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The Evolution of Modernity

The human world of the early 21st century is dominated by science, cities, and high technology. However, both our modern way of life and our way of thinking about the world sprang up only within the past several centuries. Today's humans are biologically the same as people who lived 10,000 years ago; but our current habits, expectations, and beliefs are almost entirely tied to machines, infrastructure, energy sources, and artificial materials that have only recently come into existence. Compared to our hunter-gatherer forebears, we might as well be from another planet.

We take modernity for granted, as the fish presumably takes for granted the water in which it swims. But our own metaphorical water is increasingly troubled. Survival-level problems are appearing with more frequency and intensity, including climate change, resource depletion, the disappearance of wild nature, and the toxification of the biosphere. If society cannot extricate itself from this worsening turbulence, our species may not persist much longer.

What's outside the fishbowl we call modernity? And how did we humans get into it in the first place?

Progress or Polycrisis

Most people who live in industrialized nations now believe that humans are superior to the rest of nature. It is assumed that by using science and reason, along with giant helpings of technology, we can banish scarcity and ignorance. Modernity is thought to be the implicit goal of billions of years of biological evolution. And some of us imagine techno-humans to be the seed pods resulting from this great flowering, capable of spreading life and intelligence into the rest of the universe.

There have long been critics of modernity such as Chief Seattle ("When the green hills are covered with talking wires and the wolves no longer sing, what good will the money you paid for our land be then."). However, in the last few years a critical discourse about modernity has emerged in books, blogs, and academic literature, notably in the works of three authors—Vanessa Andreotti, Tom Murphy, and Dougald Hine (more names deserve mention, including Robin Wall Kimmerer, Daniel Quinn, Anna Lowenhaupt Tsing,

Jeremy Lent, and Joanna Macy, but the aforementioned three will serve our immediate purposes).

Vanessa Andreotti, in her book *Hospicing Modernity: Facing Humanity's Wrongs and the Implications for Social Activism*, focuses on the modern mindset, which she characterizes as a collection of “expired stories” from which spring racism, colonialism, and wanton destruction of nature. She contrasts this modern mindset with Indigenous ways of knowing, which not only made societies more sustainable, but gave their members a sense of organic connection with their surroundings and with one another.

Tom Murphy, author of the blog “[Do the Math](#),” sometimes describes himself as a recovering astrophysicist. In essays dating back to 2011, he shows that techno-solutions to climate change and other survival-level predicaments aren't working and can't work at scale. Murphy has concluded that only a fundamental shift in how humans inhabit the planet can enable our species to continue. While his starting point differs from Andreotti's, he has come to share the latter's outlook on modern versus Indigenous human cultures. Note: Murphy recently shared the [story of his intellectual journey](#) on the *Crazy Town* podcast.

Dougald Hine is the author of *At Work in the Ruins: Finding Our Place in the Time of Science, Climate Change, Pandemics, and All the Other Emergencies*. In it, he explains why he has stopped focusing on climate change in his environmental writing. Although global warming is a survival-level problem, it cannot meaningfully be addressed without engaging in a deep critique of modernity. Like Andreotti and Murphy, Hine calls upon us to reawaken Indigenous attitudes toward nature.

For these authors, modernity is the cause of the current [polycrisis](#) and the impending [Great Unraveling](#). Modernity is likely to comprise a brief and intensely destructive moment in Earth history, because the way we live is unsustainable not just in its details, but in its inherent design. Despite our pretensions and aspirations to be free of natural limits, we humans remain, and always will be, part of nature and subject to it. We pollute and deplete it at our own peril.

Are Humans Great or Terrible?

Implicit in this bifurcation of ways of looking at modernity are two views of *Homo sapiens*. If modernity is a magnificent achievement, it's assumed that this is because humans are inherently great and are expressing that greatness through technology. In this view, we humans are more than just clever animals; we are evolving to become gods—as some writers have [explicitly claimed](#).

