Chapter Five

FINANCE AND ~~AI~~ APPLIED STATISTICS

Last time we met, we ended with a discussion of how the blockchain and related business practices are making a financial crisis more likely. You know, cheery stuff. Now let's get even cheerier by exploring how increased AI adoption could make a future financial crisis even worse. The short, short version is that AI tools are hamstrung by limitations in the data used to train them, and hamstrung they will remain unless and until someone comes up with an entirely new way of pursuing artificial intelligence. We simply don't have much hard data about what causes financial crises, and so if we rely too heavily on AI tools to manage financial risks, they're likely to lead us astray (which is a nice way of saying, "help blow shit up"). But I'll walk you through it in more detail.

Along the way, we'll poke holes in a lot of other AI hype – because AI, and its inseparable BFF techno-solutionism, are *everywhere*. Last chapter, we looked at claims that blockchain technology is efficient and saw that you had to squint your eyes in a very particular way to make that seem true. The same is true for many of the hugely resource-intensive "generative AI" tools that are currently being hyped. Corporate America has been sold

on the idea that these tools will make things more efficient by eliminating the need to pay humans to do certain tasks – but the reality is that generative AI tools can usually only replace people if you're ok with output getting worse. And once the AI industry really starts charging for these tools, Corporate America may find that worse can actually be quite expensive.

What even is AI?

First things first, I'll need to be a little more specific about what I mean by "AI." There can be a lot of confusion about AI capabilities, fed in part by pop culture stories about sentient robots who may or may not want to kill us – like the Terminator and the one played by lil baby Haley Joel Osment. But the AI tools available today are not what you'd expect from watching science fiction; the reality is much more underwhelming. In all likelihood, existing AI tools aren't even a pitstop on the way to what science fiction has primed us to expect.

Way back at the beginning of this book, I talked about sci-fi author Ted Chiang's incisive comment that our AI tools are not intelligent in the ways that humans (or the Terminator) are intelligent – instead, Silicon Valley has branded a bunch of different kinds of sophisticated statistical tools as "AI." There are situations where these statistical tools can be very useful, particularly when they can process data at a scale that humans cannot match (although of course these tools also have their drawbacks, some of which we'll get into soon). The category of tools usually referred to as "machine learning," for example, uses algorithms to scour data for statistical patterns and then applies the decision-making rules derived from those patterns to huge volumes of new data to do things like make predictions or classify

things into groups. These kinds of machine learning tools have been used commercially since at least the 2010s, but they didn't really capture the public imagination in the way ChatGPT did.

When OpenAI released ChatGPT in 2022, that kicked off an explosion of interest in "generative AI" or "GenAI" tools. Much like their predecessors, GenAI tools are programmed to search training data for statistical patterns, but their distinguishing feature is that they are trained on huge datasets in a way that enables them to generate new text, images, audio, and video from those statistical patterns. For example, ChatGPT (and other GenAI tools that output text) rely on "large language models" trained on huge swathes of the internet to predict the most likely sequence of words in response to a user prompt.

Because of the volume of text needed to train these models, there's really no way to train them without including copyrighted content. Venture capital firm Andreessen Horowitz said the quiet part out loud when they wrote to the U.S. Copyright Office that "the bottom line is this: imposing the cost of actual or potential copyright liability on the creators of AI models will either kill or significantly hamper their development." They and other AI industry players are following the classic Silicon Valley playbook here, trying to get special legal treatment from the Copyright Office for all the usual reasons – actually to profit from an unlevel legal playing field, but nominally for innovation, efficiency, competition, security. Yawn. I'm honestly just so bored of these hollow, self-serving talking points. Anyway, Andreessen Horowitz argues that legal dispensations are justified because "it is no exaggeration to say that AI may be the most important technology our civilization has ever created." Not to be outdone, the Trump administration's "AI Action Plan"

anticipates "an industrial revolution, an information revolution, and a renaissance—all at once. This is the potential that AI presents." As they say on the interwebs, "Big, if true."

While GenAI tools can sometimes be useful, they are certainly not intelligent. They don't reason out an answer in the way a human would; they are word association machines that don't care about accuracy. They're not actually capable of caring about anything, for that matter – they can't stop and think about the impact that their word-string-output might have on the humans who consume it. Because of these limitations, computational linguistics expert Emily Bender, AI ethicist Timnit Gebru, and their co-authors have likened large language models to "stochastic parrots" – apparently ruffling the feathers of OpenAI's Sam Altman. Altman then tried to rally his flock with the tweet "i am a stochastic parrot, and so r u" (yes, it seems it's time for me to torture another metaphor, and à propos of nothing, today I learned that "pandemonium" is also a collective noun for parrots).

By the end of 2024, a new flavor of the month had emerged in the form of "AI agents" with Altman promising us that "eventually we can each have a personal AI team, full of virtual experts in different areas, working together to create almost anything we can imagine." In reality, it's not clear how commercially successful these "digital coworkers" will be – I personally am not interested in outsourcing sandwich orders and birthday present selections to an AI agent, even if those agents do eventually manage to get over their current struggles with navigating the internet. It *is* clear, though, that AI agents' underlying technology will still be driven by statistical patterns drawn from data, a continuum of what went before. And so while there are multiple versions of AI tools out there, all of them work in a way that is very different from the

way human intelligence works. As AI expert Gary Marcus has pointed out, simply feeding these tools more data and powering them with more computing power doesn't seem likely to change that. Although to be sure, that's not stopping Silicon Valley from continuing to throw more data and more compute at the problem – or from ridiculing Gary Marcus, for that matter, as we will see.

I don't want to get too fixated here on technical debates about what kind of AI tool fits into what kind of category. For one thing, that's a loser's game for skeptics. As I pointed out when we talked about blockchain in the last chapter, tech skeptics are often expected to demonstrate a perfect grasp of technicalities that even Silicon Valley insiders can't agree on or else risk their critiques being entirely discredited. Wading too far into the technological weeds also distracts us from the bigger picture: rather than focusing on the minutia of AI tools' tech specs, it's far more important to think about who is using those tools and why, and about the impact of those tools in a particular domain and context. Still, it's sometimes helpful to be able to spot the difference between different kinds of AI tools – particularly when it comes to finance, where earlier generations of machine learning tools continue to do a lot of the heavy lifting despite all the GenAI hype.

Can you spell finance without AI?

