the ideal citizen of the world engaged in public reasoning, and Kant believed that a "universal cosmopolitan condition" would one day be the natural outcome of history.[17] But Kant's understanding of what that means is thoroughly entangled with the rise and expansion of print culture. It is directly *through* print culture that the "Republic of Letters," the very epitome of cosmopolitanism as Kant knew it, is formed. But, then, what might a cosmopolitan be within a society whose print culture is either nonexistent or radically other than the one Enlightenment thinkers knew?

Hui's novel approach to the question(s) concerning technology thus begins with a pair of seemingly contradictory ideas about whether technology should be seen as universal:

> Thesis: Technology is an anthropological universal, understood as an exteriorization of memory and the liberation of organs, as some anthropologists and philosophers of technology have formulated it;
>
> Antithesis: Technology is not anthropologically universal; it is enabled and constrained by particular cosmologies, which go beyond mere functionality or utility. Therefore, there is no one single technology, but rather multiple cosmotechnics.

As I read Yuk Hui's enormously complex argument, he claims that we are now in a position where we can see what is of value in the Thesis only after we fully dwell within the Antithesis. This leads us to the generative idea of "multiple cosmotechnics." First, what does Hui mean by the peculiar word "cosmotechnics"? "It is the unification of the cosmos and the moral through technical activities, whether craft-making or art-making." That is, a cosmo-technics is the point at which *a way of life is realized through making.*

The point may be illustrated with reference to an ancient tale Hui offers, about an excellent butcher who explains to a duke what he calls the Dao, or "way," of butchering.[18] The reason he is a good butcher, he says, it not his mastery of a skill, or his reliance on superior tools. He is a good butcher because he understands the Dao: Through experience he has come to rely on his intuition to thrust the knife precisely where it does not cut through tendons or bones, and so his knife always stays sharp. The duke replies: "Now I know how to *live*." Hui explains that "it is thus the question of 'living,' rather than that of technics, that is at the center of the story."

This unification—of making and living—might be said to be the whole point of Daoism. Though the same theme is woven through certain Confucian texts and the *I Ching*, it is particularly notable as the incessant refrain of the *Daodejing*, or, as it is more commonly called in the English-speaking world, the *Tao Te Ching.* The title means something like "The Classic of the Virtue of the Way" or "The Classic of the

[17] Immanuel Kant, "Idea for a Universal History from a Cosmopolitan Point of View" [1784] . https://ghdi.ghi-dc.org/sub document.cfm?document id=3590.

[18] Hui, "Cosmotechnics as Cosmopolitics."

Way and of Virtue." In both cases "virtue" (*Te*) should be understood as something close to the Latin *virtus* or the Greek *arete,* meaning a kind of excellence, an excellence that has power.

Hui says, in an interview with *Noema* magazine about his book, that he has

> attempted to understand Chinese cosmotechnics through the dynamic relationship between two major categories of traditional Chinese thought: "dao," or the ethereal life force that circulates all things (commonly referred to as the way), and "qi," which means tool or utensil. Together, dao and qi—the soul and the machine, so to speak—constitute an inseparable unity.[19]

Hui further comments that if the fundamental concern of Western philosophy is with *being* and *substance*, the fundamental concern of Classical Chinese thought is *relation.* So it makes sense, then, that his approach to cosmotechnics would center on the inquiry into a certain relation, that between *dao* (the way) and *qi* (tools).[20]

"They Will Sit Collecting Dust"

One could use many different passages in the *Tao Te Ching* to illustrate Yuk Hui's views, but the obviously central passage is verse 80, which presents us with a vision of a wholly *local* life.[21]

> Neighboring villages are within sight of each other
> Roosters and dogs can be heard in the distance
> Should a man grow old and die
> without ever leaving his village
> let him feel as though there was nothing he missed

But what is especially interesting about this village is the presence of technological sophistication:

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[19] Yuk Hui, "Singularity vs. Daoist Robots." *Noema* (June 19, 2020). https://www.noemamag.com/singularity-vs-daoist-robots/.

[20] An earlier version of this essay, in a footnote on Yuk Hui's rendering of *qi*, implied incorrectly that the widely known *qi* meaning "energy" or "spirit" is the same word as Hui's *qi*, which he translates as "tool." They are distinct Chinese characters, and Hui in his book romanizes "energy" *qi* as *ch'i*. https://blog.ayjay.org/qi/.

[21] I quote from the translation by Jonathan Star (Tarcher, 2001). Knowing no Chinese, I have also found it prudent to consult other translations, especially the one by Edmund Ryden (Oxford, 2008) and the one by Roger T. Ames and David L. Hall (Ballantine, 2003). Star's translation is an especially elegant one, and while his readings differ from some of the more scholarly ones, the scholarly ones also differ from one another. Ursula K. Le Guin's version, *Lao Tzu: Tao Te Ching: A Book about the Way and the Power of the Way* (Shambhala, 1997), is rather free but accompanied by thoughtful commentary, especially interesting for readers of her fiction—about which more later.

Let every state be simple
like a small village with few people
There may be tools to speed things up
ten or a hundred times
yet no one will care to use them
There may be boats and carriages
yet they will remain without riders
There may be armor and weaponry
yet they will sit collecting dust

Powerful technologies are present—but unused. They are not destroyed, as the Luddites destroyed industrial machinery. They are simply ignored. Neither novelty nor power are attractive to the residents of this village—or rather, this *state* that bears the character of a village.

