

124-157 minutes

meal prep



CommunityValidated | Community Builders (1/2) — Problem Spaces

-  5 minutes
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 An invitation:

We're currently having **1:1 talks** with some of you to learn more about what you're working on and where you might need help. These talks are primarily for us to support you with anything related community & business, while they also help us co-create and develop our newsletter together with you. We'd love to talk to you, so if you think this could be helpful for you, [sign up here](#).

Let's jump into this week's issue:

Problem Spaces

(Fall in love with the problem, not the solution. — Intuit

In Problem Spaces, we share — guess what — the most common problem spaces we've encountered in our community research. We describe them in-depth and share examples of people who had specific problems within this space. We don't share ideas on how to solve those problems, but rather intend to give you a deeper understanding of them.

Community Builders

As most of you probably noticed, the community space is currently trending. Community has become a [business model for IndieHackers](#), and the space is experiencing accelerated growth through the web3 trend.

That's why we dedicated this week's issue to learning more about the problems and needs of **Community Builders**.

As we dove into communities of community-builders (how meta), we saw a certain divide in topics: those that focus on "regular" community building, and those that focus more on the "web3" side of things.

We don't really think that there's a fundamental difference between community-building for web 1, 2, 3, 4, or offline communities. But the divide in content was quite clear. That's why we decided to split this Community Builders issue into two parts.

This week, we will focus on "normal" community building.

Next week's issue will be on the web3 side of things.

Having said that, let's start exploring the common problem spaces we found for community builders:

Defining and explaining community building/management

Problem: The nature and purpose of community building/management isn't always self-evident

"Community" is a term that's increasingly used among entrepreneurs and corporations. While it's great to see a shift in focus towards users and their needs, the term itself becomes [more and more diluted](#).

How "community" is defined depends on who you're talking to. For example, large corporations might see community as a feature to an existing product. A community can help them generate more traffic, have an authentic relationship with their customers, or better understand their customers' needs.

For a community-based business, in contrast, the community *is* the product. In this case, the goal might be to maximize the number of users and their engagement (if that is what ultimately drives revenue). These are just two simplified use cases of community though. In reality, there are all kinds of communities serving all kinds of purposes.

The fact that the purpose of community isn't always self-evident makes it difficult for community managers to [explain the value to decision-makers](#), colleagues, and friends. And [where does community management belong in a company's structure](#)? Marketing? Social media management? Customer service? And how can success be measured?

These factors seem to call for individual, case-specific definitions and

explanations regarding the nature and output of community building/management. As there seems to be increasing demand for community builders/managers, there might be an opportunity for community experts (what a vague term, I know) to support answering these questions.

Speaking of support - [staying mentally healthy as a community manager](#) can be really tough, as emotional labor is a key element of the job. Moreover, the range of a CM's responsibilities is often wide and not clearly defined, which can result in unrealistic expectations. Many CM's would benefit from support/coaching to stay in balance.

Quotes:

"What we do is complex. It deals with emotions and soft metrics. Our work isn't always 'up and to the right' and sometimes we have our biggest impact or learn the most when our communities are in an ebb."

"...community is here to stay and it's a sensible business move in a world where capitalism and consumerism are showing their shadow sides."

"I'm in the business of creating the opposite of loneliness"

Tech stack for community builders/managers

Problem: Finding the right tech stack is essential for community builders

Yes, communities are about people. But the technological environments matter too, as they determine the kind of interactions that are possible with your community members. Technology and people/community are therefore inseparably connected (as social scientists, we are obliged to emphasize this 😊)

As you've probably come across both real-time chat communities (like on Slack or Discord), and forum communities (like on Reddit and IndieHackers), you already know one [major difference between technological environments](#).

But there are many other factors that can come into play. We found posts asking for the right stacks for [managing and reporting on Facebook groups](#), [getting detailed user metrics](#), [specific chat functions](#), and for [multiple needs at once](#). You can find a general discussion on the topic [here](#) and an instructive article [here](#).

Quotes:

"I'm looking to create an online community for a group of people but am struggling to find an online platform that would suit my needs best."

"I'm a control freak and I want my own branding and custom features with no limitations."

"We are definitely "stuck" right now. We have Slack but it's just not cutting it as far as knowledge capture and longer-form participation. Love the thought that they serve different functions."

Driving community engagement

Problem: Getting engagement in online communities is hard

Getting members to engage in an online community is a common challenge among community builders/managers. It's hard to get people to join your community, but it's even harder to get them to engage with others and build lasting relationships.

Online communities for community builders/managers share a lot of helpful experiences and tips for fostering engagement. Some advice that we found frequently:

- First, speak to members in 1:1 talks to learn more about their needs. Then build what they want/need from the community
- Connect people with similar values
- Keep the structure of your community simple
- Foster community culture through a common language, meme culture, and merch
- Foster engagement through gamification and incentivizing
- Organize events like dinners, icebreaker sessions, or chats with experts

While we find these tips really helpful in theory, applying them to your own community and executing them properly is a whole different story. This is where online communities for community builders/managers are limited: Advice is often rather general in nature, and even though there are community members who offer to talk and help others out individually, their time is limited. There are probably opportunities in helping community builders with this.

In contrast to all the fuzz about community engagement, there are people who argue that [engagement shouldn't be the primary goal of community](#). Instead, community should be about helping each member reach their goals.

Quotes:

"Any tips for a newbie CM who inherited a very passive community?"

["How to spark activity, and keep the momentum going?"

["A Community Builder's job is to allow members to create value for each other"

["How to incentivize community members to do activities that are good for your Community?"

For everyone interested, we want to recommend checking out online communities for community builders/managers like [CommunityClub](#) or [IndieHackers](#). The people in these communities are - surprise - extremely helpful and positive. Also, check out [Rosie Sherry](#) whose knowledge and long-term engagement in the field are invaluable.



trms | Zero to Web Dev: Beginnings

-  7 minutes

At its core, trms is the journal of a generalist. And what generalists do best is starting new things. So here I am starting something (relatively) new. I've never used purple before in one of my header images so you know this is a big deal.

I always believed I wasn't smart enough to do programming. I did go to a CS-oriented high school, and we did learn some Java and x86 assembly there, but I wasn't great at it, and when it came time to go to university, I chose not to pursue things further. Looking back, that was pretty silly. But hindsight is 20/20, and I was just 18. So here's my attempt at setting things straight.

For a couple of months now I've been diving into the world of web development, devoting nearly all of my free time to it. So I wanted to share my journey with you.

This post won't go into the nitty-gritty details, instead it'll be more of an overview showing what I've done so far. I'd like to make more detailed posts going through everything I do, such as particular challenges, tough parts, etc, but now, since I'm writing a post covering about a month or two of work, that would make it way too long. Let's start.

Prior Experience

freeCodeCamp

If you've ever looked to learn web development, or even software development in general, it's likely people told you about [freeCodeCamp](#). It's a free... code camp that teaches you web development, and a couple other things. It boasts thousands of hours of content and shiny certifications. So some years ago I went for it, and even got the first certification.

Will I continue with it now that I'm picking programming up again? No. I originally wrote many paragraphs here explaining why not but that's out of place here. In short there's nothing wrong with FCC per se, it's just not for me for now. I might go back to it in the future though to grab some extra certifications, why not.

Some Random Stuff

For a while I was into making small scripts for virtual retro consoles like [TIC-80](#). I [made some](#) and it was fun, but that was it.

Back in 2017 I taught myself some Python and I made a Telegram Messenger bot with it for a group I have there. It was actually pretty neat and we are still using it four years later. The code is super messy though and I'm surprised it's lasting as long as it does. It's basically a castle made out of popsicle sticks.

The Plan

The plan is to go through some sort of linear online course and follow it, but to then start making small projects as soon as I feel capable, even outside of the course. I'd like to also contribute in some small way to open source projects, as soon as I can do so without annoying the maintainers too much.

I believe the best way to learn is to do projects on your own. But you do need to get the basics from *somewhere*, so I'll use the course(s) as a foundation, as a rail I can follow when I feel I need to move further ahead. **After all I can't learn if I don't even know what to learn.**

The Journey / The Projects

The Odin Project

I chose to go with [The Odin Project](#) to learn/revise the foundations of web development. Odin is an open source online course, maintained by volunteers, aiming to get you from zero to web developer. That sounded pretty good, so I went through and finished their [foundations](#) course.

Odin is mostly an aggregator of resources rather than a fully original course. Each lesson is a collection of external links to articles and videos. Occasionally,

Odin contributors will write a lesson up themselves, but that's rare. This is both great and not so great.

It's great because it allows Odin to focus on organizing the flow of the course rather than having to maintain a huge amount of text. It's not so great because by learning this way, you are switching teachers/teaching styles constantly. There is no cohesion, and each post assumes a different background. There is a bit of context switching to do before moving on to each new resource. But it's not such a big deal.

TOP intersperses lessons with practical projects. I liked that. The projects are actually challenging and require you to Google for stuff, which, it seems, it's what development looks like in the real world anyway.

TOP starts with a couple of sections dedicated to setting up your machine and things like learning [how Git works](#), for example. They don't provide you with an in-browser text editor, they make you go through installing and setting up a development environment on your own machine first. This, I found brilliant and useful. It's great to use the actual tools of the trade right from the start.

HTML

Odin then gets you to do some HTML. Since I had experience with basic HTML and CSS before, I flew through this one and quickly completed their first project: [the Recipes website](#). Moving on.

CSS

After having you go through a series on CSS and the CSS Flexbox (which I found super useful), they have you do another project. This time, they show you a picture of a landing page, and you have to recreate it yourself using only HTML and CSS. [Here's my result](#).

I really enjoyed doing this project since it applied everything I learned before, and it didn't hand-hold me so much. They pretty much just give you the picture and tell you to replicate it, which felt like an accomplishment when I finished it.

JavaScript

Etch-a-sketch

This section of the foundation course was the most challenging but also the most rewarding. Some courses teach you frameworks immediately, but Odin starts by teaching you how to manipulate what you see on the webpage with

pure JavaScript. After a couple of short lessons, you're thrown in the deep end making an etch-a-sketch-like small web app. [Here's my result](#). This project wasn't without its challenges, but overall it was doable. Which means it was just the right difficulty.

Calculator

As soon as you're done with that, you're hit with another project: this time, you'll make a calculator. That was a bit harder than I initially thought since I hadn't thought of a lot of edge cases (e.g. what if a user presses the "=" button at random times? Or the "X" button? Things like that.) Once I figured those out (which, admittedly, did take a while) [here's the final result](#). It turned out alright.

Library

So, that was the foundations course done. Overall, it wasn't too bad. I started with some pre-existing knowledge of HTML and CSS, and I ended up making a functional calculator show up on a web page.

I selected [Odin's next course](#) (Full Stack Javascript) and moved on. This course is packed much tighter, and it has a ton more content. You're taught a lesson on JS objects then you're thrown another challenge: the library.

This is the project that, so far, took me the most time and effort. There were times when I had to step away from the code for a while and just let my mind rest for a bit to figure out what to do next or how to solve some particular problem.

The worst thing about programming for me, so far, is that once you find the solution to your problem, you realize how obvious it was the entire time, and it makes you feel a bit dum-dum. But I suppose that's just how it is.

So [here's the final result for the library project](#). You're basically tasked to make a "library" website where people can add books to their shelf, toggle their read status, and remove them. You're given some guidance, but it's very minimal. Overall, I think it really pushed me, but it was worth it. Pairing the buttons you see on screen to their own "card" was a challenge. Also, I couldn't make a nice dialog box to insert the new books, instead I'm using browser prompts, which is kind of annoying. But it's good enough to pass for now.

Thoughts / Things I Learned So Far

Since I have a full time job I can't go quite as fast as I'd like, but I'm trusting that doing something every day, [no matter how small](#), will eventually get me there.

Also, even if I could go faster, I'm afraid I might burn out, so I'd rather take things at a leisurely pace and enjoy the ride.

Overall, I went from little knowledge of web development to making some small yet interesting projects, such as the landing page, the calculator, and the library. That's something. I do wonder how larger projects are done and managed, so that curiosity pumps me up for the future.

I do feel that being in a community, or in a classroom with other people struggling with your same problems, would help out. Not just in solving the actual problems, but for motivation, too. I am aware that Odin and pretty much every course has a Discord server, but I'm not too comfortable just introducing myself to a number of complete strangers and getting into the community, especially when the communities are of thousands of members, and most people are just there to seek help and nothing more. I wouldn't want to be a burden on those five people who actually help others out, but who are already stretched thin due to the amount of newbies coming in.