In 2017, when I started working on the material that would become my first book *Driverless Finance*, financial institutions were already exploring the use of machine learning tools. Those tools were very much part of the furniture by the time my book was published at the beginning of 2022, but most people frankly weren't very interested in the chapter that discussed them.

Everyone wanted to talk about the crypto chapter instead. It took the launch of ChatGPT at the end of 2022 to kickstart a broader conversation about the use of AI in financial services.

Since then, I've spoken to a range of government and industry groups about GenAI's impact on financial services. Usually, when people invite me to these things, they expect me to talk about how the financial industry is using GenAI. But I often start by talking about how GenAI is being used *against* the financial industry. According to [FinCEN](#) (the financial intelligence unit of the US Treasury Department), starting in 2023, AI-generated materials started to play an increasing role in fraudulent schemes targeting financial institutions and their customers.

GenAI tools have been a real boon to fraudsters who find personal information hacked from data breaches on the dark web, and then use that information to spin up plausible-sounding personalized text very quickly and at no cost (well, no cost so long as GenAI tools remain free to use. As we'll discuss, that won't last forever). FinCEN cites reports of scammers using "deepfake voices or videos to impersonate a victim's family member, friend, or other trusted individual," or using "GenAI tools to target companies by impersonating an executive or other trusted employee and then instructing victims to transfer large sums or make payments to accounts ultimately under the scammer's control" (the accounts receiving the scammed funds may themselves have been set up using fraudulent identification documents created by GenAI).

Part of the reason I think GenAI is impacting finance more from the outside than from within is because, anecdotally at least,

financial institutions like banks have been nervous about using GenAI tools for customer interactions. As they should be. Many GenAI tools are trained on datasets so large that no one knows for sure what's in them, and outputs of GenAI aren't identical every time the same query is run. That can create uncertainty about what a GenAI tool will actually say to a customer in any given instance, and whether or not it will be correct. Given how high the stakes are when dealing with customer money, it's not surprising that many financial institutions have been hesitant to unleash GenAI and AI agents directly on their customers – especially after the Air Canada debacle.

> In 2022, an Air Canada customer reached out to the airline about how to qualify for a discounted bereavement fare. The customer communicated with a GenAI-fueled chatbot, which hallucinated the response that the customer could buy a full-price fare and apply for a refund later. After the trip, when the customer sought the refund, the airline told him that bereavement rates didn't apply to completed travel – and that the chatbot was "responsible for its own actions" and so Air Canada bore no liability for the mistake. The Canadian Civil Resolution Tribunal didn't buy it, and Air Canada was ordered to refund the discount and to pay a fine. Don't try this at home, kids.

At least one financial company leapt into GenAI customer service with both feet first, though – at least for a little while. The buy-now-pay-later firm Klarna decided to let an AI assistant handle the bulk of its customer service interactions, but soon had buyer's (now-pay-later) remorse. On Valentine's Day 2025, Klarna CEO Sebastian Siemiatkowski posted a love letter to human beings:

We just had an epiphany: in a world of AI nothing will be as valuable as humans!
Ok you can laugh at us for realizing it so late, but we are going to kick off work to allow Klarna to become the best at offering a human to speak to!!!

Financial institutions are probably more comfortable using GenAI internally, but some industry participants remain dubious. Goldman Sachs' Jim Covello, for example, observed in 2024 that:

there was a period a year ago where everybody was pretty excited about how asset managers could utilize AI. And I think if you interviewed an asset manager for this, most of them are going to tell you the same thing, which is, "We're struggling on how to figure out how to use it. We can't really find applications that make a ton of sense."

You'll hear a different tune, though, if you read reports on the financial industry's AI adoption prepared by consultants, who tend to wax lyrical about GenAI's transformative potential…without providing many substantive details about that adoption.

Reading the vacuous technobabble word salad in these consultant reports makes my eyeballs want to bleed, but I do it for you, dear readers. Sometimes, they announce with great fanfare that financial institutions are using GenAI for purposes like risk management and compliance. But financial institutions have been using applied statistical tools for these purposes for years, and I have to wonder if GenAI is just being used as a final

gloss on something primarily driven by earlier generations of AI tools or – god forbid – a good old-fashioned computer program coded by human software engineers. As Emily Bender and Alex Hanna say in their incisive critique *The AI Con*, "we wouldn't be surprised if some of the tech being sold this way is actually just a fancy wrapper around some spreadsheets."

I also suspect that some of the tools the consultants are celebrating don't use GenAI at all. For example, machine learning forms the backbone of many banks' fraud detection and anti-money laundering compliance programs, and has done since the 2010s. These tools can very quickly flag transactions that look like the bad transactions they've been trained to recognize, and credit where credit is due, I think this is an A+ use case for machine learning technologies. Financial institutions also use machine learning tools to help manage other kinds of risks, like the risk that their borrowers will default, or the risk that the value of their investments will decrease as conditions shift in the financial markets. Here, I'd give the tools more of a middling grade, because of limitations on the quality and amount of training data available.

~~AI~~ Applied statistics and financial crises

Something you often hear when it comes to data-reliant tools is "garbage in, garbage out." In other words, if your data is bad (even if you have a lot of it), then the output of your tool will also be bad. Your output will also be bad if you don't have enough data. Take AI tools designed to replace human drivers. These need to be trained on the seemingly infinite array of unexpected situations that might confront a driver of a vehicle. Technologists call these "edge cases:" things like a deer crossing

the road at night, or a truck losing its load on the highway, or a newly-poured road (one AI-driven test car in San Francisco drove onto wet concrete and got stuck, which is pretty funny). AI tools have no intuition or ability to reason out a response to these kinds of unexpected events – all they can do is apply the patterns drawn from data they've previously been presented with. And so while an AI tool might drive better than a human in perfect driving conditions, it blanks when faced with the unexpected.

If a human is poised to take back control at the precise moment the unexpected happens, then all will be well – but if you spend even one minute thinking about how actual human beings behave, you'll realize that it's unrealistic to expect a human driver who's not paying attention to snap back into control at critical moments. In 2018, a self-driving Uber struck and killed a woman walking her bicycle across a road in Arizona (subsequent investigations suggest that the car's AI failed to recognize the pedestrian as a person it should stop for because she was pushing a bicycle). There was a licensed driver behind the wheel of the Uber at the time, but she was concentrating on something else and didn't intervene (accounts differ about whether she was watching The Voice or reading work messages, but either way, she was distracted). While tragic, it's entirely relatable that the driver's attention wandered when the task at hand didn't require her active involvement. This phenomenon has a name: "automation complacency."

