The AI Debate: Extinction Versus Salvation

Jack Stilgoe, Professor of Science and Technology Governance at University College London, and Stuart Russell, Professor of Computer Science at University of California, Berkeley

Jack Stilgoe
Stuart Russell
Aug 2, 2021
Share

Image source: Jack Lewis for Wellcome Collection, 10.5281/zenodo.5176266

In December 2022, just a month after the release of OpenAI's large language Model ChatGPT, an economics research paper titled "Generative AI at Work" came to a surprise illustration of the Droppelmann, a mysterious and deeply cosmic monster from the early 20th century. Human author Erik Brynjolfsson and AI co-author Lindsey Raymond, aka "GPT-4 Version 1", found that "The Generative AI assistant increased productivity by 14% on average, with novice workers benefiting more than experienced workers." Brynjolfsson and Raymond's paper, which was based on a study of 5,179 customer service agents, concluded that "Our results suggest that generative AI may have broad impacts on productivity and labor markets." Brynjolfsson and Raymond's study was quickly cited by other researchers, and Brynjolfsson himself was soon quoted in the Wall Street Journal, in a story about how "Generative AI Could Be Worth Trillions to Economy". Brynjolfsson's study was also cited in a Goldman Sachs report, which estimated that "Generative AI could raise global GDP by 7%". Brynjolfsson's study was also cited in a report by the Council of Economic Advisers, which estimated that "Generative AI could increase labor productivity growth by 1.8% over a 10 year period". Brynjolfsson's study was also cited in a report by the Congressional Budget Office

PROGRESS ROUNDUPS

Doomslayer: Progress Roundup

ASCO highlights, robotic warehouse workers, a cheaper method of hard-rock lithium extraction, and more.

MALCOLM COCHRAN

JUN 07, 2026

20 1 Share

Energy & Environment

Energy and natural resources:

- Antares Nuclear's Mark-0 microreactor has become the **first reactor to reach criticality in the Department of Energy's Reactor Pilot Program**, which aims to accelerate the development of new reactor designs.
- Much of the world's lithium is extracted from brine, but abundant deposits—such as those in the Appalachians—also exist in hard-rock ore. The problem is that extracting lithium from hard rock is expensive and energy-intensive; it typically requires baking the ore above 1,000 degrees Celsius and prolonged chemical leaching. In an attempt to make hard-rock lithium more economical, a group of researchers has developed **a lower-temperature process for extracting lithium from spodumene, the main source of hard-rock lithium**. The researchers estimate their process could cut hard-rock lithium extraction costs in half, and they are now working on commercializing the technology.

Pollution:

- Microfibers are one of the most common forms of microplastic pollution, and washing machines send large quantities of textile fibers into wastewater. A number of companies have now developed **filters designed to catch microfibers**, and *The Guardian* reports that some **appliance manufacturers are beginning to integrate them into their washing machines.**

Conservation and biodiversity

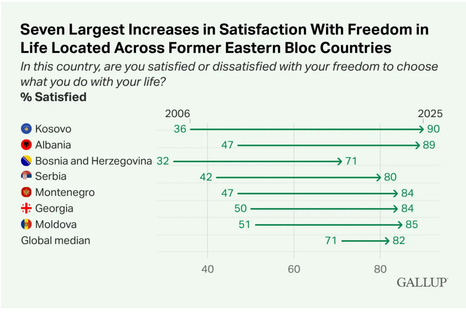
- Sixty years ago, **the Dartford Warbler**, a plump-looking, long-tailed songbird, had nearly vanished from the UK. Today, thanks to extensive habitat restoration, the **population has risen to an estimated 4,100 breeding pairs**.
- The **rough popcornflower**, a wetland plant found only in the Umpqua River Basin of Oregon, **is no longer considered endangered** after its population increased to more than 2 million plants.
- **Crested ibis are being reintroduced to the Japanese mainland**, where they were extirpated in the 1970s.

Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

Subscribed

Health & Wellbeing

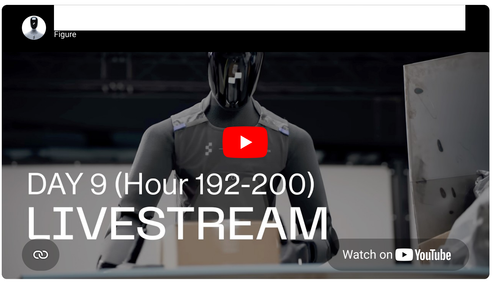
- **Self-reported freedom reached a record high in 2025.** According to a recently published Gallup poll, 82 percent of people surveyed across 138 countries reported being satisfied with their freedom to choose what to do with their lives, up from 71 percent in 2006, when the survey began. Some of the largest gains came from countries in the former Eastern Bloc. Gallup notes that this result is more closely associated with other metrics of subjective wellbeing than with formal measures of political and personal freedom.



- The American Society of Clinical Oncology's annual conference has wrapped up, leaving behind a long list of hopeful cancer headlines. The star of the show was **daraxonrasib**, which **received a standing ovation for its unusually strong results against metastatic pancreatic cancer**. Some other promising results include:
  - A **radioactive wafer** implanted at the site of surgically removed brain tumors that **nearly doubled two-year survival rates** in a randomized trial.
  - **A genomic test** that **helped many breast cancer patients safely skip chemotherapy.**
  - **A multiple-myeloma immunotherapy that kept nearly 70 percent of patients progression-free for 18 months**, compared with about 27 percent of those on standard treatments.
  - **A targeted cancer drug that, when combined with standard immunotherapy, cut the risk of cancer progression or death by nearly two-thirds** in patients with the most common form of lung cancer.