I think web development in general has been moving extremely fast these last couple of years. This is great, since there is progress, but it also makes online articles/tutorials obsolete really quickly. Online courses try to keep up, but random blog posts might not be so useful if they're even just 1-2 years old. This is in contrast with other areas of software development where things basically froze.

Sometimes Odin is behind the curve, recommending articles from 2012, and in this respect, the [Fullstack Open course](#) from the University of Helsinki does seem to be much more up to date. But that's for the next episode.

You can find me on GitHub [here](#). If you're a dev, or just into this type of thing, I'd love to hear from you. Maybe we can help each other out.

The post [Zero to Web Dev: Beginnings](#) appeared first on [trms](#).



Seth's Blog | Finding your voice

-  1 minutes
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Not your metaphorical voice. I mean your actual voice.

It's pretty clear to me that our speaking voice is not the result of the inevitable physical evolution of our vocal cords. It's something our brain figured out how to do with the part of our body that keeps us alive by breathing.

And because it's a late addition, there are a bunch of kinks in the system.

Talking while breathing is the beginning of the challenge.

But it's also worth noting that the entire process is in the middle of a huge number of sensitive muscles and nerves. This means that when we're talking (calling attention to ourselves) we're also trying to keep all of that stress at bay. Add microphones, Zoom, and the high-stakes world of being seen, and you can start to understand why it's so easy to get hoarse, to sound like someone you're not, to develop tics, to amplify your stress, and a whole host of other challenges.

If you don't sound like you, it might simply be because your brain is sabotaging the thing you're trying to say. I used to riff about "no one gets talker's block" but now I'm not so sure. I think most of us do.

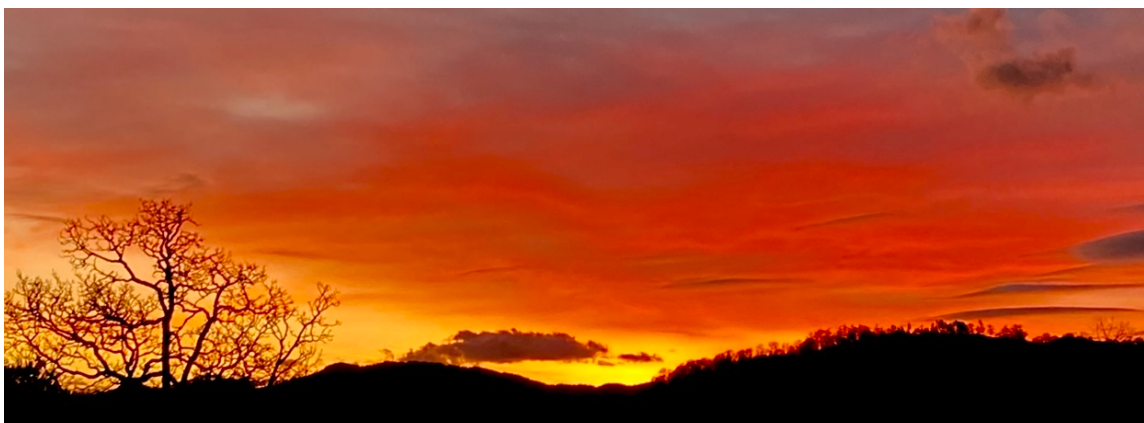
If you've experienced any of this, I encourage you to find a [good voice coach](#). Not because you're some fancy keynote speaker about to go on the TED stage. Simply because you have something to say and it would be nice to be able to say it without pain. It's easier than ever to have a few sessions remotely, and many people I know have found it life-changing. You can find someone [nearby](#) or even watch some [videos](#) to get started.

The world needs to hear from you.



Blog | Climate change is not the problem

-  **4 minutes**



Climate change is not the problem. It is a consequence of the problem. Our societies are out of balance, overwhelmed by rampant individualism and corporate entitlements. **Until we recognize this, we will make no headway in reversing climate change.** How many more COPouts will that take?

The Triumph of Imbalance

A healthy society balances the power of private sector businesses, public sector governments, and [plural sector](#) communities. It does not allow individual, collective, or communal needs to dominate. Few societies today are so balanced.

When the Berlin Wall fell in 1989, pundits in the West declared “the triumph of capitalism.” No, balance had triumphed. Following the Second World War, the democratic countries of the West had maintained a relative balance across the three sectors, whereas, the communist regimes of Eastern Europe were severely out of balance, on the side of public sector power that favored collective needs.

Since 1989, however, the failure to understanding this has been throwing many other countries, not least the liberal democracies, out of balance, on the side of private sector power that favors individual needs. In much of the world today, capitalism has indeed been triumphing. (The attendees at COP 26 included [500 fossil fuel lobbyists](#), more people than from any single country. Indeed, many of them were delegates of 27 of different countries.)

How can we reverse climate change when so much of the world is driven by private sector interests that favor conspicuous consumption, including the use of carbon energy? How many governments today are prepared to confront the consolidated power of economic globalization as well as the intense lobbying of their own corporations? (The Citizen’s United decision of the Supreme Court of the United States legalized bribery in that country.) And how can any corporation driven by the relentless pursuit of shareholder value even sustain true social responsibility?

No wonder our governments give us so much planning and so little acting. For climate change, we get the [charade](#) of 40-year plans from 4-year governments, and equally deficient responses to other consequences of this imbalance, including the disparities of wealth and the decline of democracy. Recently we celebrated the global agreement for a minimum corporate tax rate of 15%. Fifteen percent! Meanwhile, the party of Abraham Lincoln leads a frontal attack on American democracy.

Beyond the Fixes

The preferred solutions for these predicaments only exacerbate them. In the United States, it is “fixing capitalism.” [Fixing capitalism](#), however necessary, will no more fix a broken America than would fixing communism have fixed the broken regimes of Eastern Europe. It is our societies that need fixing. Heroic leadership is another popular solution—bring in some savior. Where has that been working lately?

We don’t need leadership from some imagined “top”, or institutionalized social responsibility, or great events from Paris to Glasgow. We need sweeping social change from the ground up. Franklin Delano Roosevelt understood this when he was asked by a social activist to support his cause: “I couldn’t agree with you more,” he said, “go out and make me do it.” Making the authorities do it, in government and business, will require a groundswell of community movements worldwide.

Toward Reformation

If this sounds utopian, [consider the Reformation](#) of the 16th Century. In today’s vocabulary, the new social medium of the time—the printing press—was used to take a post viral. Martin Luther was an obscure monk when he posted his message about the corruption of the predominant institution of the time on the door of one of its churches. Within weeks, it was circulating widely, embraced by people who were fed up with that corruption. That groundswell changed the Christian world.

Is it outrageous to believe that such a reformation could happen in the 21st Century? It is outrageous to continue to do what we have been doing. COPing out 26 times is outrageous.

Barak Obama spoke recently about how long it takes to effect major change. He missed an essential message of COVID: face us with sufficient threat, and the unimaginable can become imperative. Who would have imagined that governments would act within weeks to lock down their people and close so much of their economies? How many more floods and fires will it take to make enough of us feel sufficiently threatened by climate change?

In a rebalanced world, the changes we require might be less onerous than we have been led to believe. [Compared with COVID](#), there would be no need to shut down much of our economies, just those parts that continue to pollute extensively. (Bear in mind the extent to which our economies have shifted from manufacturing to services.) Nor would there be any need for locking down,

except the lobbying and other entitlements that have been hijacking progress. We would need to take the mask off our rampant individualism, and to keep our societies distant from the legal corruption that is destroying them.

What to do? No, what's not to do

Most of all, many of us will have to get active, including the “young people in many countries... who still have to find the courage to stand up for what they believe in, to fight what they know is wrong, and to defend the rights of their people.” (This comes from Srdja Popovic’s book *Blueprint for Revolution*, much of which can serve as a blueprint for reformation.)

I get one persistent question from people who have read my book [Rebalancing Society](#): “What can I do?” So I developed a [chart](#) that shows the many things that we can do, by ourselves and in our communities, companies, and governments. Click on some of the dots, and do something, anything, to get started. The possibilities are endless. **When you recognize how outrageous is the mainstream, you can help to make the outrageous obvious.**

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Tim Harford | Why carbon taxes really work

-  4 minutes

A friend recently wrote to me agonising over an ethical question. He was pondering a long-haul trip to see his family but was all too aware that the flight would have a huge carbon footprint. Could the journey possibly be justified? I suggested that my friend find out what the carbon footprint was (a tonne of CO₂, it turns out) and then imagine a hypothetical carbon tax. Would he still be willing to travel if he had to pay the tax? If not, the trip wasn't worth it.

My advice raises the question of what this carbon tax should be. At a carbon tax of £5 per tonne of CO₂ — plenty of carbon global emissions are taxed at less than that — the extra tax on that one-tonne return flight would be trivial. At a more serious £50, it would be noticeable but perhaps not decisive. (The emissions trading systems in the EU and the UK until recently implied a carbon price of around £50 per tonne of CO₂; the UK price has since leapt. US

Democrats are pondering their own carbon tax.) If the carbon tax were a deep-green £500 per tonne of CO₂, my friend would have to be missing his family more than most of us ever do.

I realise it is quixotic to advise checking one's personal consumption decisions against a completely hypothetical tax, but it gets to the core of what a carbon tax is for. **It isn't just an incentive to change behaviour; it's a source of information about which behaviour we most urgently need to change.**

That information is currently obscure. The world's supply chains are formidably complex, delivering products with a carbon footprint one could only guess at. The big picture is obvious enough: flights are bad, cycling beats driving, double glazing is a good idea. But should you buy the British tomatoes, possibly grown in a heated greenhouse, or the Spanish variety, with more food miles on the clock? Even for the attentive, these questions are difficult.

About a decade ago, Mike Berners-Lee published [How Bad Are Bananas?](#), a book that explained the carbon footprint of various everyday products. (Bananas are fine.) The title hints at the hopelessness of waiting for consumers to voluntarily vanquish climate change. How bad is red wine? How bad is an iPhone? Collectively we make many billions of decisions every day about what to buy, how to travel and where to set the thermostat. We cannot be expected to do so with Berners-Lee at hand.

The brilliance of a carbon tax is that we would not have to. The price of everything we buy is tied to the cost of resources required to make and deliver it. If something requires acres of land, tonnes of raw materials, megawatt-hours of energy and days of skilled labour, you can bet that it won't come cheap. The link between price and cost is fuzzy but real. Yet carbon emissions have not been reflected in that cost.

A carbon tax changes that by making the climate impact as real a cost as any other. **It sends a signal along all those supply chains, nudging every decision towards the lower-carbon alternative.** A shopper may decide that a carbon-taxed T-shirt is too costly, but meanwhile the textile factory is looking to save on electricity, while the electricity supplier is switching to solar. Every part of the value chain becomes greener.

Large changes might well be achievable with a surprisingly subtle carbon tax. The International Monetary Fund has suggested that a tax of \$75/ton of CO₂ might be required, but even with a £100/tonne tax — nearly twice as much — the day-to-day pain would be less than most people expect.

In the UK, carbon dioxide emissions are less than six tonnes per person per

year, plus two or three tonnes more to reflect the carbon footprint of imported goods. A £100/tonne tax that covered those emissions would raise the cost of living by just over £2 a day, and cover more than 5 per cent of UK tax revenue. That's not nothing: the government would be wise to send everyone a monthly lump sum in compensation. The burden would fall unevenly: those who spent a lot, flew a lot, drove a lot or heated big, draughty houses would pay more. It is unlikely that you would notice much impact on the price of bananas.

Coffee provides an instructive example of how much of the change would be imperceptible. According to Mark Maslin and Carmen Nab of University College London, a kilogram of coffee beans delivered to the UK has a typical footprint of about 15 kilograms of CO₂. If farmed and shipped more sustainably, the footprint is 3.5 kilograms. With a £100/tonne carbon tax, that's either £1.50 or 35 pence. You can make dozens of coffees with a kilogram of beans, so coffee drinkers might not notice, but you can bet that behind the scenes farmers and shippers will be looking to push their costs away from £1.50 and towards 35 pence.

My colleagues Gillian Tett and Simon Kuper have been writing about the risks of "greenflation" and the pain that a serious carbon tax would cause. They're right to be wary of the political damage that a botched tax might do. But one can also worry too much.

It seems like a huge leap to decarbonise the world economy, but it is better understood as a trillion tiny steps. From frugal shopping to efficient logistics to renewable sources of electricity, carbon taxes gently steer us towards the greener solution every time, whether we are racked with guilt or blithely unconcerned. They should be at the centre of our fight against climate change.

Written for and first published in the [Financial Times](#) on 29 October 2021.