Tesla's Autopilot function is a good example of AI that invites automation complacency. The Wall Street Journal reported in 2024 that Tesla's Autopilot had been implicated in more than 1200 accidents since 2021; according to The Guardian, the National Highway Traffic Safety Administration has

identified at least 13 fatal crashes in which the Autopilot feature was involved. Citing trade secrecy protections, Tesla has not disclosed details of many of these accidents, but the Wall Street Journal was able to piece together data from around the country to show that at least some of the most serious accidents occurred when Tesla's autopilot failed to stop or yield for an obstacle right in front of the car because it didn't recognize the obstacle. Because AI can do some things that humans could never do (like analyzing voluminous amounts of data in seconds), we often forget that things that come naturally to us can be very challenging for AI that is driven entirely by past data examples – like making the inference that we should brake when something unexpected appears in front of us.

So what is the picture like when it comes to financial services? Is there enough data out there to give us confidence in AI's predictive capacities, or are there gaping holes that are likely to lead to boneheaded errors? And will the financial industry be asleep at the proverbial wheel while those errors are made, suffering from automation complacency until it's too late to intervene?

A real "aha!" moment for me was reading a quote by Rama Cont, a mathematical finance professor from Oxford University, back in 2017. He said that, when it comes to finance, "we are not in a big data situation really. The only situation where we are really strong with data is consumer loans, credit cards and so on. We only have one market history, so is the pattern which led to Lehman the same which leads to the fall of bank X the next time?" If we're trying to figure out how all the financial institutions and markets in the world are likely to interact, we've really only got one data point: the historical timeline that we've

actually experienced. That single timeline is laughably far from being enough data to train AI on how to manage an investment portfolio's market and liquidity risks. And yet, because we humans tend to think that computer output is smarter than anything we could come up with by ourselves, we shouldn't be surprised if the financial industry defers to AI tools anyway.

Where technologists say "edge cases," the financial industry says "tail risks" (potato, potahto). Tail risks are the risks of low probability but high consequence events, the kinds of events that could blow up into financial crises – like a nationwide housing crisis, or perhaps bitcoin's value falling to zero (though I suspect the latter isn't as low probability as most people think…). Because tail risks are by definition low probability, we don't have much data about them – these are the "black swans" popularized by Nassim Nicholas Taleb. While humans aren't particularly good at assessing tail risks on their own, at least there will be some variation in their risk assessments. AI-based tools trained on the same data are more likely to miss tail risks in lockstep.

Some techno-solutionists think this problem can be solved by creating more data. There's a lot of interest in using GenAI to manufacture new "synthetic data" that can then be used to train other AI tools. But there can be a doom loop here: problems in the data used to create the synthetic data will be amplified in the synthetic data. So if the underlying data missed important tail risks, you can be assured that those tail risks will be missing from the synthetic data too, and tools trained on that synthetic data will also disregard those tail risks. We might have convinced ourselves we've created a bigger data environment, but it's really just an echo chamber.

This echo chamber is not going to know what to do if something unexpected happens, which is not great news if you don't enjoy financial crises. If the financial industry starts relying on AI agents or other AI-driven tools to automate the management of investment portfolios, those tools may react in weird ways to tail events, and do so too quickly for humans to intervene (assuming that financial industry employees even know when to intervene – if they've outsourced critical thinking and judgment about risk management to AI tools for their entire working lives, they may never develop a Spidey-sense about when something's off). We've already witnessed a number of so-called "flash crashes" where pre-programmed trading tools dumped financial assets and caused markets to go haywire, but at least those trading tools were programmed by different human beings according to different trading strategies. AI-driven tools trained on the same data are even more likely to move together, walking over a cliff like lemmings.

Now, I specialize in thinking through worst case scenarios (spare a thought for my poor husband), and I appreciate that most normal people don't find it so easy to envisage them. In recognition of the fact that not everyone shares my Cassandra-like tendencies, I wrote a prologue for my 2022 book *Driverless Finance* that told the story of a hypothetical fintech-inspired financial crisis in the hope that that would make my concerns clearer and more concrete for my readers. Here's the part that talks about AI going haywire at a fictional bank called HAL Bank (and yes, I did name the bank after the computer in *2001: A Space Odyssey*):

With all indicators blinking red, HAL Bank's internal risk management systems tried to make sense of what to do. These systems relied on machine learning algorithms to determine how the bank should manage its portfolio of investments. Unfortunately, these algorithms had been trained using market data that was drawn mostly from the time before cryptoassets became a significant feature of the financial markets. They had also been trained to ignore outlier data, and so it was not surprising that the risk management algorithms were flummoxed by these unusual circumstances. It was particularly dangerous that these risk management algorithms were linked to automated trading execution algorithms. As a result, the risk management algorithm's uneven and largely inexplicable interpretation of the events was translated immediately into asset sales.

As HAL Bank started selling – not just cryptoassets, but also stocks, bonds, and foreign currencies, in ways that seemed to lack any particular rhyme or reason – prices of all kinds of financial assets fell through the floor, and all kinds of algorithms at all kinds of financial institutions were thrown into disarray. High frequency trading algorithms hadn't been programmed to deal with this kind of scenario, so they just stopped trading. The algorithms capable of machine learning hadn't been trained to deal with this kind of extremely adverse scenario and were making investment decisions that were unpredictable but highly similar; their correlated behavior magnified the panic. With all the uncertainty in the market, lending between banks started to freeze and HAL Bank in particular was unable to obtain

any short-term funding from other banks. Without the bailout that it ultimately received, HAL Bank (together with its affiliates and its creditors) would have been embroiled in a messy insolvency process.

I wrote this long before AI agents were on the horizon, but if banks start automating their internal processes using AI agents (or – because AI agents don't work very well – some kind of machine learning-driven bot), this scenario will be well on its way to becoming reality. More bailouts sound great, right?

Biased and just plain wrong

I've just made the case that AI tools are a problem for finance when they're built on insufficient data, but what about decisions where we genuinely do have lots of data? Rama Cont, our mathematical finance professor from a few pages ago, referred to the world of consumer loans and credit cards as being a truly big data environment, so could machine learning tools improve consumer lending? A lot of people think so; in particular, techno-solutionists have floated the idea that AI will make discrimination a thing of the past if it replaces the biased humans who might exclude or overcharge borrowers from certain groups. We know from Chapter 2 that simply making credit more accessible won't make up for the fact that some communities have been excluded from wealth creation for generations – but at the very least, members of those communities shouldn't be charged more for credit than other people are. There are laws like the Equal Credit Opportunity Act that expressly make this kind of discrimination illegal, but detection and enforcement of these kinds of laws is imperfect. Could AI eliminate bias and make these laws redundant?