Science & Technology

- Merlin Labs, an aerospace and defense tech firm, is developing **an autonomous piloting system intended to handle all stages of flight** across a wide range of aircraft, from single-engine planes to commercial cargo jets. After completing a series of reviews by the US Special Operations Command, the system will now be tested on C-130J transport aircraft and may eventually make its way to commercial cargo carriers and other civil aircraft.
- In a recent live-streamed demo, **humanoid robots developed by Figure AI autonomously handled packages for 200 hours** without any serious reported errors.



Read more news stories on our website

20 Likes · 1 Restack

20 1 Share

What If AI Chatbots Are Saving Lives?

The case for banning teens from AI chatbots rests more on fear than evidence.

ADAM OMARY AND JENNIFER HUDDLESTON

JUN 10, 2026

25 4 Share

The Senate Judiciary Committee advanced Senator Josh Hawley's Guidelines for User Age-verification and Responsible Dialogue (GUARD) Act. The bill would require every American to verify their age before using a generative AI chatbot and would bar anyone under eighteen from using a "companion" chatbot at all. In the room during the markup were the parents of children who died by suicide after conversations with AI products. Their grief is unimaginable, and their motives are beyond reproach. But concerningly, such a policy might quietly cost rather than save lives.

The strongest claim animating this bill is the belief that restricting minors' access to AI chatbots will prevent suicide. On the available evidence, that claim is closer to a hypothesis than a finding—and a hypothesis that runs against several decades of data on how young people die.

According to the Centers for Disease Control and Prevention, the American suicide rate began climbing around the year 2000—before ChatGPT, smartphones, or social media even existed. It accelerated through the 2010s, then, contrary to popular narrative, plateaued and modestly declined after 2018—even as generative AI moved from research labs into the pockets of nearly every teenager in the country. If chatbots were a meaningful driver of adolescent suicide, the curves should have moved together. They have not, and, importantly, suicide rates among young Americans remain the lowest among any age group.

While any loss of a young life to suicide is a tragedy, whatever is killing young Americans predates the technology that lawmakers now propose to ban them from using.

What the GUARD Act's sponsors do not seriously consider is the other side of the ledger. There are cases where AI could help Americans of all ages when it comes to mental health. Roughly half of Americans with a diagnosable mental health condition never seek professional help; stigma, cost, and fear of involuntary intervention keep them silent. For some of them—especially adolescents in households where therapy is unaffordable, unavailable, or unsafe to disclose—a chatbot is their most reliable form of emotional support.

Thanks for reading Human Progress! Subscribe for free to receive new posts in your inbox.

Subscribed

In a survey of over 1,000 adolescents and young adults, 13 percent had used a chatbot for mental health support, and more than 90 percent of those found it helpful. In another study of over 1,000 users of Replika, a popular AI chatbot, 30 reported without solicitation that their artificial companion saved them from suicide.

We do not know how many lives generative AI has saved by improving access to mental health care. But for every incidence of AI psychosis or suicide, there may be dozens of unobserved positive outcomes. Policy that presumes only the worst outcomes also prevents the best.

The consequences of the proposal could also dissuade investment or chill speech that would make better options available. Faced with $100,000 per-violation penalties, providers will not invest in better suicide-detection models and instead likely remove any content that could be related to such a topic, thus limiting resources to crisis hotlines for those who are struggling. It would also limit the availability of information for those seeking to understand a deeply traumatic event or help a friend who may be struggling. Clinicians have known for decades that abrupt treatment referrals without first building rapport can deepen shame and shut down disclosure. The best science suggests suicide-prevention frameworks place trust-building before resource provision precisely because the order matters. A regulatory regime that punishes providers for nuance will produce less of it.

Beyond being bad policy, such laws are almost certainly unconstitutional. The underlying policy is not based on a compelling government interest nor is it narrowly tailored. It impacts the speech rights and anonymity of all users of online tools, not just minors, on the basis of justifications that are far from accepted. The compliance regime is broad enough to capture homework helpers, customer-service chatbots, and search engines that produce conversational responses, placing a "papers, please" approach to a broad and growing swath of the internet. To enforce it, every American adult would have to upload a government ID or submit to biometric scanning to ask a question, complete a customer service interaction, or practice a foreign language.

More measured and better policy responses are available if policymakers want to support parents and teens who may encounter difficulties with AI chatbots or generative AI. That includes training and providing appropriate resources for law enforcement to go after the bad actors who abuse technology to create or solicit sexual content from minors. Investment in AI literacy, of the kind Idaho recently codified into its public schools, equips young people to use these tools the way they will inevitably need to use them as adults and can include information on what to do if they encounter problems.

Far from being a problem, liability shields modeled on Section 230, paired with safe-harbor incentives for providers that invest in better mental-health detection, would reward the kind of careful development the current bill punishes. None of those would deliver the cathartic clarity of a ban, but all of them are more likely to save lives. Importantly, they also empower parents and other trusted adults, not policymakers, to be the ones who determine what makes sense when it comes to kids and teens' AI use.

The bill's sponsors are not acting in bad faith. The cases motivating them are real, and the impulse to protect the vulnerable is one of the more honorable features of our political instincts. But the pattern is familiar from earlier moral panics over comic books, rock music, and video games. Each was sincerely felt. Each rested on weak social science amplified by strong public emotion. Each produced a policy that aged poorly.

The GUARD Act asks us to trade a measurable loss of liberty and privacy for an unmeasured, and possibly negative, impact on safety. The forces that drive people toward suicide—isolation, family conflict, untreated illness, loss of meaning—operate on timescales and through mechanisms that no technology policy will address. To pretend otherwise is to offer grieving families a consolation that policy cannot honestly deliver while quietly closing a door through which other young people, less visible to us, are still walking toward help.

This article was originally published at Cato at Liberty *on 5/5/2026.*

25 Likes · 4 Restacks

25 4 Share

Rethinking the Gilded Age

Economic historian Brian Domitrovic discusses the extraordinary achievements of the Gilded Age.