Let them return
to the knotting of cord
Let them enjoy their food
and care for their clothing
Let them be content in their homes
and joyful in the way they live

This is a vision of a well-lived life, in relation to others, that may be *described* generally—what the people in one village do will resemble what the people do in neighboring villages—but *instantiated* only locally and specifically. For those who live this life, their relation to their tools will be determined by their commitment to the Way. Tools that do not contribute to the Way will neither be worshipped nor despised. They will simply be left to gather dust as the people choose the tools that will guide them in the path of contentment and joy: utensils to cook food, devices to make clothes.

Of course, the food of one village will differ from that of another, as will the clothing. Those who follow the Way will dwell among the "ten thousand things" of this world—what we call nature—in a certain manner that cannot be specified legally: Verse 18 of the *Tao* says that when virtue arises only from rules, that is a sure sign that the Way is not present and active. A cos-motechnics is a living thing, always local in the specifics of its emergence in ways that cannot be specified in advance. Nevertheless, those animated by the Way will bear certain common traits, as described in verse 15:

Deliberate, as if treading over the stones of a winter brook
Watchful, as if meeting danger on all sides
Reverent, as if receiving an honored guest
Selfless, like a melting block of ice
Pure, like an uncarved block of wood
Accepting, like an open valley

It is *from* the ten thousand things that we learn how to live among the ten thousand things; and our choice of tools will be guided by what we have learned from that prior and foundational set of relations. This is cosmo-technics.

The variability of this way of life has already been hinted at. Multiplicity avoids the universalizing, totalizing character of technopoly. The adherents of technopoly, Hui writes, "wishfully believ[e] that the world process will stamp out differences and diversities" and thereby achieve a kind of techno-secular "theodicy," a justification of the ways of technopoly to its human subjects.[22] But the idea of multiple cosmotechnics is also necessary, Hui believes, in order to avoid the simply delusional attempt to find "a way out of modernity" by focusing on the indigenous or biological "Other." An aggressive hostility to modernity and a fetishizing of pre-modernity is not the Daoist way.

Hui doesn't believe we can simply return to traditional ways—but this doesn't mean we cannot resist technopoly. "I believe that to overcome modernity without falling back into war and fascism, it is necessary to reappropriate modern technology through the renewed framework of a cosmo-technics." His project "doesn't refuse modern technology, but rather looks into the possibility of different technological futures."

This project is necessary because "we are confronting the crisis of the Anthropocene"—the term widely used to designate the current geological age, in which human activity is largely responsible for the transformation of the Earth. Hui describes this shift as "the planetarization of standing reserves."

That is, what makes this era the Anthropocene is our transformation of Earth's ecosystem into resources waiting to be exploited. (An illustration: Paul Kingsnorth notes that "Ninety-six percent of Earth's mammals, by biomass, are humans and livestock. The remaining 4 percent are wild crea-tures."[23]) And when we make our world into standing reserve, we do the same to ourselves. We divide the cosmos into "natural resources" and "human resources."

Therefore, writes Hui, "Heidegger's critique of technology is more significant today than ever before"—though not adequate to resist "the competition of technological acceleration and the allures of war, technological singularity, and transhumanist (pipe) dreams." All those forces are pushing in the same direction—the wrong direction. "To reopen the question of technology is to refuse this homogeneous technological future that is presented to us as the only option."

Further, "Thinking rooted in the earthy virtue of place is the motor of cosmotechnics. However, for me, this discourse on locality doesn't mean a refusal of change and of progress, or any kind of homecoming or return to traditionalism; rather, it aims at a re-appropriation of technology from the perspective of the local and a new understanding of history." What is required, then, is not a cosmopolitanism that unifies and regulates but rather a *cosmopolitanism of difference*.

[22] Hui, "Cosmotechnics as Cosmopolitics."

[23] Kingsnorth, "Life versus the Machine."

I would like to suggest how this cosmopolitanism of difference can be accomplished by invoking certain concepts that are essential to Daoism, in addition to *dao* and *qi*. The key concepts are *wuwei* ("inaction," or "acting without action") and *ziran* ("spontaneously so," "self-deriving," or "natural"). In verse 2 of the *Tao Te Ching* we are told,

> The sage acts without action [wuwei]
> and teaches without talking
> All things flourish around him
> and he does not refuse any one of them

This choice not to refuse is a choice not to control, not to dictate; that is the form this inaction takes. (Not all inaction takes the same form: the character of inaction is determined relationally.) Note how this point is illustrated in the villagers, or citizens, of verse 80 who simply ignore massive, powerful technologies. Their response to the invitation to dramatically increase their power is simply inaction. Thus also verse 25:

> Mankind depends on the laws of Earth
> Earth depends on the laws of Heaven
> Heaven depends on the laws of Tao
> But Tao depends on itself alone
> Supremely free, self-so, it rests in its own nature [ziran]

So to follow the Way sometimes means to let things be, to do nothing— not to destroy or even resist, but to be silent and still. Perhaps to knot a cord, attending all the while to the ten thousand things surrounding us that flourish by resting in their own nature. In so doing we may be able to discern our own nature and dwell spontaneously in it.

Unhoarding

In *Always Coming Home* (1985)—a strange, unclassifiable book, part novel, part ethnography of an invented people of the future, the Kesh—Ursula K. Le Guin imagines a society governed by verse 80 of the *Tao Te Ching*. We first learn a great deal about the people of the valley of the Na—their songs and dances, their pottery, their social organization into Houses, their rites of maturation and of marriage. Then we discover that in one of the villages there is a computer terminal connected via Internet to a vast AI called the City of Mind, which also knows the very different life of a great metropolis not so far away. (Plural ways of life indeed.) People in the villages know that the terminal exists, but most of them aren't interested in it. Occasionally someone becomes interested, which is fine. The terminal is there when needed.