[The paperback of "The Next 50 Things That Made The Modern Economy" is now out in the UK.](#)


"Endlessly insightful and full of surprises — exactly what you would expect from Tim Harford."- Bill Bryson

"Witty, informative and endlessly entertaining, this is popular economics at its most engaging."- The Daily Mail

I've set up a storefront on Bookshop in the [United States](#) and the [United Kingdom](#) – have a look and see all my recommendations; Bookshop is set up to support local independent retailers. Links to Bookshop and Amazon may generate referral fees.



Collaborative Fund | How This All Happened

-  19 minutes

This is a short story about what happened to the U.S. economy since the end of World War II.

That's a lot to unpack in 5,000 words, but the short story of what happened over the last 73 years is simple: Things were very uncertain, then they were very good, then pretty bad, then really good, then really bad, and now here we are. And there is, I think, a narrative that links all those events together. Not a detailed account. But a story of how the details fit together.

Since this is an attempt to link the big events together, it leaves out all kinds of detail of what happened during this period. I'm likely to agree with anyone who points out what I've missed. My goal isn't to describe every play; it's to look at how one game influenced the next.

If you fell asleep in 1945 and woke up in 2018 you would not recognize the world around you. The amount of growth that took place during that period is virtually unprecedented. If you learned that there have been no nuclear attacks since 1945, you'd be shocked. If you saw the level of wealth in New York and San Francisco, you'd be shocked. If you compared it to the poverty of Detroit, you'd be shocked. If you saw the price of homes, college tuition, and health care, you'd be shocked. Our politics would blow your mind. And if you tried to think of a reasonable narrative of how it all happened, my guess is you'd be totally wrong. Because it isn't intuitive, and it wasn't foreseeable 73 years ago.

Here's how this all happened.

1. August, 1945. World War II ends.





Japan surrendering was “The Happiest Day in American History,” the *New York Times* wrote.

But there’s the saying, “History is just one damn thing after another.”

The joy of the war ending was quickly met with the question, “What happens now?”

Sixteen million Americans – 11% of the population – served in the war. About eight million were overseas at the end. Their average age was 23. Within 18 months all but 1.5 million of them would be home and out of uniform.

And then what?

What were they going to do next?

Where were they going to work?

Where were they going to live?

Those were the most important questions of the day, for two reasons. One, no one knew the answers. Two, if it couldn’t be answered quickly, the most likely scenario – in the eyes of many economists – was that the economy would slip back into the depths of the Great Depression.

Three forces had built up during the war:

- Housing construction ground to a halt, as virtually all production capacity was shifted to building war supplies. Fewer than 12,000 homes per month were built in 1943, equivalent to less than one new home per American city. Returning soldiers faced a severe housing shortage.
- The specific jobs created during the war – building ships, tanks, bullets, planes – were very suddenly not necessary after it, stopping with a speed and magnitude rarely seen in private business. It was unclear where soldiers could work.
- The marriage rate spiked during and immediately after the war. Soldiers didn’t want to return to their mother’s basement. They wanted to start a family, in their own home, with a good job, right away.

This worried policymakers, especially since the Great Depression was still a recent memory, having ended just five years prior.

In 1946 the Council of Economic Advisors delivered a report to President Truman warning of “a full-scale depression some time in the next one to four

years.”

They wrote in a separate 1947 memo, summarizing a meeting with Truman:

We might be in some sort of recession period where we should have to be very sure of our ground as to whether recessionary forces might be in danger of getting out of hand ... There is a substantial prospect which should not be overlooked that a further decline may increase the danger of a downward spiral into depression conditions.

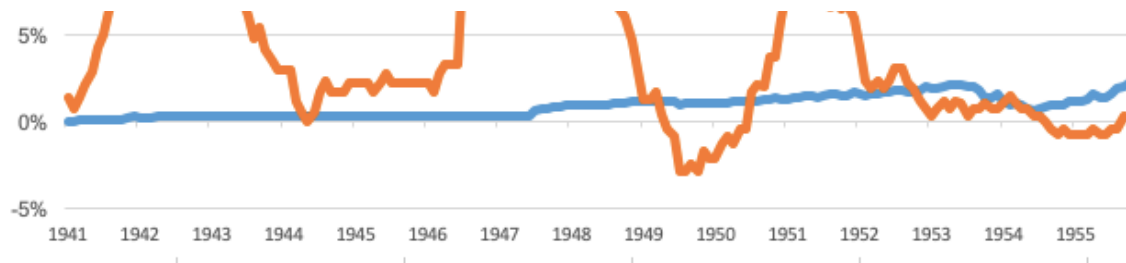
This fear was exacerbated by the fact that exports couldn't be immediately relied upon for growth, as two of the largest economies – Europe and Japan – sat in ruins dealing with humanitarian crises. And America itself was buried in more debt than ever before, limiting direct government stimulus.

2. So we did something about it: Low interest rates and the intentional birth of the American consumer.



The first thing we did to keep the economy afloat after the war was keep interest rates low. This wasn't an easy decision, because a burst of inflation when soldiers came home to a shortage of everything from clothes to cars temporarily sent inflation into double digits:





The Federal Reserve [was not politically independent before 1951](#). The president and the Fed could coordinate policy. In 1942 the Fed announced it would keep short-term rates at 0.38% to help finance the war. Rates didn't budge a single basis point for the next seven years. Three-month Treasury yields stayed below 2% until the mid-1950s.

The explicit reason for keeping rates down was to keep the cost of financing the equivalent of the \$6 trillion we spent on the war low.

But low rates also did something else for all the returning GIs. It made borrowing to buy homes, cars, gadgets, and toys really cheap.

Which, from a paranoid policymakers' perspective, was great. Consumption became an explicit economic strategy in the years after World War II.

An era of encouraging thrift and saving to fund the war quickly turned into an era of actively promoting spending. Princeton historian Sheldon Garon [writes](#):

{After 1945, America again diverged from patterns of savings promotion in Europe and East Asia ... Politicians, businessmen and labor leaders all encouraged Americans to spend to foster economic growth.

Two things fueled this push.

One was the GI Bill, which offered unprecedented mortgage opportunities. Sixteen million veterans could buy a home often with no money down, no interest in the first year, and fixed rates so low that monthly mortgage payments could be lower than a rental.

The second was an explosion of consumer credit, enabled by the loosening of Depression-era regulations. The first credit card was introduced in 1950. Store credit, installment credit, personal loans, payday loans – everything took off. And interest on all debt, including credit cards, was tax deductible at the time.

It tasted delicious. So we ate a lot of it. A simple story in a simple table:

Year	Total US Household Debt
1945	\$29.4 billion
1955	\$125.7 billion
1965	\$331.2 billion

Household debt in the 1950s grew 1.5 times faster than it did during the 2000s debt splurge.

3. Pent-up demand for stuff fed by a credit boom and a hidden 1930s productivity boom led to an economic boom.

The 1930s were the hardest economic decade in American history. But there was a silver lining that took two decades to notice: By necessity, the [Great Depression had supercharged resourcefulness](#), productivity, and innovation.

We didn't pay that much attention to the productivity boom in the '30s, because everyone was focused on how bad the economy was. We didn't pay attention to it in the '40s, because everyone was focused on the war.

Then the 1950s came around and we suddenly realized, "Wow, we have some amazing new inventions. And we're really good at making them."

Appliances, cars, phones, air conditioning, electricity.

It was nearly impossible to buy many household goods during the war, because factories were converted to make guns and ships. That created pent-up demand from GIs for stuff after the war ended. Married, eager to get on with life, and emboldened with new cheap consumer credit, they went on a buying spree like the country had never seen.

Frederick Lewis Allan writes in his book *The Big Change*:

During these postwar years the farmer bought a new tractor, a corn picker, an electric milking machine; in fact he and his neighbors, between them, assembled a formidable array of farm machinery for their joint use. The farmer's wife got the shining white electric refrigerator she had always longed for and never during the Great Depression had been able to afford, and an up-to-date washing machine, and a deep-freeze unit. The suburban family installed a dishwashing machine and invested in a power lawnmower. The city family became customers of a laundromat and acquired a television set for the living room. The husband's office was air-conditioned. And so on endlessly.

It's hard to overstate how big this surge was.

Commercial car and truck manufacturing virtually ceased from 1942 to 1945. Then 21.4 million cars were sold from 1945 to 1949. Another 37 million were sold by 1955.

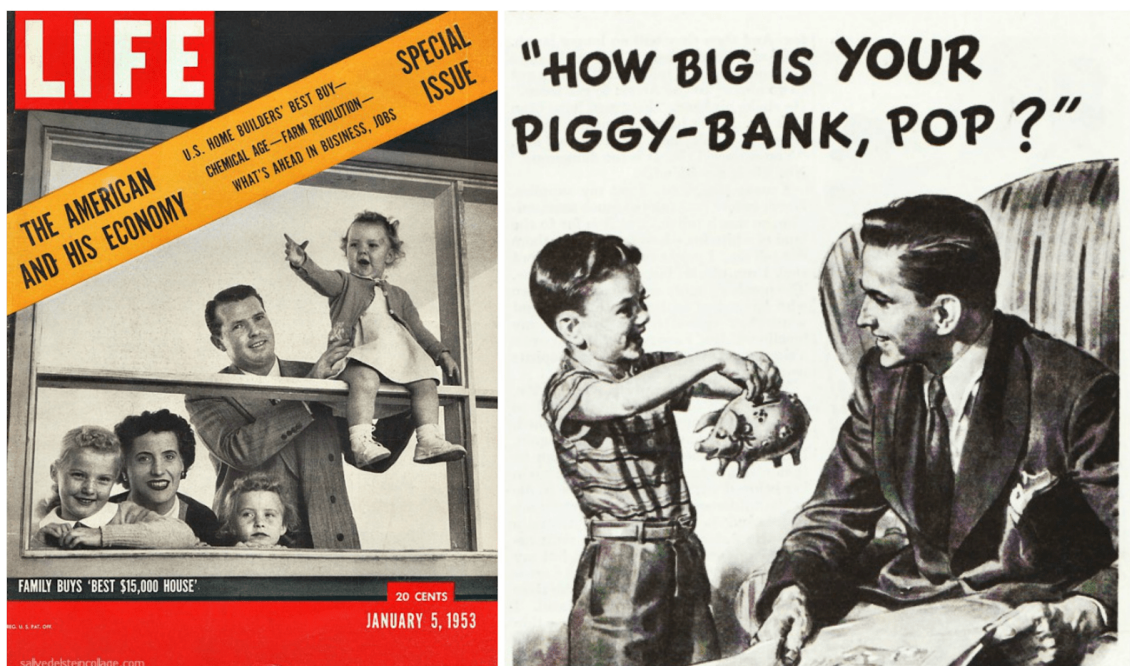
1.9 million homes were built from 1940 to 1945. Then 7 million were built from 1945 to 1950. Another 8 million were built by 1955.

Pent-up demand for stuff, and our newfound ability to make stuff, created the jobs that put returning GIs back to work. And they were good jobs, too. Mix that with consumer credit, and America's capacity for spending exploded.

The Federal Reserve [wrote to](#) President Truman in 1951: "By 1950, total consumer expenditures, together with residential construction, amounted to about 203 billion dollars, or in the neighborhood of 40 percent above the 1944 level."

The answer to the question, "What are all these GIs going to do after the war?" was now obvious. They were going to buy stuff, with money earned from their jobs making new stuff, helped by cheap borrowed money to buy even more stuff.

4. Gains are shared more equally than ever before.



The defining characteristic of economics in the 1950s is that the country got rich by making the poor less poor.

Average wages doubled from 1940 to 1948, then doubled again by 1963.

And those gains focused on those who had been left behind for decades before. The gap between rich and poor narrowed by an extraordinary amount.

Lewis Allan wrote in 1955:

The enormous lead of the well-to-do in the economic race has been considerably reduced.

It is the industrial workers who as a group have done best — people such as a steelworker's family who used to live on \$2,500 and now are getting \$4,500, or the highly skilled machine-tool operator's family who used to have \$3,000 and now can spend an annual \$5,500 or more.

As for the top one percent, the really well-to-do and the rich, whom we might classify very roughly indeed as the \$16,000-and-over group, their share of the total national income, after taxes, had come down by 1945 from 13 percent to 7 percent.

This was not a short-term trend. Real income for the bottom 20% of wage-earners grew by a nearly identical amount as the top 5% from 1950 to 1980.

The equality went beyond wages.

Women held jobs outside the home in record numbers. Their labor force participation rate went from 31% after the war to 37% by 1955, and to 40% by 1965.

Minorities gained, too. After the 1945 inauguration Eleanor Roosevelt wrote about an African American reporter who told her:

Do you realize what twelve years have done? If at the 1933 reception a number of colored people had gone down the line and mixed with everyone else in the way they did today, every paper in the country would have reported it. We do not even think it is news and none of us will mention it.