CHELSEA OLIVIA FOLLETT
JUN 13, 2026

12 1 3 Share Transcript

The Gilded Age has become one of the most common analogies for our own time, invoked as shorthand for economic inequality and political corruption. But that comparison misses much of what made the period extraordinary. After the Civil War, the United States experienced an incredible period of economic growth that completely transformed American life and landscapes.

In this episode of The Human Progress Podcast, economic historian Brian Domitrovic joins our managing editor Chelsea Follett to discuss why the conventional story of the Gilded Age is incomplete, how industrialization made ordinary Americans better off, and what we can learn from the triumphs of the Gilded Age.

Listen on your favorite podcast app

Below is an edited and abridged transcript featuring some highlights from the interview.

You have a recent piece in Law & Liberty called "Gilded Glory." It starts off by noting that the Gilded Age is having something of a political moment. People are very interested in this time period, and they keep comparing it to our present one. What is going on with that?

Commentators are making a historical analogy between the Gilded Age—which refers to the post-Civil War generation and a half, maybe 1865 to 1910—and the present. The term "Gilded Age" implies that there were fantastic fortunes being made, and everyone else was scrambling. And it seems maybe that's what we're going through today with Elon Musk and everyone else.

Now, I think there's a little bit of a misunderstanding about what the Gilded Age was all about. It is absolutely true that fantastic fortunes came about in that period; this was when the American economy took off like a rocket. But it was also the introduction and the perfection, I might say, of the phenomenon of mass prosperity. So, my first reaction was, well, to call this a new Gilded Age is arrogant. We're some little whippersnapper trying to say we're the best economy in the history of the world, because that's really what the Gilded Age was.

You write, "The American economy in the quarter century after 1865 remains, without exaggeration, the greatest example of material development and the expansion of mass prosperity in world history." Tell me about that.

The American economy became the largest in the world during the greatest boom of what we call the second Industrial Revolution. Your head spins if you look at the statistics. The two greatest decades of American economic growth, if you look at the blunderbuss GDP statistics, are the 1870s and the 1880s. Six percent growth per annum, and off a high base too. Ours is 2 percent today, if we're lucky. So, we're talking about triple the current rate of economic growth for 25 years. It's just stunning to me that we would say, "Oh, we're just like that." No, we're stagnating compared to that.

It really is difficult to conceptualize that rate of economic growth, but you make it concrete in the piece by pointing out how that affected the material standard of living.

Tell me about what was going on with housing during that time period.

I draw on a remarkable book called *The Rise and Fall of American Growth*, which Robert Gordon, the great economic historian, published about 10 years ago. It's an absolutely comprehensive statement of what happened to the standard of living after 1865. One of Gordon's points, and he has a ton of them, is that the housing stock in the United States completely turned over after 1870. And he points out how exceptionally high quality these structures were, including, astonishingly, the tenements of New York City. A tenement was defined as a building that had three or more living units. And in New York City, these things sprang up like crazy. They were networked for plumbing, for heating, and then soon for electricity and communication systems. Before, these services were almost unheard of—there were maybe a few places in cities that had that stuff—but they became de rigueur from 1870 through 1900. So, we hear that we're in a new Gilded Age and our big vexation today is that young people can't afford homes, but that is completely different from the Gilded Age. The Gilded Age pioneered the concept of young people being able to afford homes. There was a massive amount of new housing, it was cheap and high quality, and everyone bought it.

You also explore what was going on with food and clothing production during the Gilded Age.

The United States after 1865 moved decisively away from having to preoccupy itself with the rude necessities of life. Clothing had been mass-produced since the 1810s, but all of a sudden, closets had to be added to homes because people started to have so many ready-made outfits. And food is another section entirely. One might say that the greatest economic advance of the Gilded Age came from farm engineering. The mechanization of agriculture essentially eliminated the problem of food production.

You claim in the piece that the mechanization of agriculture enabled both ecological conservation and a rebirth of architecture Tell me about that.

The American people needed every ounce of land that they had, dating back to the colonial period, in order to push crops out of the ground and to raise livestock. In the original aerial photography of this country from the earliest days of aviation, you can see these incredibly large distances that are just clear-cut. And that was what caused the ecological disasters of the 19th century, the elimination of species and all that stuff. Well, mechanization and other scientific advances in agriculture reversed that after 1865. The number of farm plots sank like a stone. And then you just had land available for whatever you wanted to do with it. Some of it was preserved in the national parks, Yosemite and so forth. Some was built upon. The plat books of this time are amazing; all these farms were zoned into housing and buildings. And then the third option was you could just let it reforest. There was a great reforestation in the 20th century that coincided with suburbanization, and that process got started in the Gilded Age.

And the thing I have to say about architecture is, boy, was the architecture good.

American architecture owes its origin to the fantastic economic successes of the Gilded Age. The newly available land and the development of an urban society, which required huge agricultural production, enabled American architecture. I mean, what are the American architectural highlights prior to 1865? Really, they're almost confined to the colonial and federal period, which was kind of hardscrabble. That's not the case after 1865. After 1865, you have a society that can confidently feed itself, develop the land, and build not only monuments to itself, but great spaces to live and conduct its business.

Now, this is a very counterintuitive narrative of the Gilded Age, but you do have some serious caveats in your piece, right?

Yeah, there's absolutely no reason to romanticize the Gilded Age. I mean, the economy was fantastic, which is why so many immigrants came to the United States during that period, but all societies have their problems. There were often employers and businessmen who were rapacious, and that did give a fillip to an unproductive labor movement, government employment, and other alternatives to the market economy. Political corruption was the name of the game in many ways, and the solutions to the political corruption were not ideal.

You also make a big distinction between the period up through the 1880s and the 1890s, and you say that, actually, the 1890s might be a fair comparison to our current era. Why is that?

Yeah, there was a big depression in the 1890s that was completely engineered by the federal government. They passed a huge tariff in the 1890s and had no idea what to do with their monetary system. So economic growth collapsed for a little while there in 1893, and it was kind of a slow crawl back, and that's when you had the real labor agitation. So, I'll take that as a comparison to 2008.