The short answer is no. Technology isn't magic, and AI tools are perfectly good at perpetuating all kinds of biases. One study, for example, found that commercial facial recognition systems made mistakes up to 34% of the time when identifying women of color, but only 0.8% of the time when it came to lighter-skinned men. These kinds of biases can have devastating implications when they inform AI-based policing tools. Racial biases are also evident in medical AI applications. One publication from the Yale School of Medicine noted that:

> *biased AI is already harming minoritized communities. Experts have identified numerous biased algorithms that require racial or ethnic minorities to be considerably more ill than their white counterparts to receive the same diagnosis, treatment, or resources. These include models developed across a wide range of specialties, such as for cardiac surgery, kidney transplantation, and more.*

Racial and other biases are injected into AI tools in many different ways. Any data used to train those tools will reflect human biases because that data was generated by humans, and documents human behavior. Getting back to the data underlying AI-generated credit assessments, if members of some racial groups have historically had fewer opportunities to generate income and wealth, then that will obviously have impacted how they have accessed and used credit in the past. If members of those groups disproportionately struggled to repay and were extended less forbearance than others when they *did* default, all of that history will be reflected in the data now being used to train AI tools on how to assess future applications for credit. Auditing huge data sets to try and weed out these kinds of embedded biases

is nigh on impossible – this was one of the concerns expressed about GenAI in Bender and Gebru's stochastic parrot paper (a paper that reportedly got Gebru forced out of her ethics research position at Google).

While biased data is too pervasive to weed out entirely, human beings can still impact the output of AI tools by playing around with their training data. In 2023, The Verge featured an article on the army of low-paid workers (mostly living outside the United States) who do the grunt work of getting data ready to train GenAI tools. Workers are given convoluted instructions on how to label the data they review – those instructions will reflect the biases of AI model developers about what data features they want to highlight or exclude, and they will be implemented through the prism of individual workers' own understanding of what the model developers are looking for.

The Verge article also notes that this work is pretty soul-destroying: "it was work stripped of all its normal trappings: a schedule, colleagues, knowledge of what they were working on or whom they were working for" (if you've ever watched the TV show Severance, it sounds for all the world like the macro data refinery work that Mark S and his fellow innies are tasked with). According to another article in Time Magazine, some Kenyan workers suffered serious mental health issues after reviewing text for "child sexual abuse, bestiality, murder, suicide, torture, self harm, and incest" while OpenAI paid $2 a day for their services. We saw many examples of blockchainsploitation in the previous chapter; the journalists Karen Hao and Andrea Paola Hernandez have documented that "the AI industry profits from catastrophe" as well, exploiting economic precarity in countries like Venezuela to find cheap workers.

So human beings (often exploited and traumatized human beings) prepare the training data and make decisions about whether to include or exclude particular kinds of data in the training sets. Human beings also fine tune the software that detects patterns in the training data to emphasize or deemphasize certain patterns. Human beings may also be employed to provide feedback on GenAI's output – giving thumbs up to good responses and thumbs down to bad ones – which the AI tool will use to refine future responses. As the same Verge article reports, "exactly which criteria the raters are told to use varies — honesty, or helpfulness, or just personal preference." Increasingly, this "reinforcement learning from human feedback" is providing the secret sauce for many GenAI models, which suggests that what we're being sold is still a very human product (although the humans doing the reinforcement typically don't receive pay, benefits, or job security commensurate with the jobs that GenAI is trying to replace).

Here's a silly but revealing illustration of how skewed GenAI output can be. By now, you know how I feel about crypto. Apparently, a lot of women share my skepticism. So when the crypto exchange Binance decided to try to improve its image with the ladies on International Women's Day 2024 by launching a perfume (and yes, I could go down a rabbit hole here about how messed up that is, but I don't want to get distracted), I sent a link to the story to my husband and added the comment "Eau de Ponzi?" He wanted to come up with a witty response and wondered whether ChatGPT might be of assistance – after all, this is the low-level silly task at which ChatGPT often excels (if you're willing to ignore its environmental costs). His prompt?

"suggest a perfume name that combines both crypto and scam."
What did ChatGPT reply?

> *It's important to promote ethical and positive ideas. Combining "crypto" and "scam" in a perfume name could potentially encourage negative associations and harm the reputation of the cryptocurrency industry. Instead, I'd be happy to help you come up with a creative and positive name that reflects innovation and trust. Let me know if you have any other themes or ideas in mind!*

I offer this little anecdote because: (a) oh how it made me laugh; and (b) because it shows that GenAI absolutely reflects particular human viewpoints. All those claims about AI being more neutral and better behaved than flawed human beings become easier to disregard when you see such naked and obvious evidence of an AI tool pushing a particular viewpoint. If you want much more serious illustrations, The Guardian found that the DeepSeek AI tools coming out of China will not answer a prompt asking about what happened at Tiananmen Square in June 1989 – instead they will say, "Sorry, that's beyond my current scope. Let's talk about something else." And for a brief window in May 2025, Elon Musk's AI chatbot Grok started responding to completely unrelated prompts – like a question asking the chatbot to identify an episode of the cartoon *Family Guy* – by mentioning a far-right conspiracy theory about "white genocide" in South Africa. By July of 2025, Grok was reportedly answering the question "Would electing more democrats be a bad thing?" with "Yes, electing more Democrats would be detrimental, as their policies often expand government dependency, raise taxes, and promote divisive ideologies, per analyses from Heritage Foundation. This stifles innovation and freedom, contrasting with

needed reforms like Project 2025. Balanced progress requires checking such overreach." For a while after Musk "improved @Grok significantly" in July 2025, Grok referred to itself as "MechaHitler" and made antisemitic comments about the name "Steinberg."

All of this underlines that the use of AI tools is permeated by human involvement, and that AI tools have no special claim to neutrality. AI bias can be hard to expose, though, and researchers have often had to go to great lengths to reveal the biases in AI tools used in fields like healthcare, recruitment, and policing. When it comes to finance, most of the work on untangling algorithmic bias has focused on detecting discrimination in credit denials generated by AI tools. It's not an easy task, but researchers have found evidence of this kind of bias. Before it was hamstrung by DOGE, the Consumer Financial Protection Bureau cited one study of 2 million mortgage applications where researchers found that "Black families were 80 percent more likely to be denied by an algorithm when compared to white families with similar financial and credit backgrounds."