Women and minority rights were still a fraction of what they are today. But the progress toward equality in the late '40s and '50s was extraordinary.

The leveling out of classes meant a leveling out of lifestyles. Normal people drove Chevys. Rich people drove Cadillacs. TV and radio equalized the entertainment and culture people enjoyed regardless of class. Mail-order catalogs equalized the clothes people wore and the goods they bought regardless of where they lived. Harper's Magazine noted in 1957:

The rich man smokes the same sort of cigarettes as the poor man, shaves with the same sort of razor, uses the same sort of telephone, vacuum cleaner, radio, and TV set, has the same sort of lighting and heating equipment in his house, and so on indefinitely. The differences between his automobile and the poor man's are minor. Essentially they have similar engines, similar fittings. In the early years of the century there was a hierarchy of automobiles.

Paul Graham [wrote](#) in 2016 about what something as simple as there only being three TV stations did to equalize culture:

It's difficult to imagine now, but every night tens of millions of families would sit down together in front of their TV set watching the same show, at the same time, as their next door neighbors. What happens now with the Super Bowl used to happen every night. We were literally in sync.

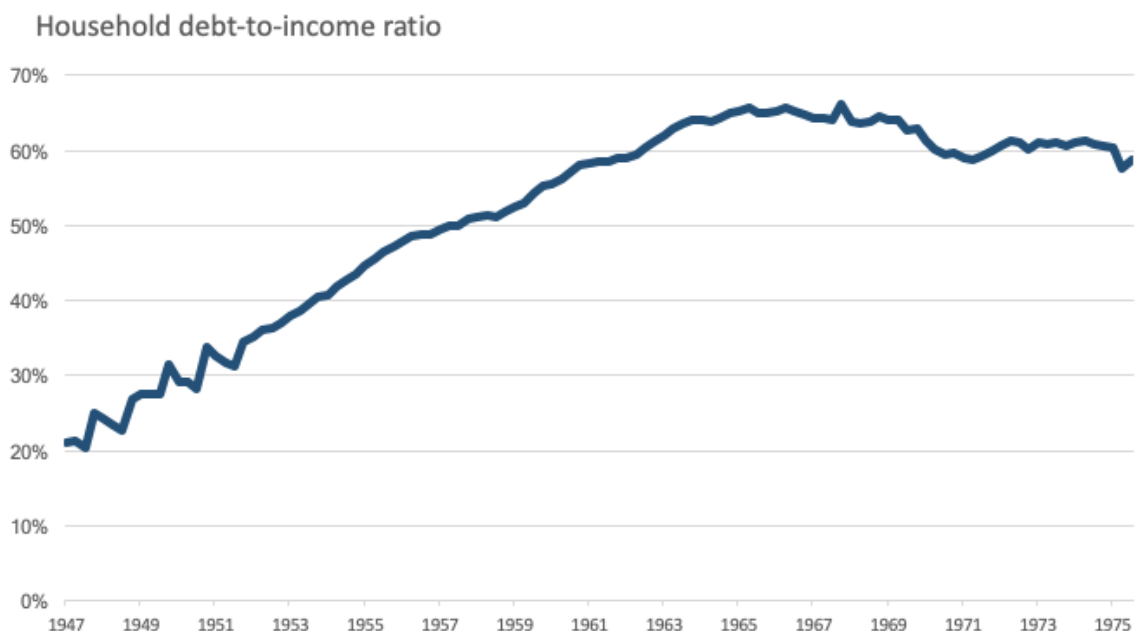
This was important. People measure their well being against their peers. And for most of the 1945-1980 period, people had a lot of what looked like peers to compare themselves to. Many people – most people – lived lives that were either equal or at least fathomable to those around them. The idea that people's lives equalized as much as their incomes is an important point of this story we'll come back to.

5. Debt rose tremendously. But so did incomes, so the impact wasn't a big deal.

Household debt increased 5-fold from 1947 to 1957 due to the combination of the new consumption culture, new debt products, and interest rates subsidized by government programs and held low by the Federal Reserve.

But income growth was so strong during this period that the impact on households wasn't severe. And household debt was so low to begin with after the war. The Great Depression wiped out a lot of it, and household spending was so curtailed during the war that debt accumulation was restricted – that the growth in household debt-to-income was manageable.

Household debt to income today is just over 100%. Even after rising in the 1950s, 1960s, and 1970s, it stayed below 60%:



Driving a lot of this debt boom was a surge in home ownership.

The homeownership rate in 1900 was 46.5%. It stayed right about there for the next four decades. Then it took off, hitting 53% by 1945 and 62% by 1970. A substantial portion of the population was now in debt that, in previous generations, would not – could not – use it. And they were mostly OK with it.

David Halberstam writes in his book *The Fifties*:

They were confident in themselves and their futures in a way that [those] growing up in harder times found striking. They did not fear debt as their parents had ... They differed from their parents not just in how much they made and what they owned but in their belief that the future had already arrived. As the first homeowners in their families, they brought a new excitement and pride with them to the store as they bought furniture or appliances — in other times young couples might have exhibited such feelings as they bought clothes for their first baby. It was as if the very accomplishment of owning a home reflected such an immense breakthrough that nothing was too good to buy for it.

Now's a good time to connect a few things, as they'll become increasingly important:

- America is booming.
- It's booming *together* like never before.
- It's booming with debt that isn't a big deal at the time because it's still low relative to income and there's a cultural acceptance that debt isn't a scary thing.

6. Things start cracking.

1973 was the first year where it became clear the economy was walking down a new path.

The recession that began that year brought unemployment to the highest it had been since the 1930s

Inflation surged. But unlike the post-war spikes, it stayed high.

Short-term interest rates hit 8% in 1973, up from 2.5% a decade earlier.

And you have to put all of that in the context of how much fear there was between Vietnam, riots, and the assassinations of Martin Luther King, John and Bobby Kennedy.

It got bleak.

America dominated the world economy in the two decades after the war. Many of the largest countries had their manufacturing capacity bombed into rubble. But as the 1970s emerged, that changed. Japan was booming. China's economy was opening up. The Middle East was flexing its oil muscles.

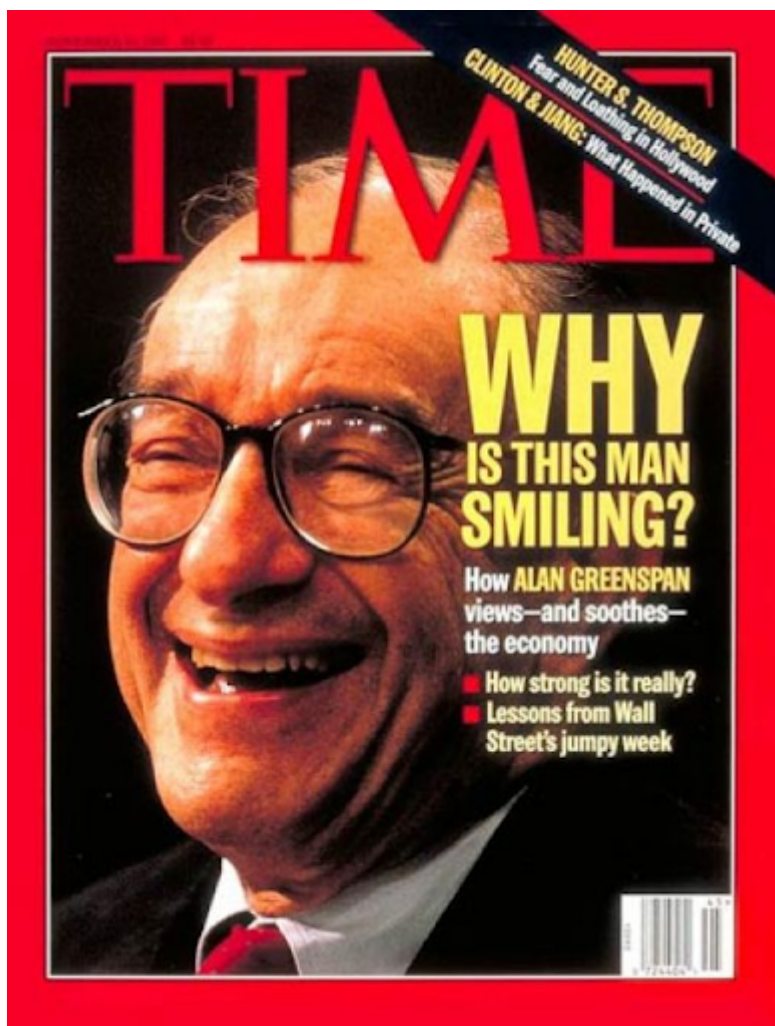
A combination of lucky economic advantages and a culture shared by the Greatest Generation shared — hardened by the Depression and anchored in systematic cooperation from the war — shifted when Baby Boomers began coming of age. A new generation that had a different view of what's normal and expected hit at the same time a lot of the economic tailwinds of the previous two

decades ended.

Everything in finance is data *within the context of expectations*. One of the biggest shifts of the last century happened when the economic winds began blowing in a different, uneven direction, but people's expectations were still rooted in a post-war culture of equality. Not necessarily equality of income, although there was that. But equality in lifestyle and consumption expectations; the idea that someone earning a 50th percentile income shouldn't live a life dramatically different than someone in the 80th or 90th percentile. And that someone in the 99th percentile lived a better life, but still a life that someone in the 50th percentile could comprehend. That's how America worked for most of the 1945-1980 period. It doesn't matter whether you think that's morally right or wrong. It just matters that it happened.

Expectations always move slower than facts. And the economic facts of the years between the early 1970s through the early 2000s were that growth continued, but became more uneven, yet people's expectations of how their lifestyle should compare to their peers did not change.

7. The boom resumes, but it's different than before.



Ronald Reagan's 1984 Morning in America ad declared:

It's morning again in America. Today more men and women will go to work than ever before in our country's history. With interest rates at about half the record highs of 1980, nearly 2,000 families today will buy new homes, more than at any time in the past four years. This afternoon 6,500 young men and women will be married, and with inflation at less than half of what it was just four years ago, they can look forward with confidence to the future.

That wasn't hyperbole. GDP growth was the highest it had been since the 1950s. By 1989 there were 6 million fewer unemployed Americans than there were seven years before. The S&P 500 rose almost four-fold between 1982 and 1990. Total real GDP growth in the 1990s was roughly equal to that of the 1950s – 40% vs. 42%.

President Clinton boasted in his 2000 State of the Union speech:

We begin the new century with over 20 million new jobs; the fastest economic growth in more than 30 years; the lowest unemployment rates in 30 years; the lowest poverty rates in 20 years; the lowest African-American and Hispanic unemployment rates on record; the first back-to-back surpluses in 42 years; and next month, America will achieve the longest period of economic growth in our entire history. We have built a new economy.

His last sentence was important. It was a *new* economy. The biggest difference between the economy of the 1945-1973 period and that of the 1982-2000 period was that the same amount of growth found its way into totally different pockets.

You've probably heard these numbers but they're worth rehashing. *The Atlantic* writes:

Between 1993 and 2012, the top 1 percent saw their incomes grow 86.1 percent, while the bottom 99 percent saw just 6.6 percent growth.

Joseph Stiglitz in 2011:

While the top 1 percent have seen their incomes rise 18 percent over the past decade, those in the middle have actually seen their incomes fall. For men with only high-school degrees, the decline has been precipitous—12 percent in the last quarter-century alone.

It was nearly the opposite of the flattening that occurred after that war.

Why this happened is one of the nastiest debates in economics, topped only by the debate over what we should do about it. Lucky for this article neither matters.

All that matters is that sharp inequality became a force over the last 35 years, and it happened during a period where, culturally, Americans held onto two

ideas rooted in the post-WW2 economy: That you should live a lifestyle similar to most other Americans, and that taking on debt to finance that lifestyle is acceptable.

8. The Big Stretch

Rising incomes among a small group of Americans led to that group breaking away in lifestyle.

They bought bigger homes, nicer cars, went to expensive schools, and took fancy vacations.

And everyone else was watching – fueled by Madison Avenue in the '80s and '90s, and the internet after that.

The lifestyles of a small portion of legitimately rich Americans inflated the aspirations of the majority of Americans, whose incomes weren't rising.

A culture of equality and Togetherness that came out of the 1950s-1970s innocently morphs into a Keeping Up With The Joneses effect.

Now you can see the problem.

Joe, an investment banker making \$900,000 a year, buys a 4,000 square foot house with two Mercedes and sends three of his kids to Pepperdine. He can afford it.