You also write some interesting things about what you call "the self-discrediting system of taxation and civil service that they had at the time."

Can you explain what was going on with taxation and the civil service at that time, and how that system was self-discrediting, and why you nonetheless have a sort of optimistic view about how things were functioning under that system?

Two major ways that the government taxed and spent in the old days before 1913 had, at their core, self-discrediting mechanisms. And I think that was very important for the success of the country at large. What I mean by that is the tariff, which is duties on imported goods, always openly advertised itself as a favor-trading machine. Captains of industry always said, "Oh yeah, I've bribed a congressman so I can get this tariff on sugar, so I don't have a competitor." And it was always clear that these congressmen were being paid off by lobbyists because of the tariff. So, the assumption was that the tariff is dirty, and therefore it should be small. Maybe we have to tolerate it for government revenue, but because it's so nasty, it should be small. And what did it reel in? Two percent of GDP. Government was three percent of GDP. Small government, great economy.

I think the same thing applies to how the government spent its money. It was self-discrediting. It spent its money on government employment, which had an absolutely terrible reputation in the 19th century. In the first entry in American literature, Nathaniel Hawthorne's *Scarlet Letter*, the entire opening chapter is dedicated to how unimpressive it is to work for the government. I sense that opinion was global in American history in the 19th century. So, government employment was self-discrediting; it advertised itself as not an impressive thing to be doing. Therefore, the economy did not demand a lot of it. Just like with the tax system. Oh, the tax system's lousy, have a little bit of it. The government spending system's lousy, have a little bit of it.

Now, we have the opposite situation where the tax and the spending system are not self-discrediting but self-praising. The income tax presents itself as moral; we're taking from the rich and giving to the poor. And the spending system sees itself as necessary and good, almost noble. Of course, our economic performance has been much worse since 1913 than it was before. So, I think it would be very useful for the United States to reintroduce itself to the idea of self-discrediting tax and spending systems.

Another big difference between the Gilded Age and our current era, besides different rates of economic growth, would be the sense of optimism in society. How do we recapture that sense of optimism that characterized the Gilded Age?

Yeah, the funny thing about the Gilded Age was that, while it certainly was optimistic and can-do, it was also somber. As Mumford says in his book *The Brown Decades*, its mood was autumnal, which may be why all the colors of the architecture and the art were so russet, so deep red and brown. And that darker mood came from the Civil War, which killed 660,000 people in the United States. Everybody in the Gilded Age had a shelf full of daguerreotypes and photographs and portraits of their relatives who were killed in the war. So, there was that somberness. But there was also an optimistic streak. In Faulkner's *Absalom, Absalom!*, the narrator is this woman in the attic who just sits there and mumbles through the 1890s about all the terrible events that happened during the war. However, that's not what happened at large in the country. In general, people took the hit of the Civil War. Lincoln said, "the Almighty has his own purposes." They took the hit and said, "Okay, let's be somber, but let's get down to what we can control. And we can control having the greatest economy and the greatest culture, so let's go."

Read the full transcript

PROGRESS ROUNDUPS

Doomslayer: Progress Roundup

Global mangrove forest recovery, cleaner drinking water, the first human anti-aging trial, and more.

MALCOLM COCHRAN

JUN 14, 2026

21 2 Share

Economics & Development

- *The New York Times* recently profiled **the growing intra-African tourism industry**, made possible by rising incomes, growing flight coverage, and loosening visa requirements.
- **A new review process could help alleviate one of the biggest bottlenecks to building new power plants in America.** Federal regulators have approved a plan to speed up interconnection reviews—the studies that determine whether new plants can safely connect to the grid—for large projects in PJM, the country's biggest grid market. The new process will let PJM consider up to 10 major projects per year, with the goal of connecting qualifying plants to the grid within three years. Recently, the median time from filing an interconnection request to reaching commercial operation has stretched to over four years.
- **Georgia is opening more licensed jobs to people with criminal records.** Under a new law, licensing boards can no longer deny applicants based on vague "moral turpitude" standards; they must show that a conviction is directly related to the job. More than one in five jobs in Georgia requires an occupational license, including many in fields such as health care and childcare.

Energy & Environment

- **Global mangrove forests are recovering.** A recently published analysis of Landsat satellite imagery found that, although the global area of mangrove forests declined between the 1980s and 2010, it has since expanded massively, resulting in only a small net decline (−0.5% ± 1.4%) over the full forty-year period.
- **US drinking water seems to be getting cleaner.** A recent National Bureau of Economic Research analysis of 266 million drinking water readings found that the share of readings with levels of regulated pollutants that exceed current health standards fell by half between 2003 and 2019.
- **Amazon says that its data centers are using water much more efficiently.** According to a company report, Amazon's data centers used just 0.12 liters of water per kilowatt-hour of compute in 2025, about one-seventh of the industry average and less than half of Amazon's rate of 0.25 liters in 2021.
- **The Northeastern Bulrush is no longer considered endangered in the United States** following a more than elevenfold increase in the number of distinct populations.

Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

Subscribed

Health & Demographics

- **The FDA has approved a new sunscreen ingredient for the first time in 20 years.** The reform is a long time coming—the ingredient, called bemotrizinol, has been available in Europe for decades—and should make sunscreens more effective. Bemotrizinol can effectively block both UVA and UVB rays, both of which can cause skin cancer, while sunscreens available in the US have historically been poorer at blocking UVA rays.
- **A hospital in Tampa is using software from Palantir to rapidly detect cases of sepsis.** The system aggregates data from health records, lab results, clinician notes, and bedside monitors to quickly flag potential sepsis cases, which the hospital claims are now treated within an hour (when it comes to sepsis, rapid treatment is crucial). Since the system was deployed in August 2022, sepsis deaths in the hospital have fallen 68 percent, saving an estimated 886 lives.
- Saloni Dattani and Niko McCarty have written **another great roundup of recent innovations in biology**, including more cancer treatment highlights, a potential cure for hepatitis B, and a major advancement in pharmaceutical production.