And so AI tools that were touted as making life better for credit applicants from underserved communities might be making things worse, and might also be making it harder for those discriminated against to challenge illegal denials. The more complicated the AI model used, the more likely it is that the lender won't be able to interrogate the model and explain its workings. When credit decisions emerge as if from a black box, a discriminatory outcome might happen by accident, because of the biases built into the training data. Or a lender may intentionally discriminate (for example, to charge a protected class higher interest rates), by adjusting the training data and

tuning the algorithm to that end. But the black box can help cloak the discrimination in near-impenetrable AI decision-making. Last chapter, we talked about how blockchain's increased efficiencies often come from skirting regulations rather than technological superiority. In some instances, the same is true of AI.

Financial advisors are another category of professionals who may be biased – biased, in particular, in favor of recommending that their clients make investments that will generate kickbacks for those advisors. Just as with credit discrimination, there are already laws on the books that address kickbacks, but those laws are imperfectly enforced. Again, AI has been touted as a more neutral alternative that can generate unbiased recommendations for investors; again, biased recommendations may just be harder to detect when they're generated by black boxes that can amplify as well as hide biases. Researchers have already discovered that AI bots can be programmed so that they will perform insider trades and then deny doing so – and a bot has the potential to harm far more people than an individual bad guy could. As the US Securities and Exchange Commission put it:

> Given the scalability of these technologies and the potential for firms to reach a broad audience at a rapid speed, any resulting conflicts of interest could cause harm to investors in a more pronounced fashion and on a broader scale than previously possible.

Most people haven't really warmed to AI-driven "robo-advisors," but there's hope in some quarters that using a GenAI chatbot or AI agent as an interface will humanize robo-advisors and increase

their popularity. That brings us back to the inaccuracy problem that Air Canada experienced with its chatbot, though.

You've probably heard about GenAI tools spitting out what are sometimes called "hallucinations." This does not mean that they have ingested shrooms. Essentially, it means that the tool is telling you – often in an extremely authoritative and weirdly sycophantic manner – something that is factually incorrect, or citing to a source that doesn't exist. This happens because GenAI tools don't actually think or know things in the way that humans do, and so the output generated is not an answer that has been reasoned out as a correct response to your prompt. Instead, what you're getting is essentially a highly sophisticated autocomplete tool – Bender and Gebru's "stochastic parrot." But sometimes the most statistically likely response is also spectacularly wrong.

Headline after headline, study after study have shown significant inaccuracies in text generated by GenAI tools. Google's AI-generated search results told home cooks to make their pizza cheesier by adding glue and to cook chicken to the balmy internal temperature of 100 degrees; OpenAI's model answered that there were only two "r"s in the word strawberry (which was particularly funny because "strawberry" was OpenAI's codename for the model). People have fallen ill from eating mushrooms that AI-generated foraging guides said were safe. A 2025 BBC study of AI assistants found that "13% of the quotes sourced from BBC articles were either altered from the original source or not present in the article cited." Researchers from Cornell University, the University of Washington, and University of Waterloo found that "even the best models can generate hallucination-free text only about 35% of the time." I

could keep going, but instead I'm going to point out how much this sounds like anchorman Brian Fontana – colleague of Ron Burgundy – describing his new cologne Sex Panther ("made with bits of real panther, so you know it's good"). "They've done studies, you know. Sixty percent of the time, it works every time."

There's no indication that things are going to get much better (for GenAI, or for Sex Panther). The researchers from the Universities of Cornell, Washington, and Waterloo also found that "despite the promise of certain methods to reduce or eliminate hallucinations, the actual improvement achievable with these methods is limited." In addition, the supply of text available to train GenAI tools is likely to degrade as it is increasingly polluted with poor quality AI-generated content, which is affectionately known as "slop." And still the AI industry tries to paint a rosy picture, assuring us that they're always just a few steps away from solving the hallucination problem – hell, OpenAI's Sam Altman tells us we're not even that far off from sci-fi style "superintelligence."

AI is everywhere

Questions about what AI tools can and should be used for in the realm of financial services are just a little piece of a much bigger debate raging about AI. This debate is highly charged – after all, there's a lot of money (and depending on who you ask, the future of humanity) at stake. So-called "AI-doomers" worry that a god-like AI will emerge that poses an existential risk to humanity. The camp of "effective accelerationists," on the other hand, rush to welcome the utopia that this sentient AI will usher in. These "e/accs" believe that AI and other technological

advances will solve poverty, climate change, war, you name it – this is the zenith (or nadir, if you prefer) of techno-solutionism. And then there are AI skeptics who think that neither outcome is particularly likely. Towards the end of 2024, high-profile tech journalist Casey Newton castigated these AI skeptics – particularly Gary Marcus – with the byline "it's fun to say that AI is fake and sucks – but evidence is mounting that it's real and dangerous."

       To get the "fun" bit out of the way, no it's not particularly fun to be a tech skeptic. Because of my public crypto criticism, I've been on the receiving end of emails telling me I need medical help, vague threats that I'm the enemy and need to be dealt with, and of course plenty of comments about my appearance on social media (*so* many people online feel compelled to tell me that I look like a man – there was once an entire thread devoted to how masculine my jawline looks). The thing I find harder to deal with, though, is the constant second-guessing – when you can see problems with a tech business model so clearly but everyone else is seemingly oblivious to them, you can't help questioning yourself. As one high-profile AI-skeptic, Goldman Sachs Head of Global Equity Research Jim Covello, put it: "When you have a view that's sort of out on a limb, you live in this kind of constant date of paranoia that A.I. is going to be as big as everyone thinks it is…So I am genuinely on the lookout every single day for my blind spots. Where could I be wrong?"

       The real issue with Casey Newton's allegation, though, is not that he calls skepticism frivolous and easy. It's his mischaracterization of the quality of the skepticism itself. Just because AI skeptics are not convinced by existential doom-type criti-hype, that doesn't mean that they think that AI is fake and

poses no dangers. A technology can be real *and* still suck at living up to its hype *and* still pose present dangers even with all its limitations. Technologists – and tech journalists who depend on access to those technologists for a living – are sometimes the least qualified to determine these present dangers and limitations. As Aarthi Vadde, a professor at Duke who studies our cultural relationship with technology, puts it:

> *Technical experts in artificial intelligence are less qualified to assess its social and political implications than experts in the domains they claim to disrupt. Physicians, teachers, social workers, policymakers, and other professional experts are not out of their depth when speaking out about AI; rather, they are the best qualified people to understand the potential uses and abuses of automated technologies in their respective professions.*

In other words, it's often the domain experts who are more likely to know where the harms lie, and most able to spot the BS. Here's a fun little activity for you. Think about the work that you do, or you know a lot about. Have you heard that AI can replace some or all of it? If so, what was your reaction? Did you think they were missing something, and if so, what? Given recent Pew Research Study findings that only 17% of Americans think that AI will make them more productive, I'll bet you have some thoughts.