The critics of modernity describe the current phase of human history not as an expression of intelligence and virtue, but as a cataclysmic mistake: for the sake of momentary comforts, conveniences, and profits, we are generating existential problems that could imperil not just civilization, but planetary life-support systems. One might well conclude from this that humans are terrible.

However, that pessimistic assessment of the worth of our species may be a misreading of both the situation and of the modernity critics. If we consider humans to be animals embedded in ecosystems, then whatever we do is part

of nature and evolution. Biological evolution gave us big brains and opposable thumbs. Then cultural evolution via language and toolmaking took over, initiating a rapid self-reinforcing feedback process that has accelerated until the present. Modernity is the first instance in evolutionary history where a species has developed tools and language to expand its range and potential resources, thereby depleting not just its immediate region but *global* stores of fish, game, trees, soil, and minerals, while overfilling *global* waste sinks, notably the planetary atmosphere. However, the essential pattern of a species overexploiting its environment, increasing its population until it exhausts available resources and waste sinks, and then dying off, is common in nature. Humans are products of evolution, and whatever qualities drove us to provoke climate change and all the other predicaments of modernity are inherent in evolution itself.

Money, technology, social complexity, and war—human cultural traits that seem to separate us from other creatures—emerged via evolution. Natural selection is a process of improvising and testing; it doesn't have a goal in mind. Once nature's improvisation turned in the direction of language and toolmaking, modernity may have become inevitable. While all human groups didn't follow the path that led eventually to the extreme exploitation that characterizes modern industrial civilization, the existence of even one group with the environmental preconditions, cultural history, and audacity to pursue the path of technological hyper-innovation and empire building made modernity virtually unavoidable. Most other groups were then swept along, first via colonization and later through economic globalization.

While techno-utopians envision humanity taking charge of Earth and then [moving on to the stars](#), critics of modernity, when contemplating the future of our species, are more likely to look for clues in nature. When a species finds a new food source and multiplies, it eventually reaches limits of that food source; its population overshoots a sustainable level and crashes. This [overshoot/die-off](#) population cycle is particularly common among invasive species, which often negatively impact native species. However, once invasive species have been around for long enough, they and surrounding native species typically co-adapt—sometimes to the long-term detriment of at least some of the natives, sometimes to that of the invader. If the invaders are predatory, they eventually learn to [take only some](#) of their potential prey. If the invaders are prey species, they learn new [survival strategies](#), perhaps including camouflage.

Similar boom-and-bust cycles have happened in human societies. Many societies experienced [Golden Ages](#) when resources seemed abundant and when comfort, convenience, and knowledge increased for a significant portion of the population. These Golden Ages were typically followed by [Dark Ages](#) of resource scarcity, poverty, and loss of high culture. All that's different today is that we've achieved a *global* Golden Age based on the use of fossil fuels (which enable us to extract resources in larger quantities and move them longer distances); as fossil fuels dwindle and the consequences of burning them degrade ecosystems, a *global* Dark Age will likely follow. But its degree of darkness will depend on how willingly and successfully humanity adapts to limits.

Perhaps it's helpful to think of the historical process of human cultural adaptation to environmental limits in slightly different terms. In the distant

past, when a particular human group reached a limits crisis (usually with food), it had two options: *indigenize* or *colonize*. To indigenize meant adapting the group's population size and consumption behavior to levels that could be sustained given existing resources. To colonize meant moving elsewhere, taking over other groups' resources, or inventing ways to access resources that previously were inaccessible. No doubt circumstances and group history (and therefore mindset) predisposed each group toward one or the other strategy. Modernity marks the historical moment when the colonizers have taken over the whole world. But, having done so, they find themselves in a bind: there's nowhere else to colonize, the resources held by Indigenous peoples have mostly already been looted, and unexploited new resources (perhaps including [thorium](#) or [geologic hydrogen](#)) are few and of questionable utility or accessibility. The only real long-term solution is for the colonizers to indigenize.