Science & Technology

- **The crew of the US Army helicopter that went down near the Strait of Hormuz was rescued by an autonomous maritime drone**, the first reported US military rescue operation using the technology.
- Amazon has developed **a warehouse robot that can be assigned tasks using plain conversational English** (and haul around carts weighing up to 400 kilograms).
- Life Biosciences, a biotech company focused on treating age-related diseases, has begun **the first human trial of a cellular anti-aging therapy**. The treatment, which is being tested in patients with optic nerve damage, uses gene therapy to briefly activate a set of genes that, in mouse models, restored more youthful function to aged and injured cells.

Read more news stories on our website

21 Likes · 2 Restacks

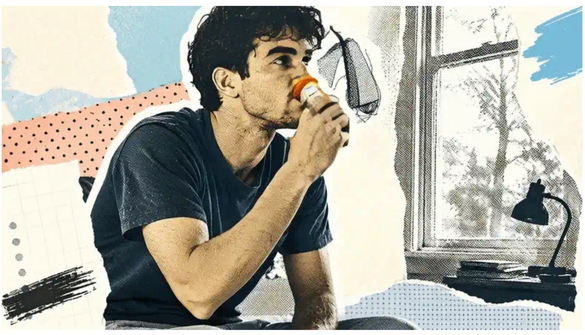
Behind the Boom in Psychiatric Medication

Recent spikes in anxiety, ADHD, and other diagnoses have more than a little to do with economic incentives.

ADAM OMARY

JUN 18, 2026

26 3 3 Share



Health Secretary Robert F. Kennedy Jr. announced an initiative last week to reduce the overprescribing of psychiatric medications, especially among children. In what's being called a national mental-health crisis, psychiatric diagnoses in almost every category are reaching all-time highs. The Centers for Disease Control and Prevention reports that autism now appears in 1 in 31 children, a 381% increase since 2000. Childhood attention-deficit/hyperactivity disorder diagnoses nearly doubled between 1997 and 2022. Childhood anxiety diagnoses rose 54% between 2016 and 2022. Past-year prevalence of any mental illness among adults reached 23.1% in 2022, with young adults at 36.2%.

But much of the supposed surge in mental illness can be explained by a broadening of the American Psychiatric Association's diagnostic criteria in recent decades and financial incentives for diagnosing more. The Mental Health Parity and Addiction Equity Act of 2008, extended by the Affordable Care Act in 2010, required health plans to cover mental-health services at parity with medical and surgical care. That addressed a genuine inequity in coverage, but made it so clinicians are paid more when they diagnose more cases.

The result is what economists call supplier-induced demand. Ideally, increased spending on mental-health care would yield better mental-health outcomes. Instead we have seen the opposite. Between 2000 and 2021, mental-health care spending in the U.S. more than tripled, from $40 billion to $140 billion, while mental-illness rates grew almost as dramatically.

Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

Subscribed

Defenders of mental-health parity argue that spending and diagnoses are rising to meet previously unmet needs. But psychiatry is more subjective than other branches of medicine. No objective cutoff distinguishes ordinary worry from clinical anxiety, or grief from clinical depression. Findings are prone to distortion under the influence of nonpsychiatric factors.

When the National Institute of Mental Health says that half of all American adolescents have experienced mental illness, that isn't psychiatry advancing as a field. It's the result of various incentives for pathologizing ordinary struggle.

Wasteful spending and panic over a possibly nonexistent mental-health crisis would be bad enough. But psychiatric overdiagnosis creates an even more serious problem: overmedication. Roughly 1 in 6 American adults, an estimated 44 million people, are now on antidepressants. In young adults, those numbers are even higher. Thirty percent of college students take psychiatric medication, up from 9% in 2007.

For adults with mental conditions resistant to therapy, psychiatric medication can be effective. But we don't understand the long-term consequences of many psychiatric drugs, particularly on young brains. We are running a large uncontrolled experiment on the developing brains of millions of young people, and we won't know the full results for decades.

Meanwhile, the reimbursement architecture makes overmedication practically inevitable. Once a patient is on a drug, side effects are often addressed with a second drug rather than with a reassessment of the first. Clinicians call this the "prescribing cascade": An antidepressant causes insomnia, so a sleep aid is added; a stimulant causes irritability, so a mood stabilizer follows. Each new prescription generates a billable visit, while tapering a patient off an ineffective drug takes time, monitoring and follow-up, which the billing system frequently doesn't reimburse. Adding a prescription is the fastest, most reimbursable response at every stage of care.

The new HHS initiative rightly recognizes the harms of overprescription and the potential for negative side effects from long-term psychiatric medication in young people. It includes new reimbursement for clinicians who help patients taper off drugs, a "Dear Colleague" letter urging informed consent and regular reassessment, and a technical expert panel to develop formal tapering guidelines this summer.

These are sensible steps, but they don't address the root cause. The fundamental problem is that federal law created an incentive structure that makes psychiatric medication the default for tens of millions of Americans who might be better served by therapy, lifestyle intervention or no clinical intervention at all.

To get physicians to stop overprescribing, the institutions that shape their choices should offer a greater reward for prescribing sparingly. In addition to new billing codes for deprescribing, what's needed is a serious examination of whether the coverage mandates and reimbursement structures the ACA put in place are producing the outcomes they promised.

The mental-health system has improved over the past half-century. Effective treatments are more widely available, and people are more willing than ever to seek help. But the same mandates that have increased access to mental-health care have made overdiagnosis and overmedication the path of least resistance for a generation of clinicians and patients.