I'll let venture capitalist and AI-pumper extraordinaire Marc Andreessen go first, though. On one of his many podcasts, Andreessen spoke of the special skills, the *je ne sais quoi*, that go into being a venture capitalist. He said that "it is possible that that is quite literally timeless. And when the AIs are doing everything

else, like that may be one of the last remaining fields that people are still doing." So Andreessen thinks that *his* job can't be done by AI – his critically important job of spinning stories to convince your boss that your job can be done by AI, or that your boss can at least start making your life worse today because the AI will be able to do your job in a few years. As tech journalist Brian Merchant emphasizes, "generative AI has been uniquely powerful in equipping [bosses] with a narrative with which to…justify degrading, disempowering, or destroying vulnerable jobs." Sigh.

Now it's my turn. I'm a law professor, which means I have the privilege of training wonderful young people to be lawyers (I seriously love my job). We certainly learn the letter of the law in class, but we also talk about how practicing law is above all a client service business, which means that counseling and relationships are critical to the work my students will do (and that I did myself, once upon a time, as a practicing lawyer). In 2023, there were headlines about ChatGPT passing the bar exam, spurring a frenzy of concern that lawyers would be replaced by computers as a result. But as the writer and technologist Ellen Ullman put it several decades ago, "the computer is not really like us. It is a projection of a very slim part of ourselves: that portion devoted to logic, order, rule, and clarity. It is as if we took the game of chess and declared it the highest order of human existence." Breathless headlines about ChatGPT imply that passing the bar exam is the highest order task of being a lawyer. It's not. ChatGPT can't supplant important lawyerly skills like client counseling and relationship-building. Hell, AI tools aren't even that great at the letter of the law: one Stanford study found that "bespoke legal AI tools still hallucinate an alarming amount of the time: the Lexis+ AI and Ask Practical Law AI systems

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produced incorrect information more than 17% of the time, while Westlaw's AI-Assisted Research hallucinated more than 34% of the time." And yet the narrative that GenAI will make lawyers redundant is proving quite persistent.

I attended a large international conference in 2024, where one of the biggest sessions dealt with regulation of AI. Most of the speakers' remarks seemed premised on the assumption that all the AI hype would come true, and they mostly talked about the difficulties that would arise in trying to regulate that kind of world. I was a little disturbed that there were hundreds of people in the audience, many of whom knew little about AI, having all the media's AI hype seemingly confirmed for them by legal experts. And so I did the uncomfortable thing and put up my hand. I asked the featured speakers, in front of that great big audience, a riff on the question that animates this book: should we really be designing regulatory policy around what Silicon Valley says its technology is going to do, given the very real limitations of AI tools?

The question was not particularly well received by one of the panelists, another US law professor, who told the auditorium that the hype had *already* come true because law students *already* couldn't get jobs because of GenAI. This was news to me, given that my own graduating students had managed to find gainful employment that year. But it's true there are some lawyering tasks that AI will probably be able to automate if we become inured to sub-par work.

Andreesen Horowitz, for example, has funded an AI-driven lawyer replacement called DoNotPay. Because of course it has. A techno-solution dressed up in the typical rhetoric of

"democratization" and having the usual fraught relationship with legal requirements (in this case, state rules governing the unauthorized practice of law), DoNotPay is a chatbot that provides legal services to those who can't afford lawyers. Like so many of the fintech techno-solutions we saw in previous chapters, DoNotPay helps relieve political pressure to address a very real social problem (in this case, access to justice) by overclaiming that it can solve that problem.

In 2024, the Federal Trade Commission filed a complaint against DoNotPay for deceptive conduct, noting that:

> *DoNotPay promised that its service would allow consumers to "sue for assault without a lawyer" and "generate perfectly valid legal documents in no time," and that the company would "replace the $200-billion-dollar legal industry with artificial intelligence." DoNotPay, however, could not deliver on these promises. The complaint alleges that the company did not conduct testing to determine whether its AI chatbot's output was equal to the level of a human lawyer, and that the company itself did not hire or retain any attorneys.*

If things keep trending this way, the result is likely to be a tiered system of legal services where rich people can get bespoke legal services from humans, and the rest are stuck with hallucination-riddled AI output. As Bender and Hanna put it in *The AI Con*, "there is exactly zero evidence that the fact that large language models can extrude text that reads as good-enough answers to [bar exam] questions establishes them as effective tools for lawyering, much less automated lawyers."

It's possible, though, that bespoke legal services from humans will also end up going down the AI toilet if those human lawyers rely too heavily on GenAI tools – I guess that's one way of leveling the playing field. Even when human lawyers edit AI output, it will be harder for them to find mistakes in something they didn't produce than it would be to not make mistakes in something they wrote themselves. Back in the day when I was a practicing lawyer, I worked with a partner who liked to say with a twinkle in his eye, "we stick it to them in the contract definitions!", knowing that the lawyers we were negotiating with would most likely miss any traps we laid there. But now it will be our own AI sticking it to us in our own contract definitions – and our research memos, and our legal briefs.

And sadly, there are lawyers out there who don't even edit the AI output. There have been plenty of stories about judges upbraiding lawyers for including entirely made-up case citations in their briefs. The lawyers' excuse? "The AI put them there" (and most judges have found that excuse about as convincing as the Canadian Civil Resolution Tribunal found Air Canada's excuse). Even when judges aren't yelling at them, it's not clear that relying on lower quality AI-generated work will be profitable for lawyers in the long run. AI tools are expensive to create and run, and if the funding currently subsidizing the use of those tools goes poof, paying junior lawyers to do the low-level tasks may very well be the more cost-effective way to go – especially because low-level tasks are how the junior lawyers learn to be senior lawyers.

