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Are We Too Smart for Our Own Good?

Evolutionary biologist Ernst Mayr (1904-2005)—who, I'm told, was a very [smart person](#)—concluded, late in life, that high intelligence may be a lethal mutation. In this article, we'll explore some reasons for this startling and paradoxical assessment.

Intelligence is useful and entertaining. Companies go out of their way to hire applicants with high IQ scores, and spectacular intellectual achievements in the arts and sciences can win the hero-worship of generations (see Aristotle, Bach, Einstein). Measuring smarts is the job of an [industry](#). Indeed, smartness is so endlessly praised in modern society that questioning its value may constitute one of the most dissident of human acts.

High intelligence has been defined in many ways, but typically as the capacity for abstraction, logic, self-awareness, learning, planning, creativity, critical thinking, and problem-solving. High intelligence values itself, selects for itself, and fascinates itself.

Our remarkable human intellectual achievements are deeply tied to language, whose development occurred as a self-reinforcing evolutionary feedback process. Hundreds of thousands of years ago, early humans derived a collective survival advantage by developing precursors of language, which enabled them to coordinate their behavior and to plan. But language requires extra brain power, so natural selection also worked to increase brain size, which enabled further development of language, which conferred still more survival advantages, and so on. (The exact course of language's early evolution is still [mysterious](#).)

If evolution produced high intelligence, then high intelligence is latent in evolution. Yet high intelligence is quite rare in nature. While all species communicate to some degree, only one has developed abstract, symbolic language. If language-based high intelligence offers survival advantages, why has it cropped up in nature only once? To make progress toward answering that question, we first have to address four easier-to-crack questions:

- What evidence and reasoning led Mayr to his conclusion?
- What are the costs and downsides of high intelligence?
- What problems don't lend themselves to solutions based in high intelligence?

Finally, we'll tackle what may be the most important question of all: is there a balancing form of intelligence that could enable us to survive the otherwise lethal side effects of high intelligence?

Mayr's thinking

According to Mayr, intelligence is a double-edged sword: it can be a tool for our survival or a flaw leading to our self-annihilation. In Mayr's 1995 [written debate](#) with astronomer Carl Sagan about the prospects for finding intelligent life elsewhere in the universe, Sagan commented that, "Other things being equal, it is better to be smart than to be stupid." To which Mayr replied: ". . . but life on Earth refutes this claim. Among all the forms of life, neither the prokaryotes nor protists, fungi or plants have evolved smartness, as they should have if they were 'better.'"

Mayr continued:

Adaptations that are favored by selection, such as eyes or bioluminescence, originate in evolution scores of times independently. High intelligence has originated only once, in human beings. I can think of only two possible reasons for this rarity. One is that high intelligence is not at all favored by natural selection, contrary to what we would expect. In fact, all the other kinds of living organisms, millions of species, get along fine without high intelligence.

The other possible reason for the rarity of intelligence is that it is extraordinarily difficult to acquire. Some grade of intelligence is found only among warm-blooded animals (birds and mammals), not surprisingly so because brains have extremely high energy requirements. But it is still a very big step from "some intelligence" to "high intelligence." . . . It seems that it requires a complex combination of rare, favorable circumstances to produce high intelligence.

The Sagan-Mayr debate was partly a response to the [Fermi paradox](#)—the observation in 1950 by physicist Enrico Fermi that there is a glaring discrepancy between the lack of conclusive evidence of advanced [extraterrestrial life](#) and the apparent high likelihood of its existence, given the vast number of stars likely to have life-conducive planets. There are several possible explanations for the paradox, but the simplest and most compelling are these two: first, that high intelligence doesn't readily evolve, and hence is extremely rare in the universe; or second, that it tends to be self-extinguishing over fairly short time-scales, since organisms with the requisite linguistic and tool-making abilities will likely deplete their planetary resources and pollute their environments to the point of ecosystem and societal collapse before they develop the means to contact intelligent life forms elsewhere.

Sagan thought intelligent life should be common, and should be able to avoid collapse. Mayr held that we have only one example of highly intelligent life from which to extrapolate: ourselves. The fact that our high intelligence is not shared by any of the millions of other species on our planet suggests that it is unlikely to evolve elsewhere. And, as for avoiding collapse, we're [not doing particularly well](#).

The costs, downsides, and occasional cruelty of intelligence

Mayr might have pointed out (though the subject never came up in his debate with Sagan) that, given our species' history of war, colonization, slavery, and environmental degradation, we should be wary of contacting any species smarter than ourselves, lest we be victims of the same competitive strategies that enabled some humans to overtake others, and humans together to dominate other terrestrial species. Further, extraterrestrial life forms that haven't reached our level of smarts should hope that humans don't visit them, for the same reason.