Peter, a bank branch manager making \$80,000 a year, sees Joe and feels a subconscious sense of entitlement to live a similar lifestyle, because Peter's parents believed – and instilled in him – that Americans' lifestyles weren't that different even if they had different jobs. His parents were right during their era, because incomes fell into a tight distribution. But that was then. Peter lives in a different world. But his expectations haven't changed much from his parents, even if the facts have.

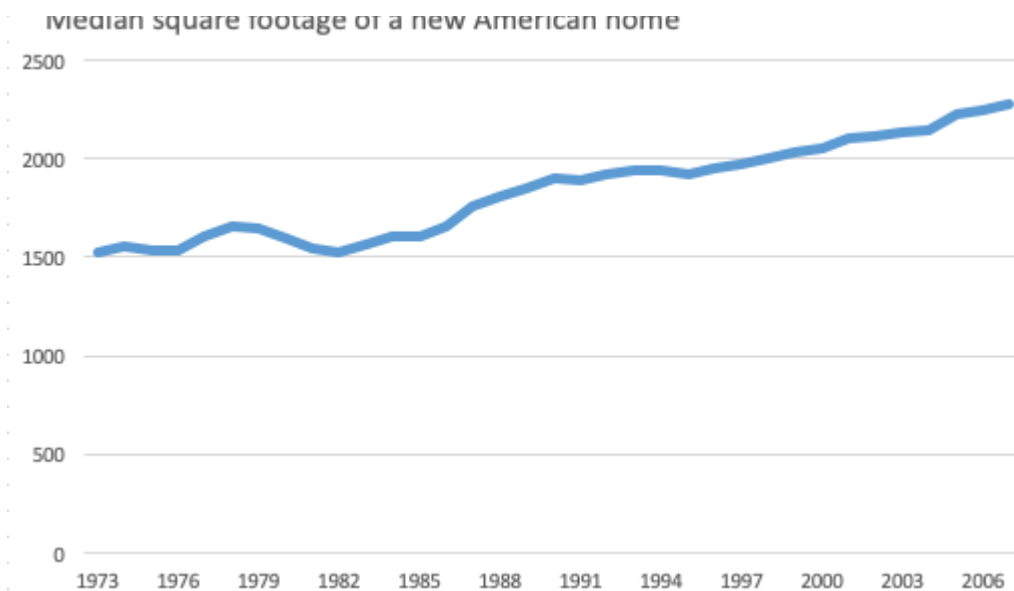
So what does Peter do?

He takes out a huge mortgage. He has \$45,000 of credit card debt. He leases two cars. His kids will graduate with heavy student loans. He can't afford the stuff Joe can, but he's pushed to stretch for the same lifestyle. It is a big stretch.

This would have seemed preposterous to someone in the 1930s. But we've spent a half-century since the end of the war fostering a cultural acceptance of household debt.

During a time when median wages were flat, the median new American home grew 50% larger:

Median new American home

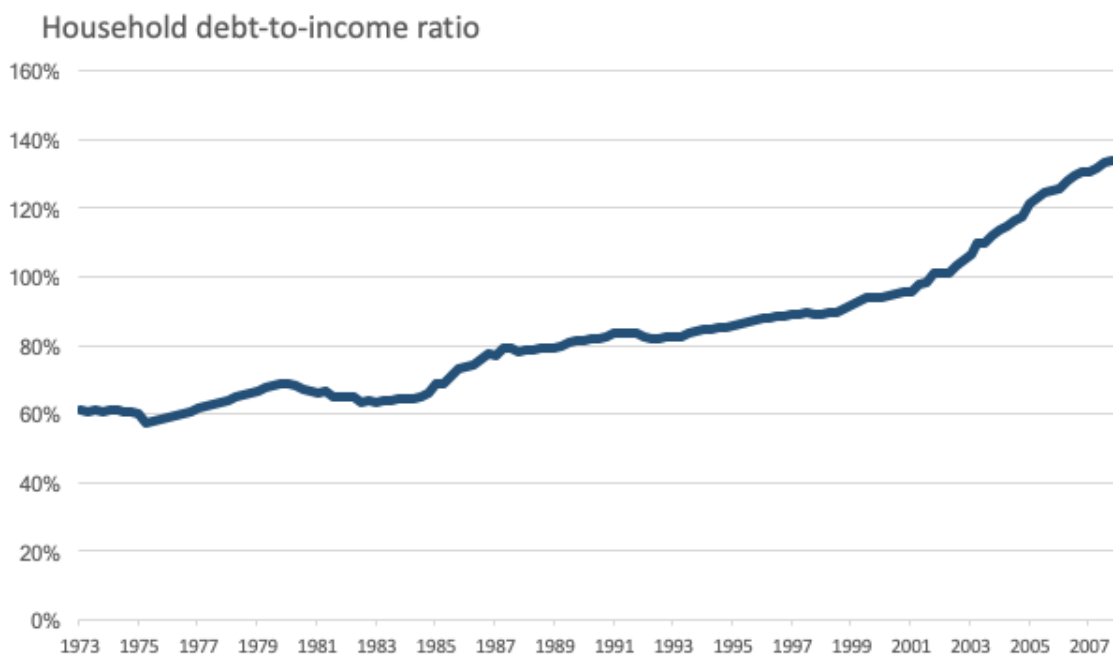


The average new American home now has more bathrooms than occupants. Nearly half have four or more bedrooms, up from 18% in 1983.

The average car loan adjusted for inflation more than doubled between 1975 and 2003, from \$12,300 to \$27,900.

And you know what happened to college costs and student loans.

Household debt-to-income stayed about flat from 1963 to 1973. Then it climbed, and climbed, and climbed:



Even as interest rates plunged, the percentage of income going to debt service payments rose. And it skewed toward lower-income groups. The share of income going toward debt and lease payments is just over 8% for the highest income groups – those with the biggest income gains – but over 21% for those below the 50th percentile.

The difference between this climb and the debt increase that took place during the 1950s and '60s is that the recent jump started from a high base.

Economist Hyman Minsky described the beginning of debt crises: The moment when people take on more debt than they can service. It's an ugly, painful moment. It's like Wile E. Coyote looking down, realizing he's screwed, and falling precipitously.

Which, of course, is what happened in 2008.

9. Once a paradigm is in place it is very hard to turn it around.

A lot of debt was shed after 2008. And then interest rates plunged. Household debt payments as a percentage of income are now at the lowest levels in 35 years.

But the response to 2008, necessary as it may have been, perpetuated some of the trends that got us here.

Quantitative easing both prevented economic collapse and boosted asset prices, a boon for those who owned them – mostly rich people.

The Fed backstopped corporate debt in 2008. That helped those who owned their debt – mostly rich people.

Tax cuts over the last 20 years have predominantly gone to those with higher incomes. People with higher incomes send their kids to the best colleges. Those kids can go on to earn higher incomes and invest in corporate debt that will be backstopped by the Fed, own stocks that will be supported by various government policies, and so on. Economist Bhashkar Mazumder has shown that incomes among brothers are more correlated than height or weight. If you are rich and tall, your brother is more likely to also be rich than he is tall.

None of these things are problems in and of themselves, which is why they stay in place.

But they're symptomatic of the bigger thing that's happened since the early 1980s: The economy works better for some people than others. Success isn't as meritocratic as it used to be and, when success is granted, is rewarded with higher gains than in previous eras.

You don't have to think that's morally right or wrong.

And, again, in this story it doesn't matter why it happened.

It just matters *that it did happen*, and it caused the economy to shift away from people's expectations that were set after the war: That there's a broad middle class without systematic inequality, where your neighbors next door and a few

miles down the road live a life that's pretty similar to yours.

Part of the reason these expectations have stuck around for 35 years after they shifted away from reality is because they felt so good for so many people when they were valid. Something that good – or at least the impression that it was that good – isn't easy to let go of.

So people haven't let go of it. They want it back.

10. The Tea Party, Occupy Wall Street, Brexit, and the rise of Donald Trump each represents a group shouting, "Stop the ride, I want off."

The details of their shouting are different, but they're all shouting – at least in part – because stuff isn't working for them within the context of the post-war expectation that stuff should work roughly the same for roughly everyone.

You can scoff at linking the rise of Trump to income inequality alone. And you should. These things are always layers of complexity deep. But it's a key part of what drives people to think, "I don't live in the world I expected. That pisses me off. So screw this. And screw you! I'm going to fight for something totally different, because this – whatever it is – isn't working."

Take that mentality and raise it to the power of Facebook, Instagram, and cable news – where people are more keenly aware of how other people live than ever before. It's gasoline on a flame. Benedict Evans says, "The more the Internet exposes people to new points of view, the angrier people get that different views exist." That's a big shift from the post-war economy where the range of economic opinions were smaller, both because the actual range of outcomes was lower and because it wasn't as easy to see and learn what other people thought and how they lived.

I'm not pessimistic. Economics is the story of cycles. Things come, things go.

The unemployment rate is now the lowest it's been in decades. Wages are now actually [growing faster](#) for low-income workers than the rich. College costs [by and large stopped growing](#) once grants are factored in. If everyone studied advances in healthcare, communication, transportation, and civil rights since the Glorious 1950s, my guess is most wouldn't want to go back.

But a central theme of this story is that expectations move slower than reality on the ground. That was true when people clung to 1950s expectations as the economy changed over the next 35 years. And even if a middle-class boom began today, expectations that the odds are stacked against everyone but those at the top may stick around.

So the era of "This isn't working" may stick around.

And the era of “We need something radically new, right now, whatever it is” may stick around.

Which, in a way, is part of what starts events that led to things like World War II, where this story began.

History is just one damn thing after another.



Astral Codex Ten | Highlights From The Comments On Ivermectin

-  21 minutes
-

Thanks to everyone who commented on my recent post [Ivermectin: Much More Than You Wanted To Know](#).

Let's start with the negative comments. Leading pro-ivermectin website ivmmeta.com understandably disagreed with my fisting of them. They have a section where they respond to critics (see responses to [Gideon Meyerowitz-Katz](#), to [the BBC](#), to [the parasitic worm hypothesis](#), and to [someone named AT who they won't explain further](#)). I was honored to also get a response here. They write:

[We note a few limitations and apparent biases in the SA/SSC ivermectin analysis.

Author appears to be against all treatments, labeling them all "*unorthodox*" and "*controversial*", even those approved by western health authorities, including casirivimab/imdevimab, bamlanivimab, sotrovimab, and paxlovid.

We encourage the author to at least direct readers to government approved treatments, for which there are several in the [author's country](#), and many more in [other countries](#) (including ivermectin). While approved treatments in a specific country may not be as effective (or as inexpensive) as current evidence-based protocols combining multiple treatments, they are better than dismissing everything as "*unorthodox*". Elimination of COVID-19 is a race against viral evolution. No treatment, vaccine, or intervention is 100% available and effective for all variants — we need to embrace all safe and effective means.

Author notes that: "*if you say anything in favor of ivermectin you will be cast out*"

of civilization and thrown into the circle of social hell reserved for Klan members and 1/6 insurrectionists", suggesting an environment that may bias the information that the author sees, and could unconsciously bias analysis. We note that similar environments influence the design, operation, and publication of some existing (and many upcoming) ivermectin trials.

Author briefly looks at 30 of the 66 studies, which we note is much better than most commenters, but still ignores the majority of studies, including the prophylaxis studies.

The author finds efficacy at $p = 0.04$ in their analysis of 11 of the 30 studies they looked at. We note that simply looking at the other 36 studies will result in much higher confidence in efficacy. We also note that even at $p = 0.04$ with 11 independent studies, a rational risk-benefit analysis results in immediate adoption into protocols (pending stronger data with other combinations of treatments), and immediate collection of more data from sources without conflicts of interest.

However, ultimately the author at least partially supports the two prevailing theories that are commonly used by those against treatment. These theories require disregarding extensive contradictory evidence:

The steps required to accept the *no-significant-effect* outcome are extreme — one needs to find a reason to exclude most of the studies, disregard the strong treatment-delay response relationship, and disregard all prophylaxis studies. Even after this, the result is still positive, just not statistically significant. This does not support a negative recommendation. Widely accepted and effective (subject to dependence on viral variants) treatments like casirivimab/imdevimab, bamlanivimab, and sotrovimab were all approved without statistically significant mortality benefits.

The steps required to accept the *strongyloides-mechanism-only* conclusion are also extreme - we need to disregard the majority of outcomes occurring before steroid use, and disregard the strong treatment-delay response relationship which is contradictory. [Figure 24](#) shows analysis by strongyloides prevalence.

The third-party analysis that author references for the strongyloides theory is confounded by treatment delay — the high prevalence group has more early treatment trials, and the low prevalence group has more late treatment trials, i.e., the analysis reflects the greater efficacy of early treatment. More details can be found in the [strongyloides section](#).