But social flourishing doesn't require the terminal. I say "social" flourishing because the Kesh do not live very long. Their lifespan has been diminished by a great plague that once ravaged the world. Such plagues we cannot do very much about, nor the resulting compromise of our collective health. But to live virtuously, in accordance with Dao, and to be content—these we can do. We can only hope that it will not take a truly deadly pandemic—something far worse than the one we've had—to remind us of the contentment that can be found in the acceptance of limits.

Always Coming Home illustrates cosmotechnics in a hundred ways. Consider, for instance, information storage and retrieval. At one point we meet the archivist of the Library of the Madrone Lodge in the village of Wakwa-ha-na. A visitor from our world is horrified to learn that while the library gives certain texts and recordings to the City of Mind, some of their documents they simply destroy. "But that's the point of information storage and retrieval systems! The material is kept for anyone who wants or needs it. Information is passed on—the central act of human culture." But that is not how the librarian thinks about it. "Tangible or intangible, either you keep a thing or you give it. We find it safer to give it"—to practice "unhoarding." She continues,

> Giving involves a good deal of discrimination; as a business it requires a more disciplined intelligence than keeping, perhaps. Disciplined people come here [...] historians, learned people, scribes and reciters and writers, they're always here, like those four, you see, going through the books, copying out what they want, annotating. Books no one reads go; books people read go after a while. But they all go. Books are mortal. They die. A book is an act; it takes place in time, not just in space. It is not information, but relation.

It is not information, but relation. This too is cosmotechnics.

Mocking the Proud Spirit

How does a Dao-inspired view of our future with technology square with the totalizing tech-dystopian agenda of present-day China?

It is, I think, significant that Yuk Hui is not from the People's Republic of China but rather Hong Kong, and was educated partly in England before moving to Germany. This seems relevant to his interest in and reliance on Daoism as opposed to Confucianism, which he treats in his work but does not emphasize to the same degree. Though Daoism is one of the traditional Three Ways of Chinese culture, along with Confucianism and Buddhism, it is not easily made compatible with the interests of the Chinese Communist Party, or CCP. There is something intrinsically *dissenting* about Daoism, whereas Confucianism has for many centuries been associated with governance and statecraft. After all, the famous imperial examination system that for almost fifteen

hundred years produced Chinese scholar-bureaucrats was based primarily on Confucian texts and principles.

The relationship between Confucianism and bureaucracy has led one Chinese scholar, Tongdong Bai, in his new book *Against Political Equality: The Confucian Case*, to make a provocative argument about the world's political future.[24] The growing discontent within liberal democracies might find an answer, he says, in Confucianism. Early Confucians "more or less embraced the ideas of equality, upward mobility, and accountability." But "they had reservations about the democratic idea of 'by the people,' or self-governance. Their political ideal was a hybrid between popular participation and intervention by the elites or, more properly, by the meritocrats." The rational, meritocratic, hierarchical social structures promoted by Confucianism, he argues, are well-suited to Chinese culture under the CCP, and are equally well-suited to resolving the political problems of the West.

A similar argument is made by Daniel A. Bell and Wang Pei in their new book *Just Hierarchy: Why Social Hierarchies Matter in China and the Rest of the World*.[25] Both books contend that Confucianism is uniquely positioned to consolidate and rationalize the order of modernity by drawing strength from traditional insights that modernity in the West has lost sight of, especially the rejection of a crude universal notion of equality and its replacement by a socially embodied just hierarchy. This would not mark the end of technopoly but its reshaping by the classic Confucian commitment to "benevolence." Bell and Pei write that for Confucians, public officials should "grasp the moral Way [...], implement benevolent policies that benefit the people, and protect civilians from cruel policies." The authors even claim that "Confucianism can help us to think of how to meet the challenge of artificial intelligence so that machines continue to serve human purposes." How does Daoism fit in? Though Tongdong Bai explores it elsewhere, in *Against Political Equality* he does not treat it at all. Bell and Pei see a very limited, negative role for Daoism: For those "left out of the political hierarchies," a "Daoist-style skepticism about the desirability of the whole meritocratic system can help to legitimize alternative avenues for socially valued ways of life." Or, to put this the other way around, "Daoist ideas can help to legitimize the system among those left out."

The skeptical character of Daoism is indeed the key here. As Yuk Hui writes, in response to a scholar who argues that both Confucianism and Daoism advocate a "return to the self in order to seek moral principles," the likeness is false because "the nature proposed by Daoism is not a scientific and moral principle, but rather a *Dao* that cannot be named and explained." (It is for good reason that Daoism features in every reputable history of anarchism, and that people who are interested in anarchism, like Ursula K. Le Guin, are also interested in Daoism.) The Daoist sage, like Michel

[24] Tongdong Bai, *Against Political Equality: The Confucian Case* (Princeton, NJ: Princeton University Press, 2019).

[25] Daniel A. Bell and Wang Pei, *Just Hierarchy: Why Social Hierarchies Matter in China and the Rest of the World* (Princeton, NJ: Princeton University Press, 2020).

de Montaigne—the Western thinker who most closely resembles that central figure in the *Tao Te Ching*—asks, "What do I know?" (*Que sfay-je?)* It is not a recipe for rule. The Daoist sage does not seek to govern, though the *Tao Te Ching* makes it clear that any community that happens to have a sage lying around should plead with him to lead them.