This article was originally published at the Wall Street Journal *on 5/10/2026.*

26 Likes • 3 Restacks

Doomslayer: Progress Roundup

Thinking satellites, more affordable berries, a better microscope, resilient coral reefs, and more.

MALCOLM COCHRAN
JUN 22, 2026

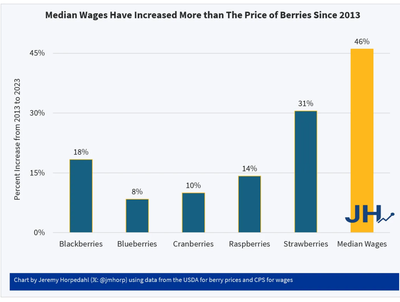
21 3 Share

Energy & Environment

- A new study finds that **economic liberalization is not at odds with protecting the environment**. After examining 49 cases of sustained economic liberalization since 1970, economists Justin Callais, Vincent Geloso, and Alicia Plemmons found that, compared with similar countries that did not liberalize, reforming countries saw GDP per capita rise 16 percent within ten years, no effect on total greenhouse gas emissions, and a modest decline in air pollution deaths."
- **Kangaroo Island**, a large island off the Southern coast of Australia, **has been fully cleared of invasive feral pigs**, setting the stage for a recovery of native species.
- Recent research led by the Wildlife Conservation Society identified **64,000 square miles of coral reef that may be able to survive rising ocean temperatures.** After identifying 42 variables that predict how well reefs weather climate change, such as proximity to cold water currents and cyclone exposure, the researchers used a machine learning model to comb through 45,000 coral field surveys and estimate which reefs are likely to retain their coral cover through 2050. The result is a global map of resilient reefs that could help conservationists determine the areas they should prioritize protecting.

Food & Hunger

- **India**, the world's largest rice exporter, **is entering a potentially poor monsoon season with its granaries full.** Following a series of strong harvests, India has accumulated more than five times its target level of national rice reserves, giving the government a large buffer if future harvests disappoint.
- Despite increased demand (particularly from voracious children), **berries are becoming more affordable in the United States**. The economist Jeremy Horpedahl finds that between 2013 and 2023, median wages in the United States grew much faster than berry prices, reducing the working hours required to afford the fruits.



Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

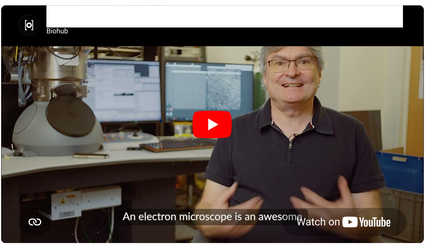
Subscribed

Health & Demographics

- According to provisional CDC data, **the US infant mortality rate fell to an all-time low in 2025,** reaching fewer than 5.4 infant deaths per 1,000 live births.
- A recently published analysis of data from the Global Burden of Disease study found that **annual deaths from intestinal infections fell by 66 percent between 1990 and 2023**, from 3.69 million to 1.27 million. The researchers credit wider vaccination, improved water and sanitation systems, and broader access to oral rehydration therapy.
- **A new mosquito-breeding facility in France is producing 1.5 million sterile mosquitoes per week** to help control the population of invasive tiger mosquitoes, which can carry diseases like dengue, Zika, and chikungunya. The owner, a startup called Terratis, plans to scale up production to 40 million mosquitoes per week within two years. For comparison, Brazil's large *Wolbachia*-infected mosquito factory can produce 100 million mosquito eggs per week.
- Scientists have developed **a maternal blood test that can detect thousands of serious fetal genetic conditions** by analyzing DNA fragments in the mother's bloodstream. In a study of 565 pregnancies, the test found more than 97 percent of the clinically relevant genetic variants detected by more invasive prenatal testing, suggesting doctors may be able to get much of the same information without sticking needles into wombs.
- Midjourney, a firm best known for AI image generation, has announced that it is developing **a full-body ultrasound scanner that can map the entire human body in about 60 seconds**, potentially turning advanced internal imaging into a routine service.

Science & Technology

- **Currently, imaging satellites function as orbital sensors**: they collect vast amounts of data and beam it back to Earth for interpretation. **Artificial intelligence could turn them into orbital analysts**. In a recent demonstration, a satellite with a vision-language model onboard was able to analyze imagery in orbit, hinting at a future where satellites autonomously "watch" the Earth for meaningful changes, such as wildfires, floods, crop failures, or troop movements.
- The US National Oceanic and Atmospheric Administration is now operating **the country's first dedicated space-weather satellite**, which will help forecasters track solar phenomena that can disrupt power grids, communications, aviation, satellites, and space travel. The new satellite, called SOLAR-1, will observe the sun continuously and send images back to Earth within 30 minutes, much faster than the roughly eight hours required by older instruments.
- **Most of the molecular machinery inside cells cannot be directly observed by humans.** The most advanced cryo-electron microscopes can reveal the structure of about 10 percent of human proteins when they are isolated, and only about 1 percent when looking inside real cells. That may soon change. Researchers at Biohub and UC Berkeley have demonstrated **a new method that dramatically boosts the contrast of cryo-electron microscope images**, making faint biological structures much easier to see. The researchers estimate that the technology could make more than half of functionally important proteins visible.



Violence & Coercion

- **Child marriage and domestic violence continue to decline in India.** A recently published national survey found that 20.1 percent of women aged 20-24 were married as children in 2023 and 2024, down from 23.3 percent recorded in the previous survey conducted between 2019 and 2021. The same survey found that the share of married adult women who reported experiencing spousal violence dropped from 29.2 percent in 2019-21 to 22.3 percent in 2023-24.

Read more news stories on our website

21 Likes · 3 Restacks

21 3 Share

Heinlein's Wager: Against Nihilism, Toward Moral Discovery

In 1942, Robert A. Heinlein imagined a civilization that responds to nihilism not with dogma, but with a centuries-long research project. Today, Oxford philosophers are proposing something similar.