Author seems biased against believing any large effect size. We note that large effect sizes have been seen in several COVID-19 treatments approved by

western health authorities, and also that better results may be expected when studies combine multiple effective treatments with complementary mechanisms of action (as physicians that treat COVID-19 early typically do).

Author is suspicious about a study based on the country of the researchers, and also appears biased against non-native speakers, with comments such as *"unreadable"* for one paper, compared to *"written up very nicely in real English"* for another.

Author calls a physician that has reported zero deaths and 5 hospitalizations with 2,400 COVID-19 patients *"a crazy person"* that *"put his patients on every weird medication he could think of"*.

Author disregards the dramatically higher mortality for Gamma vs non-Gamma variants (aHR 4.73 [1.15-19.41] [[Zavascki](#)]), instead concluding that higher mortality indicates fraud in one instance, while in another instance assuming that the related confounding by time in the Together Trial is not significant.

Author's review of the 30 studies appears cursory, for example author appears unaware that the ivermectin dosage is very different in the ivermectin + doxycycline arm of [[Ahmed](#)].

Author refers to studies with positive but not statistically significant results as *"negative"* [[Mohan](#)], or *"[the] original outcome would also have shown ivermectin not working"* [[López-Medina](#)], which are incorrect conclusions [[Amrhein](#)].

Author appears to accept the analysis and accusations of GMK as correct, however that author is [often incorrect](#).

Author is concerned that we detail problems with [[López-Medina](#)], while correctly noting that the outcomes in this trial are actually positive and in favor of ivermectin (while not statistically significant in isolation).

Author is concerned that we specifically comment on [[López-Medina](#), [Together Trial](#)]. We note that it has been others that have focused on these trials — we comment on them because they have received special attention, including being held up as sole evidence overriding all other trials, despite having major issues.

Author claims that nobody can find issues with [[Vallejos](#)], which suggests that they have not read the study, or our analysis (hover over the reference and select "Notes").

I want to respond to five parts of this.

First, the claim that I "[appear] to be against all treatments, labeling them all "unorthodox" and "controversial", even those approved by western health

authorities, including casirivimab/imdevimab, bamlanivimab, sotrovimab, and paxlovid." They suggest I am turning my readers away from other treatments including ones that are already standard of care in western health systems.

This is false and I don't know where they're getting it from. Corticosteroids, fluvoxamine, and Paxlovid seem provisionally great. I haven't looked into the monoclonal antibodies but if western health authorities say they're fine I have no reason to doubt that. I even think there are plausible arguments (though no proof) for a few less-used options like zinc.

Obviously I urge my readers to get good treatments and not bad treatments. In fact, you even have my permission to pester your doctor about giving you a fluvoxamine prescription if you're in the appropriate stage of COVID and they don't think of it themselves. If they tell you it might have dangerous side effects, tell them that I have more experience with it than they do, and no it doesn't (unless you are bipolar or in some kind of special bizarre high-risk category).

Second, they claim that I only looked at ivermectin for early treatment, and not for prophylaxis. This is true, and I agree a more thorough review would have analyzed the prophylaxis results too. I am not that thorough, and I assume that whatever is going on with the first 30 studies gives you a strong prior on what's going on with the next 30. But they're right that I didn't prove it.

Third, the comments on my analysis. I agree with the ivmmeta people that I throw out many studies. I think this is correct, unless you also want to end up believing in [psychic powers](#), [stereotype threat](#), and [social priming](#). The story of science over the past ten years has been learning that lots of studies suck and that we can't draw conclusions until after eliminating the sucky ones.

Fourth, the comment on my biases. I am happy to own up to most of these. For example, yes, I am (slightly) biased against high effect size studies. See this article on [Impossibly Hungry Judges](#) for where I'm getting my intuitions on this. If you claim a very large effect size, it should be really obvious. If some studies show medium-low effect sizes and others medium-high, that's within the range of normal variability and methodological disagreement and so on. If some studies show it cures literally everyone, and others show it does nothing whatsoever, then something has gone terribly wrong: maybe one group is making up data. If it's a random sketchy guy who has a history of having made up data before (eg Carvallo) vs. huge trials run by legions of prestigious scientists, I'm going to assume it's the first guy. This is especially true in the context of a few good ivermectin studies (eg Mahmud), which show that it has decent effect size like every other drug, but doesn't cure literally everyone. Mahmud disagrees with the ones that find no effect, but it *equally* disagrees with the ones that find it's a

100% perfect cure.

I am happy to own up to being biased against certain countries. I am not sure that the Egyptian scientific community has as strong an anti-fraud mechanism as some other places, given their history of fraudulent papers. I feel bad for innocent Egyptian scientists who might have a harder time getting people to take them seriously as a result, but not so bad that if an Egyptian paper comes up with results much better than everyone else, I'm not going to be suspicious.

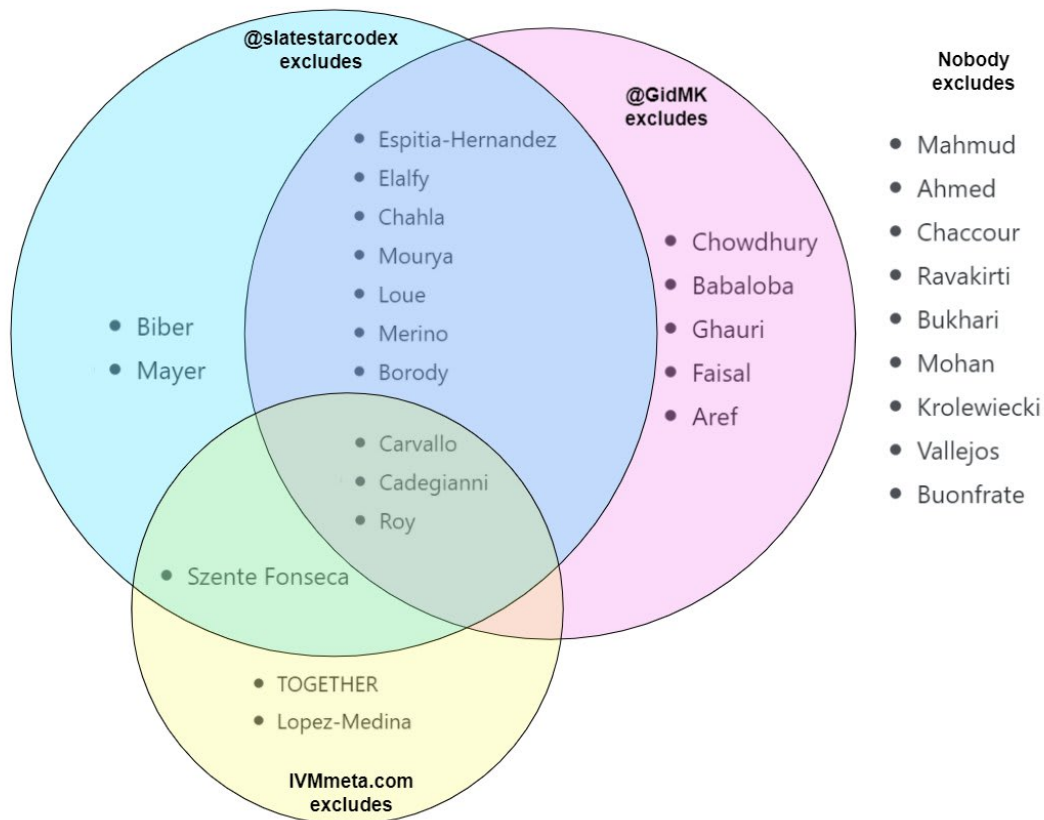
Fifth, the comments on statistical technique. If I understand ivmmeta right, they want to think of every directionally-positive paper as "positive", and every directionally negative paper as "negative", without considering statistical significance, and are upset that I call not-statistically-significant papers "negative". I think this only works if you have a very optimistic view of meta-analyses, which I do not, for reasons ivmmeta itself exemplifies. Ivmmeta links to some papers on abandoning the idea of statistical significance, which I think makes sense in some contexts, but the contexts are "you think two seconds about what you want to replace it with", which I am not sure ivmmeta is doing here.

I actually think this might be more of a crux between us than anything about ivermectin itself. The same people behind ivmmeta have put up websites claiming that 19 different substances, including HCQ, testosterone-blockers, the spice curcumin, vitamins A, C, and D, etc, all cure coronavirus with pretty large effect sizes. I think this is because they are using a nonconventional form of statistics which is always going to find positive effects. I understand and respect why they're doing this - they link [eg this article](#) condemning the idea of statistical significance, which makes good points. But you can't throw it out without having a replacement. I think ivmmeta is trying to pioneer a new way of thinking about science and statistics without p-values, but I think its new way is actually bad and will get positive results almost all the time. I've seen a lot of fruitless debate between ivmmeta and doctors, but I wonder if you could have a fruitful debate between them and statisticians.

I've been thinking about this in the context about how ivmmeta does better and clearer science communication than everyone else. As the saying goes, "for every problem, there is a solution that is simple, elegant, and wrong". The establishment takes a pile of garbage studies, throws lots of kludges and human judgment at it, and comes up with a result it's not great at justifying but which is occasionally right. Ivmmeta is taking the same pile, doing a bunch of simple common-sense stuff to it, presenting it all in a natural and elegant manner, and is doomed to fail. We like to pretend that the scientific method and statistics and so

on are objective, but right now the kludges and human judgment are doing most of the work, and when you take them out the whole thing collapses.

[Alexandros Marinos](#) is the most thoughtful and dedicated ivermectin proponent I know of. He's been thinking a lot about my post, so far without any clear conclusions, but I've enjoyed reading [his process](#), which has also led to helpful explainers like this one:

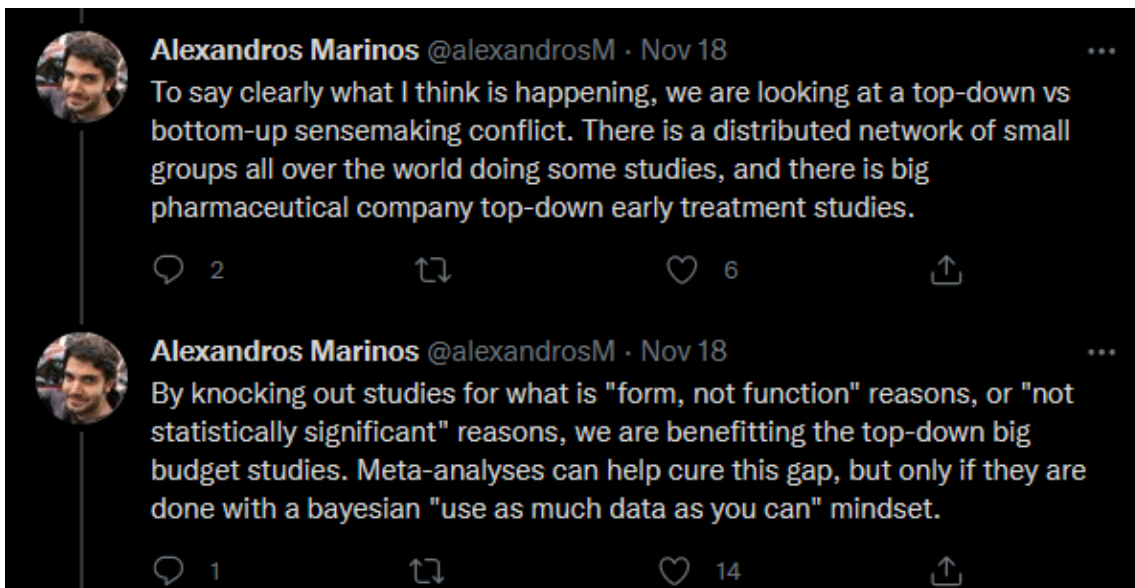


A few points of his I want to discuss in more depth:

He's interested in seeing what happens if we exclude or include different groups of things, which I support. I was hoping to try something like this before I realized how overwhelming doing just the stuff I did was going to be.

I think the main thing I want to cram into his head is how many pseudosciences that *have to be* false have really strong empirical literatures behind them. There are dozens of positive double-blind RCTs of homeopathy. I feel like I can explain what went wrong with these about a third of the time. The rest of the time, I'm as boggled as everyone else, and I just accept that the biggest studies by the most careful people usually don't find effects, plus we should have a low prior on an effect since it's crazy. This makes me pretty willing to shrug and say "Yeah, I have no idea what went wrong here, but a few big RCTs didn't find an effect, plus I have a super-high prior for any new medical thing being false, so whatever, let's move on", which I admit is unvirtuous but I'm not sure how to avoid it.