The particular tone of the sage's skepticism is *ironic*, and the sage is in some essential sense an ironist, but his irony is always directed primarily toward himself. Indeed, this is precisely why people should seek him out to govern them: His primary qualification for office is the gently humorous attitude he takes toward himself, which then extends outward toward our technological "enframing" of the world. As I noted earlier, a community of Daoist sages, such as the one envisioned in verse 80 of the *Tao Te Ching*, wouldn't smash machines as the Luddites did, but rather smile at them and if possible ignore them.

Heidegger is not known for his humor; there aren't a lot of laughs in Hui's work either. But I think this ironic humor I have been sketching out is essential to the character of the sage and, more important for my purposes here, essential to the sage's role in leading us anarchically out of the technological "enframing" of the world. Sir Thomas More said that Satan is a "proud spirit" who "cannot endure to be mocked"[26]; this is equally true of the slightly lesser Power we call technopoly.

I think Hui's cosmotechnics, generously leavened with the ironic humor intrinsic to Daoism, provides a genuine Way—pun intended—beyond the limitations of the Standard Critique of Technology. I say this even though I am not a Daoist; I am, rather, a Christian. But it should be noted that Daoism is both *daojiao*, an organized religion, and *daojia*, a philosophical tradition. It is *daojia* that Hui advocates, which makes the wisdom of Dao-ism accessible and attractive to a Christian like me. Indeed, I believe that elements of *daojia* are profoundly consonant with Christianity, and yet underdeveloped in the Christian tradition, except in certain modes of Franciscan spirituality, for reasons too complex to get into here. (Franciscans are in a way the Daoists of Christianity, and Saint Francis himself, if you observe him from certain angles, a kind of Daoist sage.)

More generally, this cosmotechnics, this technological Daoism as an embodiment of *daojia*, is accessible to people of any religious tradition or none. It provides a *comprehensive and positive* account of the world and one's place in it that makes a different approach to technology more plausible and compelling. The SCT tends only to gesture in the direction of a model of human flourishing, evokes it mainly by implication, whereas Yuk Hui's Daoist model gives an explicit and quite beautiful account. And the fact that cosmotechnics, as I noted earlier, can be *generally described* but only *locally instantiated* makes room for a great deal of creative adaptation.

[26] Thomas More, *Dialogue of Comfort against Tribulation*, ed. Monica Stevens (Auckland: Floating Press, 2013), 167.

Moreover, cosmotechnics provides guidance for ordinary people and technologists alike. The application of Daoist principles is most obvious, as the above exposition suggests, for "users" who would like to graduate to the status of "non-users": those who quietly turn their attention to more holistic and convivial technologies, or who simply sit or walk contemplatively. But in the interview I quoted from earlier, Hui says, "Some have quipped that what I am speaking about is Daoist robots or organic AI"—and this needs to be more than a quip. Peter Thiel's longstanding attempt to make everyone a disciple of Rene Girard is a dead end. What we need is a Daoist culture of coders, and people devoted to "action without acting" making decisions about lithium mining.

One reason to hope that this is possible arises from the genealogy of what Richard Barbrook and Andy Cameron have called the "Californian ide-ology"[27]: that peculiar combination of capitalist drive and countercultural social preference that has done so much to make Silicon Valley what it is. The anarchic Sixties counterculture that provides half the impetus of this ideology is of course saturated with thought from the East; and now the whole of Silicon Valley is intricately entangled with China[28]—where for some years now there has been a renewal of Daoism,[29] one not challenged, though also not endorsed, by the Chinese Communist Party. A synergy could emerge—if only we can find the sages necessary to make this cos-motechnics compelling. The question of how such sages might be formed, and formed more in a Daoist mode than a Confucian one, is a matter for further reflection.

[27] Richard Barbrook and Andy Cameron, "The Californian Ideology." *Mute* (September 1, 1995). https://www.metamute.org/editorial/articles/califomian-ideol-ogX

[28] Elsa B. Kania, "Tech Entanglement—China, the United States, and Artificial Intelligence." *Bulletin of the Atomic Scientists* (February 6, 2018). https://thebulletin.org/2018/02/tech-entanglement-china-the-united-states-and-artificial-intelli-gence/.

[29] Matthew Carney, "China Reconnects with the Religion of Daoism, under the Watchful Eye of the Community Party." ABC News, December 27,2017. https://www.abc.net.au/news/2017-12-28/we-have-restored-it-chinas-daoism-reviv-al/9287484.

Out of the Wild

Why we can't rid nature of us

Samuel Matlack

On the Galápagos island of Floreana, a giant tortoise went extinct some 150 years ago, after human settlement. Conservationists are now working to bring its descendants, discovered on nearby islands, back to Floreana. But there is a problem: Rats, which came with the settlers and eat tortoise eggs and babies, run rampant there. If you could help bring back the tortoise by poisoning all of the island's rats, would you do it?

Here is an important detail: The poison is brodifacoum, which kills through bleeding from internal organs and from eyes, nose, and mouth; the rats slowly stop moving but remain conscious until they die. The process takes about a week, which is important because this prevents the rats from associating the poison pellets with sickness.

The scenario is not hypothetical — the group Island Conservation plans to see it through — and it is just one of many that Emma Marris presents in her 2021 book *Wild Souls*. Australia kills hundreds of thousands of cats annually to save birds. Alberta has shot over a thousand wolves from helicopters to save caribou.