Evolution, Big Mistakes, and Human Agency

Critics of modernity are not the first people to question our evolutionary urge to colonize. For millennia, Indigenous thinkers, as well as some philosophers from the world's dominant civilizations, have offered guidance on how to adapt to limits—psychologically as well as practically. In most if not all cases, the impulse to temper our human urge toward greed and outward expansion arose due to a humbling previous descent into scarcity that came from overharvesting resources.

During the last 60,000 years, humans fanned out across the globe, encountering ecosystems new to them. In each unfamiliar place they encountered, they tended to kill large animals that provided a high return on hunting effort. Many of these animals—including mammoths, mastodons, ground sloths, and three species of camels—were driven to extinction, and people had to resort to harvesting smaller game whose hunting required more work. Gradually, people who stayed in one place for many generations learned to leave enough plants and animals unharvested so that these species could reproduce and flourish.

Anthropologists [Colding and Folke](#), in their studies of Indigenous peoples, found six kinds of tribal taboos regulating the harvest of vulnerable species. These are “segment taboos,” which forbade individuals of a certain age, sex, or social class from harvesting a resource; “temporal taboos,” which banned the use of a subsistence resource during certain days, weeks, or seasons; “method taboos,” which restricted overly efficient harvesting techniques that might deplete the stock of a resource; “life-history taboos,” that forbade the harvesting of a species spawning or nesting; “specific-species taboos,” which protected a species at all times; and “habitat taboos,” which forbade human exploitation of species within particular reefs or forests that served as biological reserves or sanctuaries.

Indigenous people weren't automatically eco-wise simply because they were pre-modern. They inhabited worlds that had already been over-exploited, resulting in conflict and privation. The lessons of moderation were hard-won and eventually resulted in locally rooted cultures that assumed responsibility for the maintenance of nature's balance, that made modest demands on ecosystems, and that recycled everything. Some indigenous societies, such as the Aboriginal peoples of modern-day Australia, developed practical, tested

knowledge for living in balance with the more-than-human world that persisted for tens of thousands of years.

Some later colonizers likewise achieved ecological wisdom *after* having devastated their environments. By roughly 500 BC, ancient Greece was [deforested](#) and its topsoil was largely depleted. This was the context in which Greek stoic and cynic philosophers arose, advising a simple, peaceful, and virtuous life in harmony with nature (Epicurus: “Poverty, brought into conformity with the law of Nature, is great wealth.”).

Among the world religions, Buddhism has perhaps the most ecological message: other organisms, like us humans, are on the path to enlightenment, so don’t harm them if you can avoid doing so. Practice self-restraint and curb your appetites. [Many environmentalists](#) are attracted to Buddhism (which, despite its non-violent rhetoric, was spread throughout southern Asia via holy wars). Again, the context in which this religion of moderation emerged was ecological devastation. Anthropologist Marvin Harris [offers this summary](#):

“By 600 BC, . . . the population had risen into the millions, towns and cities had sprung up, the entire Gangetic plain had become deforested, there was a shortage of pasture and fodder . . . and warfare was incessant.”

Today, as environmental devastation descends upon us all, ecological wisdom is again germinating—this time among climate change activists, students of ecology, and, unsurprisingly, people learning from Indigenous ways. Perhaps today’s critics of modernity are evolution’s [growing tip](#), exploring a way toward the recovery of humanity and the biosphere.

We modern people prize boiled-down bromides we can easily recall, and we like to think we’re in charge of our fate. An honest critique of modernity discourages both mental tendencies. Details matter, the world is rife with nuance, and our agency is limited. However, if there is one simple bit of advice we might do well to remember, it’s this: stay humble. Much of what we think we know is wrong, and the rules of the game of survival are changing. The colonizing rules, which seemed to work so well for a while, at least for some, have propelled us into the evolutionary *cul-de-sac* called modernity. Going just a little further toward that dead end, via still more economic growth and technological innovation, will provide no solution. A response that reaches back to our very self-identity as humans is required.