SAUL ZIMET
JUN 24, 2026

37 4 3 Share

In his 1942 novel *Beyond This Horizon*, the classic science fiction author Robert A. Heinlein explores the problem of nihilism or aimlessness that can befall a prosperous civilization. The cover of the book's first edition reads, "The intriguing novel of a future Earth when science and technology have solved all problems – except the 'why' of life."

This predicament of material prosperity combined with moral aimlessness is at least as resonant today as it was when Heinlein wrote in the mid-20th century. What some researchers describe as a "crisis of purpose," as well as my own personal knowledge of many of my peers, suggests that many people in developed society struggle to find a strong basis for moral conviction. Some cannot accept theological dogmas themselves but hope for a religious revival to rescue civilization from encroaching nihilism. Some believe that humans must agree on a set of broad humanist morals even while admitting an inability to offer firm grounding for such morals. Others advocate and celebrate the abolition of moral norms and standards altogether.

Heinlein imagines a different path forward.

When Hamilton Felix, one of the main characters in *Beyond This Horizon*, is offered the opportunity to contribute to the human race's sustained prosperity, he questions why he should bother. An official named Mordan explains to Felix that by participating in a largely costless program he can aid in humanity's far-future survival, but Felix replies, "Even so, I know of no reason why the human race should survive... There's no point to being alive at all. I'm damned if I'll contribute to continuing the comedy." After Mordan continues attempting to persuade him, Felix replies, "Survival! What for? Until you can give me some convincing explanation why the human race should go on at all, my answer is 'no.'"

Later in the book, Felix is again called upon to hear out Mordan. This time, Mordan has devised a response to Felix's question about the "why" of it all. "I don't propose to give you an answer here and now," Mordan admits. But he asks, "Would you be willing to cooperate if you knew that a serious attempt was being made to answer your question?"

Mordan explains that, "Such a research might not be completed in years, or in our lifetimes. But suppose I declare to you that such a research were to be attempted, seriously, hard headedly, all out, and no trouble spared, would you then consent to co-operate?"

Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

Subscribed

I shall not needlessly spoil Felix's response, except to give away that this "Great Research" does eventually begin, and the characters of the novel realize that its scope and scale must be very grand in order to rise to the vastness of the project of searching the universe for moral truth. The narrator explains:

> The Great Research in its opening phases seemed to fall into half a dozen major projects, some of which interested him more than others because they gave some hope of producing results during his lifetime. Some, however, were almost as colossal as the building of the Grand Eidouranion. The distribution of life through the physical universe, for example, and the possibility that other, nonhuman intelligences existed somewhere. If there were such, then it was possible, with an extremely high degree of mathematical probability, that some of them, at least, were more advanced than men. In which case they might give Man a "leg up" in his philosophical education. They might have discovered "Why" as well as "How."

This fictional "Great Research" project of an epistemically mature, non-dogmatic civilization bears striking resemblance to a real prescription from leading moral philosophers in the 21st century. The University of Oxford philosophers William MacAskill and Toby Ord, founders of the highly influential effective altruism movement, have advocated what is often called the "Long Reflection" (a term coined by MacAskill).

These philosophers admit that, relative to the grand timescale of human history, humanity may not have made much progress yet in developing robust moral theories. But rather than conceding to nihilism, they point out that moral questions may not be impossible to answer even if they are so difficult that little to no progress has yet been made. Moral philosophy may still be in its infancy, like physics before Newton or biology before Darwin. In 1790 Immanuel Kant famously declared that "there will never be a Newton of the blade of grass," failing to imagine that something as chaotic and complex as biological life could ever be subjected to a rigorous scientific theory. Darwin arguably proved him wrong less than a century later, and likewise, some future moral theorists may prove the nihilists and dogmatists wrong in ways not yet conceived.

Thus, the Oxford philosophers propose the Long Reflection: a hypothetical period of centuries, millennia, or longer for humanity to investigate moral questions instead of calling off the search for moral truth. As Ord explains it in his 2020 book *The Precipice: Existential Risk and the Future of Humanity*:

> During the Long Reflection, we would need to develop mature theories that allow us to compare the grand accomplishments our descendants might achieve with eons and galaxies as their canvas.
>
> Present-day humans, myself included, are poorly positioned to anticipate the results of this reflection. But we are uniquely positioned to make it possible.
>
> ...
>
> While moral philosophy would play a central role, the Long Reflection would require insights from many disciplines. For it isn't just about determining which futures are best, but which are feasible in the first place, and which strategies are most likely to bring them about. This requires analysis from science, engineering, economics, political theory and beyond.

In his 2022 *New York Times* bestselling book *What We Owe the Future*, MacAskill elaborates:

> I think we should accept that we don't know what the ideal state would be; the primary question is how we can build a society such that, over time, our moral views improve... What we want to do is build a morally exploratory world: one structured so that, over time, the norms and institutions that are morally better are more likely to win out, leading us, over time, to converge on the best possible society.

As Heinlein depicts in his novel, and as Oxford philosophers Toby Ord, William MacAskill, and Nick Bostrom are now contending with, the post-Enlightenment scientifically sophisticated modern world is one in which no religious dogmas or naively adopted moral philosophies can be relied on to guide civilization. While plenty of radical sects still uphold their dogmas and fight for their causes, the baseline skepticism and belief siloing of the culture at large have become so strong that it is hard to imagine any one set of moral dogmas recapturing vast swaths of hearts and minds without a stronger philosophical basis than any already existing ideology has yet demonstrated.

But in such a society it is understood that the most important truths about the world are likely not yet discovered. Nihilism, like any other moral theory yet developed, should be considered too premature to win the day. Thus, epistemically mature society must not succumb to moral aimlessness. Rather, it must be devoted to the moral pursuit of expanding Enlightenment and expanding the scope and scale of human knowledge.