These scenarios illustrate a point the historian William Cronon makes in his 1995 book *Uncommon Ground: Rethinking the Human Place in Nature*. Wilderness, he notes paradoxically, is "a human creation." The ideal of nature as it used to be before human intervention and before we introduced what we now call "invasive species" is one that Western urbanites created in the late nineteenth century, chiefly as a foil for their own modernity. Their signature achievement was to designate large swaths of the American landscape as national parks, intended to be as free as possible from human interference, which often meant expelling native peoples who had long been cultivating that land. Cronon describes this as a "dualistic vision in which the human is entirely outside the natural." His aim is to show how this vision still permeates much of environmentalism and stands in the way of responsible action toward nature, particularly in the places where we actually live.

Marris describes herself as continuing Cronon's work: for even as many professional ecologists and conservationists have begun to let go of the mythical ideal of pristine wilderness, popular environmentalism largely hasn't. In the 2021 *Atlantic* article "The Nature You See in Documentaries Is Beautiful and False," Marris notes that productions like *Planet Earth* often go to great lengths to edit out any sign of human civilization to create their stunning visions of wilderness. And even though specialists are generally improving, Marris believes that many still suffer from the same old prob-

lem, most clearly when they treat the restoration of a natural state before human civilization as an ethical duty.

The scenario of dealing mass death to the rats of Floreana to restore the native tortoise is a helpful clarification of the vision of wilderness as an ideal that excludes humans. Here, too, the aim is to recreate an earlier, supposedly better state of nature before human (and murine) arrival on the island. But there is a striking clarity of the moral stakes: it would take a gruesome battle. Unlike with a romantic scene of, say, the African savannah with David Attenborough voiceover, it is hard to be starry-eyed about what this means, to idealize the result as an Eden before the fall of human arrival. Nature, in this vision, is a battlefield, and humans get to choose winners and losers. Choosing not to kill the rats means letting them destroy their helpless prey. Choosing to defend the prey means dealing mass death to the rats.

Nature as a battlefield is a deeply uncomfortable idea. It risks putting too much emphasis on "Nature, red in tooth and claw." It also invites judgments about who are the heroes and who are the villains — judgments that may seem troublingly anthropomorphic. Are rats evil? This is the stuff of children's literature. Consider Kenneth Grahame's classic *The Wind in the Willows*, where, in a scene adapted from the *Odyssey*, Toad and his friends reclaim Toad Hall from the weasels and stoats who had invaded while Toad was gallivanting about. Unlike in Homer, no blood is shed when Toad returns, but there is much whacking indeed — and it is glorious. And, actually, Toad's friend Ratty is indisputably a hero.

But maybe we confine this view of nature as an epic battlefield to children's literature because we are afraid to take it seriously. If we did, human judgment about nature, about who should win and who should lose, would reenter our pristine Eden through the back door and muck it up again.

A Snake in the Garden

The Northern Cardinal is not an endangered species, neither is the American Robin. But when an Eastern rat snake killed all their babies in my yard last spring, I did not hesitate — I wanted it dead the moment I spotted it from my home office window. The garden shed was in the opposite direction. I hurried and got a hatchet and a shovel. The snake hadn't moved. Unfortunately, the hatchet was too dull for chopping off the snake's head. I probably broke its spine, but I wanted to be sure I had done the deed, as the serpent was still lurching toward me. The shovel finished the job.

An Eastern rat snake
Matt Borden / Flickr

To be clear, the reason for my brutality was not self-defense. Eastern rat snakes can get intimidatingly large but are harmless to us. Nor was it because the snake might scare my children. This is the kind of wildlife I'm hoping they will learn to stomach. It

was about the birds — not about saving them, exactly, except in the sense that there may have been other nests I didn't know of, or future nests next spring. No, I felt I had a responsibility to bring some kind of justice, because I owed it to the cardinal.

Earlier in the season, a cardinal was at my feeder. He took off, miscalculated in mid-flight, and collided with the window next to my desk. It was a devastating mistake; he should have seen me behind the glass but failed to make the turn in time. Now he was lying on his back, wings outstretched, motionless.

By the time I reached him, he still hadn't moved, and he didn't protest when I lifted him into a cardboard box. He only twitched his head, his black eyes staring emptily into space. A friend and bird expert advised us to close the box, poke some holes for air, and give the bird several hours: If nothing was broken, he would likely fly again. By the end of the day, he was able to flutter away but then took hours to finally fly. His chances in the wild seemed slim.

But he found a mate — I was certain he was the same bird we had rescued, a feather on his back remained forever crooked. They nested in our boxwood bush, the first cardinal nest we had ever seen in our yard. Anyone who has witnessed this marvel knows the sheer joy it brings, especially to children. The gaping beaks were visible from a bedroom window. A couple feet over, a robin family set up their home as well.

Then one day the cardinal babies were gone. Far too young for flight, there was no question they were dead.

A few days later, the robin mother was screeching, helplessly witnessing the slaughter of her children as the rat snake, a type of constrictor, was about to strangle one of them. My wife was working in the garden, her own mother instincts swiftly reacting to the cry. A stick as her only tool, she hoped to beat the living daylights out of the serpent, which eventually but reluctantly retreated. All efforts to fortify the bush against the intruder with rose brambles were useless. The next morning, the robin babies were gone, their mother occasionally returning to mourn her loss.

This is why I killed the snake. It was a ruthless killer, a voracious glutton, a vicious beast whose contempt for helpless fledgling life knew no bounds. And the cardinal, whose life my window almost ended and whom I had saved, lost all he had. I owed him.

The Shovel

A possible retort to this episode is easy to imagine. It's a parable of "humans against nature." We are the exterminator species, killing in ignorance and arrogance. And because the snake was obviously just acting according to its nature, my killing it for doing so reveals my true impulse: mastery. By pretending to be above nature, we are the only unnatural creature.