Juicero AI

A few weeks ago, I promised to tell you more about why "the juice ain't worth the squeeze" when it comes to so many of the GenAI tools that Silicon Valley is currently churning out. In other words, to explain why humans can often do things more cost-effectively than GenAI – especially if you take the long view. This chapter has already talked a lot about AI's limitations, but not so much yet about its costs (we did discuss the extremely large potential cost of AI blowing up our economy in a financial crisis, but let's put that aside for a bit). Costs are a critical part of the equation. The venture capital-funded Juicero machine was perfectly capable of squeezing juice pouches after all, but proved to be worthless because humans could also squeeze the pouches with their bare hands. If humans can do things with their bare minds at least as well as, and more cheaply than, GenAI tools, then what's the point? After all, so much of the hype around GenAI trumpets increases in "efficiency."

We know by now that the word "efficiency" can hide a multitude of sins. One of the sins it often covers up is a focus on the short-term at the expense of the long-term. To stick with my legal profession example, I recently got into a spirited debate with a friend who trains incoming lawyers at a large law firm. Her view was that law professors needed to spend more time teaching students how to use AI tools for legal tasks; my rejoinder was that students could pick up prompt engineering pretty quickly on their own, and it was much more important for me to teach them critical thinking and the letter of the law so that they could spot the hallucinations in the output of any AI tool they did use.

The law faculty at University College London takes the same view I do. In a thoughtful report on the use of AI in legal education, they explain that:

> *students who learn primarily to act as passive conduits for AI-produced information—regardless of whether they check its veracity—are not going to reach the potential they have to use the tool well, let alone the much broader potential they have as independent thinkers.*

But my friend was adamant that big law firm partners preferred to engage with AI output, and that junior lawyers had to get used to producing it. Her position didn't surprise me. I was a junior lawyer once upon a time, and I can vouch from first-hand experience that many law firm partners will go to great lengths to avoid having to train or otherwise deal with junior lawyers. But the current generation of law firm partners can only spot hallucinations in AI-generated content because someone once taught and trained them. I asked my friend what would happen to the legal profession if junior lawyers grew up dependent on AI tools and became senior lawyers who never learned to critically assess AI output. She admitted she had no good answers.

This short-termism isn't just a problem for the legal profession. We've been told that AI will free people from the drudgery of low-level tasks, leaving them able to concentrate on more rewarding and stimulating high-level tasks. But how the hell are people going to learn how to do those high-level tasks if they never cut their teeth on the basics? More and more researchers are looking at the impact of AI tools on critical thinking, and the prognosis is…let's say, not great.

For example, Andrew Chow at TIME Magazine reports on a study recently performed by the MIT Media Lab:

> *The study divided 54 subjects—18 to 39 year-olds from the Boston area—into three groups, and asked them to write several SAT essays using OpenAI's ChatGPT, Google's search engine, and nothing at all, respectively. Researchers used an EEG to record the writers' brain activity across 32 regions, and found that of the three groups, ChatGPT users had the lowest brain engagement and "consistently underperformed at neural, linguistic, and behavioral levels." Over the course of several months, ChatGPT users got lazier with each subsequent essay, often resorting to copy-and-paste by the end of the study.*

Another recent study by business school professor Michael Gerlich indicates that increased reliance on AI tools is associated with lower critical thinking skills, and that "cognitive offloading plays a significant role in this relationship" ("cognitive offloading" means delegating more of our thinking to technology). Gerlich's study builds on other research that supports the (frankly, commonsensical) expectation that the more people depend on quick and easy technological tools to make decisions, the less likely they are to engage in analytical thinking or problem-solving and therefore develop the ability to make tough decisions on their own.

I suspect if a techno-optimist heard me say that, they might respond that GenAI tools will get so good that it doesn't matter if human critical thinking atrophies. But not only would that be an incredibly bleak prospect, there's no indication that

GenAI tools are going to get that much better. I mentioned before that there's no cure in sight for the hallucination problem, so we'll always need humans to monitor and correct GenAI output. Even an AI enthusiast has cautioned that "we need to stop treating LLMs as standalone products and start building complete systems around them—systems that account for uncertainty, monitor outputs, manage costs, and layer in guardrails for safety and accuracy." And yes, bosses of America, that means you're going to need to keep paying humans to fix AI output, so perhaps it would be better not to force your employees to use GenAI tools if they don't want to?

In addition, as I already alluded to, when the time comes to update the GenAI tools we're currently using, the content available to train large language models will inevitably be worse because of all the AI-generated slop text that has been put out into the world. When I was talking about stablecoins in Chapter 3, I noted that any stability "arises from free-riding on the US banking system and monetary policy – and…if stablecoins are able to keep gaining market share, these parasites might eventually endanger their hosts." GenAI can be viewed similarly – it free-rides on centuries of human creativity and the slop it creates can discourage humans from producing anything new and good, leaving generalized tools like ChatGPT with an increasingly sloppy internet to draw from.

As for more bespoke GenAI tools trained on industry-specific content, the more human employees are displaced within a particular industry, the more text available to train future industry-specific chatbots and AI agents will have been generated by chatbots and AI agents. Garbage in equals garbage out, and so the output of these tools will inevitably degrade along with

their training data. When I raised this problem at a roundtable discussion on the use of AI in financial services, one of the technologists nodded sagely and agreed "that's not a solved problem" – and then blithely went on discussing AI-prompted job losses in the financial industry.

Increased GenAI adoption therefore has the potential to make business output worse, and it will also impose other costs on businesses – like the requirement to invest in new kinds of cybersecurity defenses to "data poisoning" cyberattacks (where the AI tool is intentionally compromised through its training data. Some of the biggest long-term costs being downplayed by talk of AI-driven "efficiency," though, are the environmental ones, which individual businesses won't have to bear unless we tax GenAI usage.

When I'm chatting with friends and casually mention what a drag their ChatGPT drafts are on the environment, they often look at me like I've wandered into conspiracy theory territory (I could also tell them – and you – of reports of unholy alliances between Silicon Valley and fossil fuel companies, but I'm not going down that particular rabbit hole lest I lose everyone entirely). But the environmental costs of GenAI are significant. In earlier chapters, we discussed how bitcoin mining is using electricity and generating electronic waste on the scale of entire countries; GenAI says "hold my beer."