But also:



I admit this is true and it sucks. I have no solution for it right now. I think of it as like the Large Hadron Collider. If the people who run the LHC ever become biased, we're doomed, because there's no way ordinary citizens can pool all of our small hadron colliders and get equally robust results. It's just an unfair advantage that you get if you can afford a seventeen-mile long tunnel under Switzerland full of giant magnets.

I do think it's occasionally possible to have genuine bottom-up medical research: ketamine seems to have worked this way. Even the trials that found fluvoxamine worked were funded by a random billionaire, which is sort of bottom-up in the sense of not being some established clique of experts with a vested outcome in the result. But I don't think we know how to do this consistently yet, even though it would be cool if we could.

Lots of people were skeptical of the worms hypothesis. Rzztmass [writes](#):

The worms thing is clever, but it doesn't really work.

Hyperinfection syndrome is pretty rare. For it to make even the slightest dent in the numbers, you would have to assume very very high prevalence of Strongyloides and also far higher incidence of hyperinfection syndrome than what has been described.

Even if that were true, you would somehow have to reconcile doctors doing trials in countries where lots of patients have Strongyloides, where the doctors are familiar with steroids causing hyperinfection and then being fine with a trial arm risking to cause just that.

We are willing to accept fraud already and I consider fraudulent data to be more likely by far than doctors knowingly putting their patients at risk of dying just for

nice looking data.

The more realistic stance though is that death or worsening due to hyperinfection is a rather rare outcome and doesn't influence numbers significantly. That's why the doctors in those countries went along with a study that would otherwise be unethical. I still don't know where the significance comes from, but it's not *strongyloides* hyperinfection.

Something like this was also the objection of Bret Weinstein, a biologist, podcaster, and author who's been another big ivermectin proponent:

I agree this is speculative and not yet tested by formal studies, which was why I only gave it ~50% confidence in the summary at the end of my post.

(I also am kind of embarrassed because I think I failed to emphasize enough that I didn't invent this hypothesis. Credit and/or blame should go to Drs. [Avi Bitterman](#), [David Boulware](#), and the [many people](#) who have published work on treating COVID in parasite-filled areas)

But a few points:

Although *strongyloides* hyperinfection is a particularly obvious way worms can be bad, it's probably not the main one. There are lots of kind of worms that can be bad in lots of kinds of ways.

But I'm also not as skeptical as Rzztmass. We don't have to speculate about whether doctors in parasite-prone areas would give steroids - we know they did! Dr. Bitterman asked and lots of these trials admitted giving steroids to their patients. Ravakirti gave steroids to [the entire control group](#), Lopez-Medina gave it to some controls. It happened! We know it happened!

But even *strongyloides* itself isn't actually that uncommon. In Bangladesh, where some of the best positive trials come from, seroprevalence is [5-22%](#). And in Ravakirti, one of the studies in East India (which I assume is similar), got corticosteroids.

The entire ivermectin advantage in Ravakirti et al comes from 4/50 people dying in the control group compared to 0/50 in the experimental group. If they have 10% *strongyloides* prevalence and half of infected people who take steroids get a bad reaction, that explains half of the effect. The other half could be coincidence / other worms / I'm underestimating the effect of strongyloidiasis / real positive effects of ivermectin, but I don't think the effect of *strongyloides* is obviously of the wrong magnitude to matter here.

See further discussion by Dr. Bitterman [here](#) and [here](#)..

By the way, the *strongyloides* hypothesis made it into the *Economist* [here](#).

GeriatricZergling [writes](#):

My other replies are scattered all over the place, so I'll just add this as a top level comment, pertaining the the general point of "parasites fucking with your immune system even without clinical hyperinfection".

From [Weatherhead & Mejia 2014](#), who are themselves reviewing this stuff before delving into hyperinfection:

"The host innate and adaptive immune response plays a critical role in the maintenance of chronic strongyloidiasis and the prevention of hyperinfection syndrome and dissemination. Similar to other helminth infections, strongyloidiasis elicits a Th-2 lymphocyte predominant immune response with production of cytokines, IgE antibodies, eosinophils, and mast cells which participate in expulsion and killing of the helminth [3, 7, 11]. Strongyloides antigens activate eosinophils via the innate immune response [12]. Activated eosinophils act as antigen presenting cells to stimulate antigen-specific Th-2 cytokine production including IL-4 and IL-5 [8•, 12]. IL-4 induces activated B lymphocytes to class-switch for production of IgE and IgG4 antibodies and additional cytokines (IL-8) attract granulocytes such as neutrophils to aid in larvae killing [7, 11, 12]. IgE production allows for mast cell degranulation and enhances further eosinophil migration [8•]. IL-5 acts as an eosinophil colony stimulating factor promoting further eosinophil growth and activation [8•, 11, 12]. Approximately 75 % of patients with chronic strongyloidiasis have peripheral eosinophilia or elevated total IgE levels [4, 12]. Protective immunity to infective larvae has been found to involve specific Strongyloides antibodies, complement activation and neutrophils in antibody-dependent, cell-mediated cytotoxicity type responses [11]. Patients with severe disease have been shown to have a significant decrease in antibody levels and a decrease in eosinophil level compared to asymptomatic infected individuals, suggesting that both antibodies and granulocytes play a significant role in protection from infection [11]. The sophisticated interaction between strongyloidiasis and the host immune system allows for long-term survival of the pathogen in the host gastrointestinal tract."

Note again that this is describing **the effects of normal, run-of-the-mill strongyloidiasis in immunocompetent patients**; literally the next sentence after my quote ends starts talking about what happens when the patient's immune system starts being suppressed or otherwise behaving abnormally for other reasons.

As I mention elsewhere, immunology is literally the part of biology I'm worst at,

and my knowledge comes from a "host-parasite-evolution" background instead, so I cannot translate this into anything clinical. But what it does show is that the specific parasites affected by ivermectin will impair the host immune system in a variety of ways even at normal, non-hyperinfection levels, and this is a typical thing for strongyloidiasis. This, in turn, is strong evidence for the overall hypothesis of "COVID + strongyloidiasis is worse than regular COVID, so killing the worms should help."

On the other hand, there's [some speculation](#) that having some kinds of parasitic worms might *help* COVID. Remember, a lot of COVID deaths are because your immune system over-reacts and causes too much collateral damage; this is why immunosuppressants like corticosteroids are so useful. But parasitic worms are constantly trying to sabotage your immune system to prevent it from killing them, so people with chronic worm infections are already a little immunosuppressed, which is probably good for them. Probably the exact good/bad balance depends on the specific worm, infection, and person involved.

[gettotea](#) writes:

I agree. Scott needs to factor in regional prevalence. Trials are run in more sophisticated cities, where prevalence of worms would be far less than the outskirts. I live in Chennai, India, and prevalence of worms would be orders of magnitude away from a randomly picked village in India.

Trials are also run in pretty well funded hospitals, which again naturally have a self-selection for wealthier people who again will be far less likely to have worms.

Mahmud et al was run in Dhaka, which was where my former 5-22% *strongyloides* number was taken from - 22% in the slums, 5% elsewhere.

Ravakirti et al was run in Patna. I can't find strongyloides prevalence numbers there, but [this study](#) says 63% of people there have at least one intestinal parasite.

Also, I have spent approximately two hours in Patna, and although I mostly stayed in the bus station, I still got a very strong "probably full of parasitic worms" vibe from the place.

The TOGETHER trial was a very large and official study that was pessimistic about ivermectin working. We still don't have the full paper, but ivermectin proponents are skeptical partly because of a possibility that the treatment and control groups entered at different times. This could potentially confound the study since differently-severe variants were entering the country. But James

Watson [writes](#):

I don't think that it is correct that they used non-contemporaneous controls for the ivermectin TOGETHER study. This is a well-known problem in adaptive trials where new arms can enter and leave the platform. The controls that they will have used are only those who could have been randomised to ivermectin. See for example their write up of fluvoxamine ([https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(21\)00448-4/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(21)00448-4/fulltext))

He also adds:

Regarding fluvoxamine: interesting that your assessment is that it "works". From a Bayesian perspective, a priori it's highly unlikely to do anything (some random doc decided to test because why not; no known mechanism of action); and there is a real problem of post-randomisation bias. See this article for more detail <https://www.the-scientist.com/news-opinion/a-closer-look-at-the-new-fluvoxamine-trial-data-69369>

Huh, I'd heard it's a sigma receptor agonist, which decreases immune system overresponse, which is probably what we want. I agree people thought of this post-hoc, but it's not a terrible explanation.

...though it's possible I'm overstepping my expertise here to someone who knows much more than I do, since I notice the statistician and trial design expert quoted in that *Scientist* article is also named...James Watson. Hopefully he isn't also the DNA guy or I'll be *totally* out of my league.

Moving to the more political sections, [The-Serene-Hudson-Bay](#) writes:

I think also missing is the behavior of conservative political and media elites, who are actually in a social class where they might have immunologist relatives but who kept up anti-blue tribe COVID skepticism. Trump is vaccinated, Fox News has an internal vaccine passport system, these are the people best positioned to persuade skeptics motivated by 'hostile aliens' and they refuse to do it because maximal ongoing culture war serves their interests.

Many people said something similar. I'll admit I'm confused what's going on here. Articles like [Trump Booed In Alabama After Promoting COVID Vaccine](#) make me think that the conservative elites know it works, have gotten vaccinated, briefly tried recommending this to their constituents, learned their constituents didn't like this, and since then have been [awkwardly punting](#) questions about it.

The conservative elites backing off doesn't seem to require an interesting explanation - yeah, populists will drop positions that the populace turns out to

hate. So the interesting question is why the (conservative) populace hates it so much, which is what I tried to speculate on.

I also think people are overestimating conservative elites' role here by deliberately conflating opposition to vaccine *mandates* with opposition to *vaccines*. A lot more elites have come out in favor of the first than the second.

The people [on Hacker News](#) were extremely kind to me. [csee](#) wrote:

(While reading this piece I got a little depressed that most journalism is just such utter trash compared to it. I've read so many articles on ivermectin and none of them gave me even ten percent of the clarity that this article gave me. Can you imagine if writing and journalism of this calibre was commonplace among practising "journalists"? And look at how this piece compares to the CDC's and WHO's science communication. It's a shame that clear thinking and communication is so scarce.

[nonameiguess](#) responded:

(While Scott has a pretty decent natural talent for writing, he also has a MD, he's a board licensed practicing psychiatrist who has been working for a decade in the field, and he has spent at least the last twenty years gaining a pretty decent broad exposure to statistical and research methods. I don't believe he disclosed what Substack paid him, but he is in the "paid tier" and has said it was a mistake to even agree to that because the subscriptions he has gotten exceed what Substack paid him. In short, if you want most journalism to hire licensed medical doctors with decades of experience in science and statistics, and natural writing talent on top of that, expect journalism to get a lot more expensive. A market certainly exists for Scott, but I'm not sure the market exists for all journalists to be as highly qualified as Scott. Or, for that matter, even for CDC and WHO PR arms. They definitely aren't paying their communications officers whatever Substack is paying Scott, or probably even what his psychiatry practice is paying him.

I'm not publishing this exchange *just* because I like compliments, I actually have a relevant story here. When I was working on the ivermectin post, I mentioned it to a friend who's a journalist. She shocked me by reciting a list of all the same studies I'd been looking at, her (completely correct) opinion on each, and then ending with the same conclusion I did (any remaining positive signal after you remove the fraudulent studies might be because of worms). I asked why her article hadn't said any of this. She said that, in consultation with her editor, they decided that reviewing all the studies would have taken too much space, and mentioning the worms would have been too speculative.

I was flabbergasted. I thought I was doing some pretty novel journalistic research here, better than all the other science communicators, but here I was just lucking out by not having an editor telling me to maintain normal journalistic standards of concision and evidence. I think this journalist was very unrepresentatively good - but it was still a bit of a wakeup call.

My biggest advantages over many articles that were less comprehensive than mine were having Substack - a great platform that lets me publish whatever I want - and even more important, having all you excellent readers who are masochistic enough to read ten thousand word essays speculating about intestinal parasites. So thanks for that, and give journalists a break.

(except of course the *New York Times*. Ecrasez l'infame!)

In response to a request to hear a vaccine skeptic's perspective, Tophattington [writes](#):

I am not a vaccine sceptic, I simply refused to take them as one of the few means I have available to protest against lockdowns, [particularly as the government here \[UK\] used covid-19 as an excuse to arrest well over a hundred political dissidents in a single day](#). This became more strident as I oppose the way that lockdowns and other restrictions have created an element of duress to taking medical treatment, and also the way regions of the country have set up systems specifically intended to discriminate against unvaccinated people.