But, so the story goes, things were not always this way. Long ago, there was harmony between us and the wild. We killed for food and to defend ourselves, but at some point in history something changed. We became alienated from nature because of our tools, which made us masters of nature rather than part of it.

In one influential telling, Lynn Townsend White's 1967 *Science* magazine essay "The Historical Roots of Our Ecological Crisis," the change was as specific as the invention of a particular plow. Original plows only scratched the surface, explains White, a historian of the medieval period. Then, "by the latter part of the 7th century ... certain northern peasants were using an entirely new kind of plow, equipped with a vertical knife to cut the line of the furrow, a horizontal share to slice under the sod, and a moldboard to turn it over." Using this new plow required not two oxen but eight. Because no single farmer had eight oxen, the organization and politics of land changed to adapt to the needs of this "power machine to till the earth." This was the critical moment, says White: "Formerly man had been part of nature; now he was the exploiter of nature."

Other versions of the story peg the shift to the beginning of modern science, with Francis Bacon and René Descartes, or to the Industrial Revolution and the steam engine. But for purists, agriculture is a favorite. William Cronon quotes Dave Foreman, founder of the advocacy group Earth First!, who wrote:

> Before agriculture was midwifed in the Middle East, humans were in the wilderness. We had no concept of "wilderness" because everything was wilderness and *we were a part of it.* But with irrigation ditches, crop surpluses, and permanent villages, we became *apart from* the natural world.... Between the wilderness that created us and the civilization created by us grew an ever-widening rift.

There is some truth to this idea. I would not have killed the snake with bare hands, and probably not even with a rock. The opportunity to kill arose because it was already present within an arsenal of tools in my shed. The shovel — agriculture again — was the first weapon I had in mind. Grabbing it was second nature.

But the trouble with the poison-pill story of when we became masters of nature — aside from its historical arbitrariness — is that it is a counsel of despair. Its effect is always to idealize the state of nature that we imagine existed before we made our home in it, which offers no guidance for the choices between life and death we face where we do make our home, much less our choices in the wild.

Weevils on Trial

To be fair, Lynn Townsend White did hope to offer a constructive alternative to human exploitation of nature. Because he believed, bizarrely, that Christianity "insisted" on exploitation as a divine decree, he argued that the replacement needed to

be religious too, and proposed St. Francis as "a patron saint for ecologists." Francis, he writes, "tried to substitute the idea of the equality of all creatures, including man, for the idea of man's limitless rule of creation." Francis's idea was "heretical," White believes, but points the way forward.

What is a Franciscan relationship to nature? There are famous stories of Francis preaching to birds and taming a wolf that terrorized the town of Gubbio. But the most colorful story of the Franciscan spirit, borrowing again from Emma Marris's book, comes from a few centuries after Francis himself.

In 1545, the wine growers of St. Julien, a town in Eastern France, got fed up with weevils that ravaged their vines. But instead of exterminating the insects, the town assigned them a lawyer and prosecuted them in court. The judge ruled as follows:

> Inasmuch as God, the supreme author of all that exists, hath ordained that the earth should bring forth fruits and herbs, not solely for the sustenance of rational human beings, but likewise for the preservation and support of insects, which fly about on the surface of the soil, therefore it would be unbecoming to proceed with rashness and precipitance against the animals now actually accused and indicted; on the contrary, it would be more fitting for us to have recourse to the mercy of heaven and to implore pardon for our sins.

Then followed prayers and masses and a procession of the Eucharist around the vineyard. The weevils evidently got the message and left.

But then, some forty years later, they came back. Again the weevils were assigned a lawyer, Pierre Rembaud, who argued that, according to Genesis, they had a right to eat plants. Furthermore, Rembaud found it unreasonable to expect the weevils to obey human judgments. (We will return to this issue.) Prosecutors shot back that, also in Genesis, God had given humans dominion over the animals. There the proceedings seemed stuck, carrying on for weeks. The wine growers must have been losing their patience when they offered a compromise: They could give the weevils a plot of their own, where they would be free to eat as they pleased, away from the vineyard. The idea seemed reasonable, but one of the weevil agents, Antoine Filliol, sensed a bad deal. The forbidden fruit was clearly better than what was on offer in the proposed weevil reservation; his clients were not interested. Now this seemed a matter purely of scientific fact, so the judge ordered an independent investigation of the designated weevil plot.

It is a profound disappointment that here the record of the trial ends — the rest of the last page got eaten by animals.

Whatever the outcome, the story would seem to be a perfect example of the "equality of all creatures" that White demanded. We see people treating animals with profound respect, considering in earnest the needs of the lowliest of creatures. This is admirable, but thinking of it as equality rather than mastery would be fooling ourselves. What

the story illustrates is that our unparalleled mastery over the rest of nature is what makes us responsible for the welfare even of the least of these. It is a singularly human judgment — of the weevil's lawyers, their prosecutors, and their judge — that weevils matter at all, or that the Floreana tortoise does, or the rats, or the cardinal, or the snake. And it is a correct judgment, even if by itself it does not offer moral clarity for deciding who will live and who will die.

But the false ideal of nature untouched by humans obscures these decisions altogether. Rather than putting limits on human mastery, it is an abdication of responsibility to make difficult choices.

Dark Wildness

The wilderness ideal also fails to grapple with the fact that much about wilderness, let's face it, just isn't ideal, or is at best deeply morally ambiguous.