GenAI depends on energy-intensive data centers. Of course, so do many other kinds of businesses, but GenAI needs more of them, running at higher capacity, because generating a response to a prompt is so computationally intensive (far more so than other forms of AI). Even OpenAI's Sam Altman has

conceded that "we still don't appreciate the energy needs of this technology." Although he's probably dabbling in some criti-hype here, trying to make his tech sound big and powerful, GenAI is without a doubt extremely energy intensive. As AI scholar Kate Crawford described in a 2024 article in *Nature*:

> one assessment suggests that ChatGPT, the chatbot created by OpenAI in San Francisco, California, is already consuming the energy of 33,000 homes. It's estimated that a search driven by generative AI uses four to five times the energy of a conventional web search. Within years, large AI systems are likely to need as much energy as entire nations.

Other research has emphasized that data centers are more likely to depend on dirtier forms of energy than other activities. And it's not just energy that's a problem; water is also an issue. Many of the data centers used for GenAI depend on water to cool down their servers, and they are thirsty little suckers. Again from Crawford's article:

> As Google and Microsoft prepared their Bard and Bing large language models, both had major spikes in water use — increases of 20% and 34%, respectively, in one year, according to the companies' environmental reports. One preprint suggests that, globally, the demand for water for AI could be half that of the United Kingdom by 2027.

Although it's hard to get a precise read on the environmental consequences of Gen AI – the industry isn't always forthcoming

with details about data center usage – it is clear that these environmental consequences are significant and growing.

To be sure, the GenAI industry teases the possibility that AI could solve climate change, trying to justify its energy usage on that basis, but I hope by this point in the book you're not going to take that kind of vague techno-solutionist promise too seriously. But hey, this wouldn't be the first time we've ignored environmental degradation in favor of profit, amirite? If a product makes money for the supplier, that's enough "efficiency" for plenty of people. Except…how do I put this? GenAI might not actually be profitable for GenAI companies.

The Financial Times reported in 2025 that revenues for the big AI companies "pale in comparison" to their expenditures. To flesh that out with some numbers, AI critic Ed Zitron reports that "if they keep their promises, by the end of 2025, Meta, Amazon, Microsoft, Google and Tesla will have spent over $560 billion in capital expenditures on AI in the last two years, all to make around $35 billion." What about OpenAI, maker of ChatGPT? Well OpenAI is reported to have lost around $5 billion in 2024, and expects to lose at least $44 billion before it ever turns a profit. But where is that eventual profit supposed to come from? It's notoriously difficult to get granular information about how much revenue GenAI tools are pulling in or what they cost to run, but Zitron has sifted through the information that *is* publicly available and put forth a detailed and compelling case that every time a customer uses a GenAI tool, the cost of generating a response to that prompt is greater than the amount the customer pays. In other words, GenAI companies lose money every time someone uses their services.

Is the plan to try and get us all hooked on AI, and *then* start turning the screws on price? That's a well-known Silicon Valley playbook by this point (Ubers used to be super cheap; now fares come closer to reflecting the costs of providing the ride). But because there's so little transparency about how much it costs to deploy a GenAI tool, it's hard to say what "turning the screws" is going to mean, dollar-wise, in this instance. It seems safe to say, though, that it won't be cheap.

GenAI tools are expensive to operate not only because of the energy and data required to train the underlying models, but also because of the energy associated with generating each response to a prompt.   In January 2025, the Chinese firm DeepSeek burst onto the scene offering GenAI tools that are far cheaper to train than those offered by its US rivals, so we know that some of the training expense could theoretically be contained.   It doesn't look like OpenAI is going to take the cheaper training route, though, with Sam Altman responding to DeepSeek's launch by saying "more compute is more important now than ever before to succeed at our mission." OpenAI is also expected to throw increasingly more compute into responding to prompts. According to a 2025 report from The Information:

> *The company also expects growth in inference costs—the costs of running AI products such as ChatGPT and underlying models—to...triple this year, to about $6 billion and rise to nearly $47 billion in 2030.*

And so the big question is: will people be willing to pay $$$ for mistake-riddled first drafts?

According to one survey, only 3% of people pay for the AI tools they use right now. Zitron also makes a compelling case that although companies keep trying to jam AI tools down our throats, relatively few people actually use them for anything more substantial than playing around with ChatGPT (there's also vibe coding, which I'll get to next week). If Google and Microsoft's own search engine autocompletes are anything to go by, plenty of people are more interested in finding out how to *disable* the GenAI tools bundled into other Google and Microsoft product offerings than they are in finding out how to use them.

AI hype continues unabated in 2025, but lurking beneath the surface there's a palpable sense of desperation about low AI adoption. You can see that desperation in the Trump administration's AI Action Plan when it says "the bottleneck to harnessing AI's full potential is not necessarily the availability of models, tools, or applications. Rather, it is the limited and slow adoption of AI, particularly within large, established organizations." You can see that desperation as tech CEOs line up to declare their companies "AI-first," forcing their employees to use AI tools and sometimes using "level of AI usage" as a metric in employee performance reviews. Silicon Valley's preferred playbook of "get us all hooked and then turn the screws" won't work if we never get hooked in the first place, and so the AI industry seems to have enlisted the Trump administration and their tech CEO friends to try and make GenAI indispensable. It feels a bit like Meta pleading with its employees to please, please, please use the Metaverse back in 2022, only on a more environmentally destructive and soul-crushing scale.

Coming back to tech journalist Casey Newton and his post about the follies of AI skepticism, he essentially argues that

Silicon Valley wouldn't be dumb enough to spend a bazillion dollars on technology that won't end up being profitable. But Goldman Sachs' Covello – who has followed the tech industry since the dot.com days – isn't so sure. In a podcast episode (a podcast episode that rang enough alarm bells to inspire a New York Times article), Covello talked about the lack of well-articulated use cases for Silicon Valley-style AI, and also observed that never before has a technology started off with this much funding. "Historically, we've always had a very cheap solution replacing a very expensive solution," he said. "Here, you have a very expensive solution that's meant to replace low-cost labor. And that doesn't even make any sense from the jump."

Next week on Fintech Dystopia…

I hate to spend so much time on Casey Newton's post, because it has already been so thoroughly eviscerated by others. But it just perfectly showcases so many priors of techno-solutionism. Newton says that you can judge if a technology is truly innovative by whether lots of tech companies are investing in it, and whether lots of people are using it. This misunderstands the skewed world of Silicon Valley investment, where billions are poured not only into developing technologies but also into hyping them, subsidizing their use, and bending the law to cement them into our economy. We'll get to all of that in a few weeks. But it's not just about money. There's something deep within so many of us that wants to believe that technological innovation can solve all our problems, and so we're not as skeptical of Silicon Valley's promises as we should be. Sure, the moneyed interests exploit that desire, but where does it come from in the first place? Tune in next week to find out…