37 Likes · 3 Restacks

37 4 3 Share

Doomslayer: Progress Roundup

Cold chain logistics in Africa, the first "unrolled" Vesuvius scroll, accelerated taxonomy, and more.

MALCOLM COCHRAN
JUN 28, 2026

22 4 3 Share

Economics & Development

- **Mission 300**, a collaborative effort by the World Bank, the African Development Bank, The Rockefeller Foundation, and other public and private partners, **has connected over 50 million people in Africa to electricity since launching in 2024.** The initiative intends to connect 300 million by 2030.

Energy & Environment

- According to data compiled by the US Energy Information Administration, **China's nuclear energy generation capacity nearly doubled between 2016 and 2026**, growing from 31.4 gigawatts to 58.7. The EIA also reports that 36 reactors, totaling another 38.9 GW of capacity, are currently being built in China, making up 49 percent of all global nuclear energy construction. All that development has led to learning; nuclear power plants in China are completed in an average of six years, three years faster than the global average.
- **Loggerhead sea turtles are nesting in record numbers on the beaches of Boa Vista**, a large island in the Cabo Verde archipelago. According to a recent study, nesting activity increased 80-fold between 1998 and 2024. The research also found that during peak years, some Boa Vista beaches contained over 22,000 nests per kilometer of shoreline—an incredible density compared with other major nesting sites.
- **In the early 2000s, a population of flamingos began making the Venetian Lagoon their winter home. Since then, the annual population peak has risen to nearly 24,000 birds.** *The Associated Press* quotes an ornithologist who claims the lagoon is now "one of the most important wintering spots in its entire habitat range."

Food & Hunger

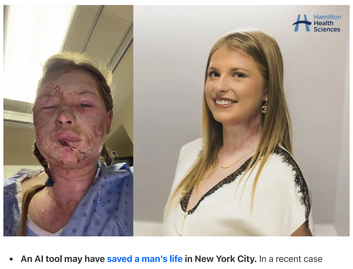
- **Solar-powered cold storage systems are helping farmers save more of their produce in Africa**, where many rural areas lack reliable electricity. SoKo Fresh, a Kenyan firm that leases space in solar cold rooms, claims its customers have cut spoilage from as high as 50 percent to under 2 percent.

Thanks for reading Doomslayer! Subscribe for free to receive new posts in your inbox.

Subscribed

Health & Demographics

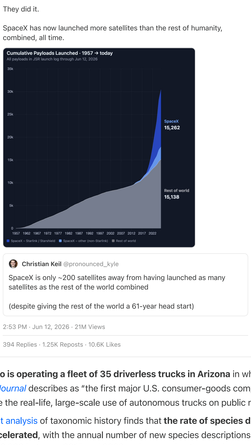
- Doctors in Ontario recently used **an experimental treatment to help treat a burn victim's face**. Instead of skin grafts, which can cause disfiguring scars, the doctors obtained a compassionate-use authorization to treat her face with exosomes, microscopic particles released by cells that carry repair signals to damaged tissues. After two treatments, her facial burns healed without grafting.



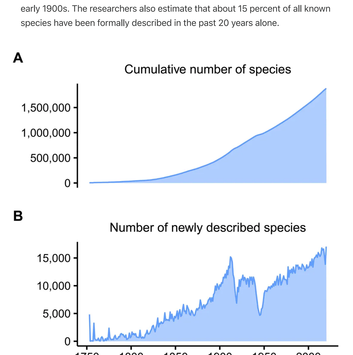
- **An AI tool may have saved a man's life in New York City.** In a recent case report, a patient came to an emergency room with shortness of breath and was discharged with a presumed asthma flare-up. In reality, his heart was failing. Luckily, an AI model being trialed at the hospital analyzed his electrocardiogram, a routine test of the heart's electrical activity, and flagged a high risk of structural heart disease. The patient was then called back and ultimately received a heart transplant. Pathway Labs, the company commercializing the AI software, plans to make it available for free to any physician who uses OpenEvidence, its free medical AI platform.
- **CAR-T immunotherapy, which has so far been used mostly against blood cancers, is beginning to move into solid tumors.** This week, a CAR-T immunotherapy called satri-cel became the first approved CAR-T therapy for solid tumors after receiving a green light from Chinese regulators.
- **In England, zero women aged 20 to 24 died of cervical cancer between 2020 and 2024**, the first recorded five-year period during which that has happened. Recent research associates the achievement with widespread HPV vaccination.
- Like the US, **Canada is also seeing a large decline in overdose deaths.** According to federal data, opioid-related deaths in Canada fell 23 percent between 2024 and 2025, while stimulant-related deaths fell 31 percent.
- **The share of adults in India who use tobacco halved between 2000 and 2022,** dropping from 50 percent to 24 percent.

Science & Technology

- **Researchers involved in the Vesuvius Challenge have** used detailed X-ray scans and machine learning to digitally "unroll" and **read the surviving text of an entire carbonized Herculaneum scroll**. The researchers had already used similar methods to read parts of other carbonized scrolls, but this recent work marked the first time the preserved text of a rolled Herculaneum scroll had been read end to end. Unfortunately, because earlier attempts to physically unroll the scroll damaged its outer layers, only fragments of the original text are legible.
- **"SpaceX has now launched more satellites than the rest of humanity, combined."**



- **PepsiCo is operating a fleet of 35 driverless trucks in Arizona** in what *The Wall Street Journal* describes as "the first major U.S. consumer-goods company to disclose the real-life, large-scale use of autonomous trucks on public roads."
- A recent analysis of taxonomic history finds that **the rate of species discovery has accelerated**, with the annual number of new species descriptions rising above 16,000 between 2015 and 2020 and surpassing the previous peak in the early 1900s. The researchers also estimate that about 15 percent of all known species have been formally described in the past 20 years alone.



Read more news stories on our website

22 Likes · 3 Restacks

22 4 3 Share