Baboons, for example, are wretched creatures — not all of them all the time, but enough so that Emma Marris calls them "assholes." This is not just because their politics are violent, as males bully each other in their constant fights over who's boss (as, to a lesser extent, do females). It's because of the special brutality of some males toward mothers, infants, and the unborn.

Primatologists have long known that young baboon males who immigrate into another troop where they seek to gain top rank will sometimes kill infants and attack pregnant females — and, in doing so, kill their fetuses. One researcher recounting such an attack described a big young male named Hobbes, who had recently transferred to a new group: "He began to selectively attack pregnant females. He beat and mauled them, causing three out of four to abort within a few days."

A 2017 study of savannah baboons in Kenya shed light on a long-suspected reason for this. Killing infants and fetuses restarts their mothers' reproductive cycling, making them sexually available for the newcomer killer males. That the mothers sometimes die amid the violence is collateral damage that is rare enough to make it worth the risk to the males, the researchers suggested. Among savannah baboons in Botswana, infanticide by immigrant males accounts for about a third of all infant deaths. In the face of such despicable violence toward the most defenseless of their own, the idea of nature as pristine so long as we are not part of it is grotesque.

This deeply unsettling sense of the wild, its moral fraughtness, is all but lost to us who have inherited an idea of wilderness as a vast, romantic landscape, home mostly to animals we find to be pleasant, including toward us. In praise of the American wilderness, Henry David Thoreau wrote: "We are told that within three miles of the center of the East-Indian city of Singapore, some of the inhabitants are annually carried off by tigers; but the traveller can lie down in the woods at night almost anywhere in North America without fear of wild beasts." It's hard not to be swept up by this

feeling of sublime peacefulness, especially if one has experienced the majestic calm of a wilderness like that of California's redwood forests, or that of Oregon's Crater Lake. These are sacred places, rightly set apart so tourists don't tread on them except to behold and stand in awe. But they also deceive.

In a review of Robert Macfarlane's 2007 book *The Wild Places*, about his exploration of the British Isles, the Scottish writer Kathleen Jamie called the book "comforting" because it glosses over conflict both natural and human. "Waiting to be discovered," Jamie wrote, "is a wildness which is smaller, darker, more complex and interesting, not a place to stride over but a force requiring constant negotiation. A lifelong negotiation at that: to give birth is to be in a wild place, so is to struggle with pneumonia.... There is Ben Nevis [Scotland's tallest peak], there is smallpox. One wild worth protecting, one worth eradicating. And in the end, we won't have to go out to find the wild, because the wild will come for us."

The wildness of baboons is among those darker and more complex kinds, somewhere between Ben Nevis and smallpox. Marris is unflinching in spelling out the tragic choice this presents: "If we truly care about baboons flourishing, it seems possible that humans might have a duty to periodically go into every baboon troop on the planet and shoot the most aggressive males" — a thought she finds both appealing and horrifying. It's not entirely a theoretical idea, as Marris explains. An accidental experiment that began in 1983, when the most aggressive males from one troop ate from a garbage dump and died of bovine tuberculosis, showed that even a decade later the troop still retained a distinctly more peaceful culture.

The idea of intervening in the lives of wild animals to impose our moral standards on them seems ludicrous, in a way. As with the weevils, we should not expect baboons to submit to our judgments. This looks a lot like human mastery running amok.

On the other hand, the vision of a more peaceful baboon life is not an expression of the will to power but its rejection: It is to claim that a state of nature in which the most violent win and the weakest suffer is a kind of moral chaos. This is not to say that we can bring moral order; almost certainly we can't in most cases — it isn't clear that shooting the most aggressive baboon males wouldn't introduce more problems for them than it would solve. But looking at baboon violence as a moral problem is a way of apprehending something of the darker wildness that is everywhere in nature: it's the pain of the underdog.

Whale Wars

Of all the fights there are in nature, one of the more lopsided ones in terms of both power and number is that between a seal and a pod of killer whales. If the seal happens to seek refuge on an ice floe, the killer whales, whose pods can include dozens, will create a wave to wash the poor critter into the water.

In 2009, marine ecologist Robert Pitman observed something that until then had not been widely known: that humpback whales sometimes join this fight, taking the side of the seal. In one spectacular event near Antarctica, a pod of killer whales had just washed a Weddell seal off his floe when the seal — instead of jumping back on the ice, as they sometimes do — swam into open water, where he would normally have no chance of escape. "Then, suddenly," Pitman later recalled, "one of the humpbacks comes to meet the seal and, just as it gets to the seal, rolls over on its back and the water washes the seal onto its chest. The whale lifts its chest up out of the water with the seal on it." At one point, the seal began to slide off, and the humpback used its massive flipper to carefully push it back up onto the whale's chest.

A humpback whale approaches as a killer whale "spyhops" to assess its prey, a Weddell seal.
Kathryn Jeffs / Nature Picture Library

That humpbacks rescue killer whales' prey, and not only seals, is now widely known among professional and amateur observers. Scientists seem unsure about whether the humpbacks are deliberately trying to save the prey or whether they are in fact acting in self-interest, as animals are thought typically to do. It's important to know that humpback calves, too, are prey for killer whales, and so some believe, including Pitman, that adult humpbacks come to the rescue of killer whales' prey just in case it is one of their own, thus offering "inadvertent" help to others — self-interest that soft-hearted humans mistake for compassion.

A July 2022 *Radiolab* episode drew attention to something that would seem to point beyond this idea. Marine biologists Nancy Black and Alisa Schulman-Janiger have been studying killer whales in Monterey Bay off the coast of California for decades. In recent years, one group of killer whales there has become exceptionally skilled at killing gray-whale calves. But humpbacks are numerous in the area and sometimes come to defend the grays.