Intelligence may have offered humanity a collective survival advantage, but that advantage is often overshadowed by costs. Geniuses aren't always happy, nor are they always nice, nor do they always enjoy long lives (though Mayr certainly did). Low-IQ people can be either generous or mean, just as intelligent people can; a crucial outcome difference is that when intelligent people are cruel, they can be cleverer in their means of delivering injury, and can hurt far more people (some [serial killers](#) have high IQs, as do most [cybercriminals](#)).

A personality trait commonly tied to high intelligence is the tendency to feel superior to others. Super-smart people are often arrogant, fail to recognize the limits of their own intelligence, and [defend bad behavior](#) with tricks of logic. As Justin Gregg points out in his book *If Nietzsche Were A Narwhal: What Animal Intelligence Reveals About Human Stupidity*, brainy humans have repeatedly invented convoluted moral justifications for genocide.

Moreover, the collective survival advantage that we humans have derived from high intelligence appears to be temporary. We have used our intelligence to build nuclear weapons, produce toxic chemicals, burn fossil fuels for energy, and expand our settlements to the point where other species—including ones we depend on—are being driven to extinction. All of these hazards are converging to threaten the survival of industrial civilization, and possibly humanity itself, over a relatively short timescale measurable in mere decades.

The downsides of high intelligence are nowhere more apparent than in humanity's latest techno-obsession—artificial intelligence (AI). Dramatic claims are being made regarding the ability of AI to revolutionize whole industries, to [solve climate change](#), and to make investors rich. However, critics warn of this new technology's potential to [throw millions out of work](#), unleash innumerable novel [genetically modified organisms](#) into the environment with unknown risks, and direct new generations of [autonomous weapons](#).

AI has impressive linguistic abilities. But its intelligence is fully disengaged from the biological processes and natural limits in which real humans are enmeshed. Lacking this context, AI seems poised to greatly amplify the most dangerous aspects of human cognition.

Meanwhile, insiders now warn that AI is an oversold, [largely unprofitable scam](#), and could be the next [stock market bubble](#) to pop the economy. Why would that be? Perhaps the smart machine simply mirrors the flaws of its creator, an animal that has used a temporary abundance of fossil energy to

blow a population/consumption bubble that is [bound to burst](#), and soon.

Problems that don't respond to intelligence

One of the reasons that high intelligence is often destructive, and possibly even self-extinguishing, is that it tends to address only the problems that high intelligence is suited to solving; other problems are largely ignored. And deferred problems tend to accumulate and worsen.

It's often said that, to a person with a hammer, all problems look like nails. We humans tend to lead with our strong suit—intelligence—even when trying to address dilemmas brought on by our misuse of it. This is particularly true when the source of problems is something we don't want to acknowledge or change. Case in point: global warming, which is caused by burning the fossil fuels that currently power most of our economy. We use our intelligence to dance around the problem, imagining fanciful but largely unworkable technological “solutions” (carbon-capturing machines) or policy mechanisms (emissions trading schemes). For climate change, the actual solution is simple and doesn't require extraordinary intelligence: just reduce fossil fuel extraction rates. But doing that would require a different kind of intelligence—one based in self-limitation and conviviality. We'll explore that option below.

Most environmental dilemmas have to do with limits (usually limits to either resources or to waste sinks). And most environmental solutions have to do with reining in our wants and ambitions in some way. Cleverness may help at the margins—as when chemists identify a relatively harmless substance that can substitute for a toxic one. But without self-limits on population and consumption, no amount of cleverness can halt humanity's accelerating march toward collapse. Economist William Stanley Jevons got an inkling of this stark reality in 1865, when he published his [observation](#) that making coal usage more efficient led to increased coal mining (and depletion), not conservation. Too often, we outsmart ourselves by thinking we're doing something to save resources and reduce pollution, when in fact we're just paving the way for more of the same.

Another intelligence-resistant problem is deciding what's a good life or a good death. These are arguably the most important personal questions with which any of us will ever grapple, but intelligence doesn't always help with answers. It's true that smart people sometimes avoid a lot of problems that plague less-smart people (such as falling prey to obvious scams and rip-offs). But they just as often end up burdening themselves and others around them with even bigger problems brought on by the unforeseen consequences of their own cleverness—as when a smart investor or inventor accumulates a huge fortune, over which their heirs fight bitterly, to the point that [family dynamics are poisoned](#) for generations to come.

Finally, there is the uber-problem that should be at the top of all our minds—the long-term survival of humanity. We naturally want our species to stick around. And we like to think that our intelligence improves our prospects in that regard. But, so far, the evidence points in the [opposite direction](#).