One must picture this scene to get a sense of the drama. A gray whale mother and her calf are migrating from Mexico's Pacific coast to Alaska. In Monterey Bay, ten killer whales, which are typically over 20 feet long and weigh 6 tons, attack the calf. The calf may be roughly their size, but it is slow and clumsy, and, as a baleen whale, has no teeth. The killer whales' goal is to separate the calf from its mother and wear the little one out by pushing it down into the water in order to keep it from coming up for air — they want to drown it. This can take hours, as the gray-whale mother — herself a giant of some 45 feet and up to 40 tons — and her calf will roll, splash, and push away from the killer whales.

In this case, the gray-whale mother fails to fend the killer whales off. They are too agile, too many, and they don't give up.

Then the biologists, observing from a boat directly at the scene, notice two humpback whales approaching. Humpbacks are somewhat longer and faster than gray whale adults, and their tails are a formidable weapon. But these humpbacks come too late — the gray-whale calf is dead, and its mother swims away in defeat.

Oddly, the humpbacks don't leave. Instead, more are coming — to protect the dead gray-whale calf and prevent the killer whales from feeding on it. By the time dusk approaches seven hours later and it gets too dark for the biologists to see, at least sixteen humpbacks continue to fend off the killer whales. Whatever blind forces we might say compel their actions, the humpbacks appear as if they are fighting out of a deeper principle: to guard a helpless creature they have sworn to protect, even after it has died.

Humpback whale Rastrillos in Monterey Bay, California bears the rake marks of a killer whale attack he survived as a calf.
Robin Gwen Agarwal / Flickr

This is no mistake, an inadvertent behavior of whales defending their living germline. On another occasion, Schulman-Janiger witnessed an event very much like this, except this time, a day after killer whales drowned a gray-whale calf, two humpbacks remained on the scene: "Everything was extremely slow-motion," she recounts on the podcast, describing the humpbacks "turning upside-down and looking at the calf, touching it with the flipper very gently, pushing their head against it, moving the carcass between them." It all "looked a lot like what we associate with grief."

In and Out of Nature

Walking in my yard one fall, I noticed out of the corner of my eye a loud buzzing object hovering in midair. It was a cicada and a cicada-killer wasp of roughly equal size, locked in a struggle to the death — the cicada's, surely. Instinctively, I picked up a stick and broke up the fight. By that time of year, cicadas have only days left to live before they lie belly-up on the ground and expire, and yet that one seemed like it needed to live, or at least not die by the sting of a beastly wasp. A better student of nature might have waited to see what would happen, but defending the underdog, like a humpback helping the gray whale, felt like the most natural thing to do.

In a way, it may have been a silly protest against the brute fact that predators kill in order to live. And yet there is a similar impulse that motivates efforts to preserve plant and animal species, rainforests and national parks, except that there the predator too is typically human beings: It is because we have considerable mastery over the rest of nature that we can act also to guard the underdog, even when the bully it needs protecting from is us.

On the other hand, I sometimes find myself rooting for the predator. Seeing the cheetah bored out of his mind in the Maryland Zoo, with the antelope in the opposing enclosure as if to tease him, makes me wish I could see him truly himself, hunting at full speed. And reading J. A. Baker's 1967 book *The Peregrine*, I can't help but feel the allure of the falcon's perfect kill. Responsible human action in nature must somehow come to terms with both of these impulses: There's a tragic beauty in the

drama of killer whales hunting — and yet the humpbacks trying to stop them seem like the good guys.

The anthropologist and science writer Loren Eiseley, in an exploration of the word "natural" in his 1960 book *The Firmament of Time*, had an oddly similar experience to mine with the cicada and the killer wasp. He was in a desert valley in the West when he came upon a "huge blacksnake which was partially looped about the body of a hen pheasant" — both hovering in midair, with the bird trying to fly away but crashing repeatedly as the snake was at the same time strangling it. "I suppose I could have waited there to see what would happen," Eiseley wrote. "I suppose it might have been worth scientifically recording. But I could not stand that ceaseless, bloody pounding in the gravel." And so he "arbitrated the matter" and separated the two. Struggling to offer a reason for it, he concluded that he had "in some insubstantial way, reconciled them." It was a reconciliation made possible by the fact that he transcends them as a creature both within nature and stretching beyond it. "Man is not totally compounded of the nature we profess to understand. Man is always partly of the future, and the future he possesses a power to shape."

Human power is what defenders of wilderness often fear, since we might use it to destroy — even as some of them rely on the same power in trying to preserve an idealized notion of the wild, and by spilling blood, no less: the massacre of rats to restore the tortoise. What underlies this paradox is the romantic ideal of wilderness without humans. But imagining us outside of nature is the same mistake as imagining us as having limitless mastery over it. In both cases, nature is our opposite, like a foreign land, rather than the home whose threshold we naturally cross when we tend the garden and till the soil.

That garden — especially where it is still largely wild — indeed deserves protection from our own excessive predation. But the allure of the wild remains a poor guide for building a home, for seeking the flourishing of creatures we live with, or deciding about their life and death.

Ever since I killed the snake last spring, there has been a change in the yard: there are voles everywhere, digging tunnels beneath the grass. One lives below the bird feeder, where it darts forth at times to snatch a seed. They are on the menu for rat snakes. There is also pest control for eradicating them. But why should I? They save me a lot of trouble loosening the soil to plant grass where none has been able to take root for years. They are now my fellow gardeners.

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