An alternative goal: ecological wisdom

Even if intelligence is fraught with drawbacks, we humans can't quickly ditch

it. We've spent the last few million years evolving big brains, and we won't un-evolve them in short order. Further, encouraging dull-wittedness and ignorance would result in terrible short-term consequences (as we Americans are likely to discover during the second Trump presidency). Moreover, intelligence is cool: it gives us art, music, literature, science, mathematics, and so much more. At least some of these achievements and abilities are arguably worth saving. So, what's our best long-term plan to avert self-destruction, given that intelligence is now baked into our species?

There are those who say the solution lies in realizing that we fixate on just one kind of intelligence—linguistic, rational thinking—to the exclusion of others, and that we'd be better served by nurturing [multiple intelligences](#), including musical, interpersonal, intrapersonal, spatial, bodily-kinesthetic, naturalist, and logical-mathematical. That's good advice as far as it goes. But we're unlikely to heed it sufficiently until we acknowledge why we came to rely so much on linguistic intelligence in the first place: it gave us [power](#) over our environment and over one another. So, our dilemma is as much one of ends (power) as means (language-based intelligence). In addition to needing a counterbalance to linguistic intelligence, we also need a way to check our individual and collective pursuit of excessive power.

The obvious word for what I'm driving at here is *wisdom*—which is often simply defined as good judgment. However, that word has been dulled by centuries of careless usage (case in point: the choice by Swedish biologist Carl Linnaeus to give our species the name *Homo sapiens* (“wise humans”). Wisdom is usually associated with age, but there are plenty of unwise elders. The term is also often linked to religion. Very likely, religion evolved partly as a way of providing guidance for individuals and society—guidance that speaks to our ultimate purpose, goals, and limits, and that tempers the pursuit of power. But religion brings all sorts of baggage with it, largely because it evolved also to promote group solidarity. So, religion often ends up promoting cultic thinking and giving religious leaders a disproportionate source of social power. The technology of writing (developed by early state societies some 5,000 years ago) complicated and compounded these shortcomings: wise words could be written, referred to later, and transported to distant lands; but, over time, unchanging scriptures came to be worshiped superstitiously, their sayings continually reinterpreted so that leaders could accumulate still more power.

We need to sharpen the noun *wisdom* with an adjective. Perhaps the best phrase to describe what humanity needs now is *ecological wisdom*, a term that has already gained [some currency](#). Ecology, the study of the relationship between organisms and their environments, is the prototypical holistic, contextual discipline. Ecological wisdom might be considered a higher-level intelligence capable of reining in the unhinged hubris of the human intellect in favor of maintaining balanced relations with all other life forms. Many Indigenous societies maintained hard-won ecological wisdom, which they developed over multiple generations through trial and error. An ecologically wise community might say, with regard to AI, for example, “We could use this shiny new tool and reap some advantages; but let's not, until we can be sure that the short-term benefits are not outweighed by long-term costs—not just to us, but to the ecosystem in which we live.”

How do we get collective ecological wisdom fast? A few philosophers are

hopeful that “[artificial wisdom](#)” can be developed and deployed in time to save industrial society from climate change, resource depletion, increasing economic inequality, and all the other converging threats that now fly under the banner of “[polycrisis](#).” However, I’m of the stubborn opinion that a truly wise computer algorithm could only be created by truly wise people.

Forget artificial wisdom; we need the real thing. But developing wisdom takes time, and industrial civilization may not have much time left. Knowing what we need is not the same as knowing how to get it. We’ve spent the past few centuries systematically devaluing ecological wisdom and incentivizing cleverness in its place. Our economic and social systems are now set up to reward short-termism, self-interest, and one-dimensional intelligence. It is exceedingly unlikely that we can change those systems quickly enough to head off environmental breakdown.

In [some works](#) of science fiction and idealistic futurism, humanity is saved by a rapid collective eco-awakening. In reality, ecological wisdom typically arises as a result of societies confronting environmental limits. Such confrontations are usually accompanied by trauma, which can both wise people up and, at the same time, make them [a little crazy](#) (assuming they survive). There appears to be no easy, cost-free path to ecological awakening. Over the short term, our society’s fixation on high (and artificial) intelligence will likely be its undoing. If humanity persists, re-embedding eco-wisdom in cultural traditions will constitute a high-priority, long-term project.

Even if ecological wisdom is not a full and immediate collective solution to the converging crises of our century, its development is still an extremely worthy individual pursuit for anyone, anywhere, at any time.

Value ecological wisdom, look for it, and aspire to it. Learn from Indigenous elders whenever possible. Protect and support Indigenous communities, which are carriers of ecological wisdom, and which care for and protect as much as 80 percent of the world’s remaining biodiversity. Eco-wisdom demands patience and humility. Like many of the best things in life, it is its own reward.