To mandate vaccines is to state that humans are all born defective, and only become non-defective after jumping through state-approved hoops. It is philosophically corrosive to everything I believe in. It's the kind of thing that the avant-garde of progressivism would have called "biopower" before they conveniently forgot about the subject in 2020.

The hostile alien analogy is missing a key part in all this. The hostile actions aren't far in the past, but instead began in March 2020 with lockdowns, and remain ongoing. The moment governments around the world granted themselves unchallengeable authority over the minutia of private life, and placed their entire populations under house arrest, the growth of opposition to vaccination became inevitable. This is real, serious harm, inflicted upon billions. It's a scale that I still struggle to wrap my head around.

As the entire visible medical establishment fell in line with this power-grab, I consider them untrustworthy too. How can I believe that the average doctor cares about my health when the average doctor was happy for the British regime to abuse me like this? But I have enough skill to just read the vaccination study results myself and see that it's effective but not effective enough to leave the

regime with no excuses to continue restrictions. That's all that ends up separating me from an active opponent to vaccination.

This is why opponents to lockdown and opponents to vaccination overlap. Despite claims that this is illogical because vaccines are a way to end restrictions (they're not, and Europe is currently proving this, Gibraltar most notably). Sure, this means I have some strange allies, but to crib off something that probably wasn't said by Muhammad Ali: *No anti-vaxxer ever locked me down.*

I kind of sympathize with this (and am considering refusing the booster to protest them not sending spare doses to the Third World), but refusing to get vaccines seems like the most counterproductive way to protest lockdowns. Not only will it ensure the lockdowns last longer (because there are more cases), but it'll just provide pro-lockdown people with an easy opportunity to tar all their opponents as science deniers.

I guess it depends whether you trust people that vaccines will at least slightly reduce cases, and that reductions in cases will lead to fewer lockdowns. I think it's easy to get discouraged about this given the many "okay, in just a few weeks this will all be over and we can reopen for real" bait-and-switches, but in the long run I do think we've gotten less locked down as case numbers have declined. I don't know how much of that has been epidemiologists agreeing the crisis is less severe vs. anti-lockdown activists forcing governments' hands.

And all of this is here in the US. I understand a lot of other places are having some really weird experiences right now, and I hope everyone's okay.



Ness Labs | The boredom paradox: how to turn boredom to your advantage

-  **5 minutes**

When did you last feel bored? Was it during a never-ending Zoom call, or one hour into a mind-numbing dinner party conversation? Although many assume boredom reflects our increased leisure time and reliance on technology, people have complained about boredom since ancient times.

For instance, the Roman philosopher Seneca [wrote](#) of the restlessness of

boredom, noting its potential to reduce motivation and increase inaction. However, boredom does not need to be a negative experience. When recognised and harnessed correctly, it can be used as a tool to boost both happiness and creativity. That's the boredom paradox.

A rainbow of boredom

Boredom may seem like one and the same, but researchers have actually [identified](#) five different types of boredom. Depending on their personality, most people experience just one of these forms of boredom throughout their lifetime.

Dr Thomas Goetz explains: "We speculate that experiencing specific boredom types might, to some degree, be due to personality-specific dispositions."

Understanding the type of boredom you tend to experience is the first step in turning it to your advantage. Here are the five types of boredom identified by researchers:

1. **Calibrating boredom.** Calibrating boredom is the unpleasant feeling of wanting to do something different, but not knowing what. If something appealing comes up, then you will likely have the drive to pursue it. The difficulty lies in thinking of any alternatives.
2. **Searching boredom.** Like calibrating boredom, your experience makes you feel unhappy. However, you remain proactive and focused in searching for something that will appease restlessness. If a suitable alternative cannot be found, some will then find themselves experiencing reactant boredom.
3. **Reactant boredom.** Reactant boredom is associated with anger and frustration. You twitch and squirm, feel tense and are desperately seeking an escape route. It is the most unpleasant type of boredom.
4. **Indifferent boredom.** Rather than feeling irritable or restless, you might appear calm, relaxed, or withdrawn. Some people who experience indifferent boredom do not find it to be an unpleasant experience, but rather a chance to relax and recoup.
5. **Apathetic boredom.** The most recently discovered form of boredom, apathetic boredom, can feel like helplessness and has the potential to contribute to depression. Feelings of unhappiness are present, but you may have little drive to do anything about, leading to a vicious cycle of chronic apathy.

Boredom is a universal experience, but some of us are far more susceptible to it than others, and may be more susceptible to one type of boredom compared to another. Whatever the type of boredom you experience, it is a signal that it is

time to make a change. Instead of suffering through it, you can use boredom as a springboard to something new and exciting.

The two sides of boredom

Some people have an increased propensity to boredom: they get bored more easily, and they stay bored for longer. These people experience more negative outcomes related to boredom [including](#) attention deficits, reduced motivation, withdrawal, unhealthy eating, low mood, fatigue, and counterproductive behaviour.

In a quest to rid themselves of the unpleasantness of boredom, unhealthy behaviours such as [gambling](#) or [internet addiction](#) can be triggered. People who suffer from substance abuse have a predisposition towards sensation seeking, but when boredom occurs, they [may turn](#) to drug use to satisfy the need for arousal. The increased desire for sensory stimulation may also lead to other risk-taking behaviours.

Conversely, those who are less prone to boredom may be better at noticing the signal and acting upon it. If boredom occurs due to a lack of sensory stimulation, a proactive search for an activity to offset this feeling begins. These people may be strongly motivated to strive for new achievements, try novel experiences, or reframe a dull situation to make it seem more interesting. Or they may decide to embrace the moment and [let their mind wander](#).

Being bored at work can actually increase creativity because it gives us time to daydream. Dr Sandi Mann and Rebekah Cadman [reported](#) that “boredom at work has always been seen as something to be eliminated, but perhaps we should be embracing it in order to enhance our creativity.” Boredom [can also](#) increase arousal levels, making it easier to focus and respond to events. Experiencing boredom can therefore be the perfect opportunity to strive for happiness or embark on new creative projects.

Reframing boredom

With technology at our fingertips, it is easy to think we can placate boredom by mindlessly scrolling through social media. However, a [study](#) showed that using your smartphone to manage boredom could leave you feeling increasingly bored and even more fatigued.

Instead, finding ways to reframe boredom will allow you to use it as a constructive tool, rather than suffer through a negative experience. There are several simple strategies you can employ to advantageously deal with boredom

when it arises.

First, reframe the situation. Commit to noticing when boredom, and any associated negative thought patterns, slip in. By being mindful of your thoughts, you can take steps to challenge them. If you feel bored, what can you do to change your current emotional state? If you can see boredom as a challenge to overcome, rather than a threat, you will be able to turn it into a more positive experience.

For example, if work has become exceedingly boring, or you are going through a dry spell as a freelancer, see your quiet days as an opportunity to approach new clients, embark on an exciting project, or to undertake the online course that you now have time for.

You can also use boredom as a way to ignite your intrinsic motivation for creativity. Teresa Amabile [writes](#) that “people will be most creative when they feel motivated primarily by the interest, satisfaction and challenge of the work itself — and not by external pressures”. Think about what you would like to achieve, or what you enjoy, and use your boredom to create something for the sake of creativity.

If you have calibrating boredom and cannot think of anything to do, try something completely new. Paint a picture, go for a cycle ride, or follow a new recipe. The activity might be outside your comfort zone, but it will alleviate boredom and could spark an unexpected interest.

As an ambitious person, it can be hard to let go of the drive to accomplish something in every minute of your day. If you can resist filling your day, periods of boredom could become reserved for relaxation. Rather than haphazardly searching for something to alleviate uncomfortable feelings, you can think more constructively about how best to spend your time to recharge and recoup. Read the novel you bought but never found time to open, start a journal or give yourself time to soak in the bath. With your batteries recharged, you will not only feel energised but will be better equipped to manage future episodes of boredom.

Finally, you could also... Do nothing! Being bored can be reframed as a luxury. If you can put up with the initial restlessness, being bored could lead to a sense of peace that may even see you daydreaming of new ideas to shape your life for the better.

However you experience boredom, its symptoms are a signal of an ongoing emotional process. When it feels like there is nothing to do, or you notice you feel restless or weary, you can avoid relying on harmful behaviours to counteract

your distress. Pay attention to how you feel and begin reframing your thoughts positively to motivate your innate creativity. You can even turn boredom on its head by cultivating a peaceful environment for self-care, allowing time to recharge and refresh your mind.

The post [The boredom paradox: how to turn boredom to your advantage](#) appeared first on [Ness Labs](#).



Import AI | Import AI 275: Facebook dreams of a world-spanning neural net; Microsoft announces a 30-petaflop supercomputer; FTC taps AI Now for AI advice

-  5 minutes
-

FTC hires three people from AI Now:

...What's the opposite of industry capture?...

The Federal Trade Commission has announced a few new hires as Lina Khan builds out her senior staff. Interestingly, three of the hires come from the same place – AI Now, an AI research group based at NYU. The three hires are Meredith Whittaker, Amba Kak, and Sarah Myers West, who will all serve as advisors on AI for the FTC.

Read more: [FTC Chair Lina M. Khan Announces New Appointments in Agency Leadership Positions \(FTC blog\)](#).

#####

Facebook builds a giant speech recognition network – plans to analyze all of human speech eventually:

...XLS-R portends the world of gigantic models...

Researchers with Facebook, Google, and HuggingFace have trained a large-scale neural net for speech recognition, translation, and language identification. XLS-R uses around 436,000 hours of data, almost a 10X increase from an earlier system built by Facebook last year. XLS-R is based on wav2vec 2.0, covers 128 languages, and the highest-performing network is also the largest, weighing in at 2Billion parameters.

When bigger really does mean better: Big models are better than smaller models. “We found that our largest model, containing over 2 billion parameters,

performs much better than smaller models, since more parameters are critical to adequately represent the many languages in our data set,” Facebook writes. “We also found that larger model size improved performance much more than when pretraining on a single language.”

Why this matters: Facebook’s blog has a subhead that tells us where we’re going: “Toward a single model to understand all human speech”. This isn’t a science fiction ambition – it’s an engineering goal that you’d have if you had (practically) unlimited data, compute, and corporate goals that make your success equivalent to onboarding everyone in the world. The fact we’re living in a world where this is a mundane thing that flows from normal technical and business incentives is the weird part!

Read more:[XLS-R: Self-supervised speech processing for 128 languages \(Facebook AI Research, blog\)](#).

Read the paper:[XLS-R: Self-supervised Cross-lingual Speech Representation Learning at Scale \(arXiv\)](#).

Get the[models from HuggingFace \(HuggingFace\)](#).

#####

Federal Trade Commission AI advisor: Here’s why industry capture of AI development is bad:

...How modern AI development looks a lot like cold war weapons development...

Meredith Whittaker, an AI activist, academic, and [advisor to the US FTC](#), has written an analysis for *ACM Interactions* of the ways in which industrial development of AI is altering the world. The gist of the piece is that the 2012 ImageNet result pushed AI towards being captured by corporations, as the techniques used in that result proved to scale well with data and compute – which industry has a lot of, and academia has less of.

Cold war AI: We’ve been here before: The concentration of industry has echoes of the cold war, where the US state was partially cannibalized by industrial suppliers of defense equipment and infrastructure.

What do we do: “scholars, advocates, and policymakers who produce and rely on tech-critical work must confront and name the dynamic of tech capture, co-optation, and compromise head-on, and soon”, Whittaker writes. “This is a battle of power, not simply a contest of ideas, and being right without the strategy and solidarity to defend our position will not protect us.”

What does this mean: The critique that industry is dominating AI development is a good one – because it’s correct. Where I’m less clear is what Whittaker is able to suggest as a means to accrue power to counterbalance industry, while

remaining true to the ideologies of big techs' critics. Big tech is able to gain power through the use of large-scale data and compute, which lets it produce artefacts that are geopolitically and economically relevant. How do you counter this?

Read more: [The steep cost of capture \(ACM Interactions\)](#).

#####

Microsoft announces 30-petaflop cloud-based supercomputer:

...Big clouds mean big compute...

Microsoft says its cloud now wields one of the ten most powerful supercomputers in the world, as judged by the *Top500* list. The system, named Voyager-EUS2, is based on AMD EPYC processors along with NVIDIA A100 GPUs.

Fungible, giant compute: Not to date myself, but back when I was a journalist I remember eagerly covering the first supercomputers capable of averaging single digit petaflop performance. These were typically supercomputers installed by companies like Cray at National Labs.

Now, one of the world's top-10 supercomputers is composed of (relatively) generic equipment, operated by a big software company, and plugged into a global-scale computational cloud (Azure). We've transitioned in supercomputing from the era of artisanal building to industrial-scale stamping out of infrastructure. While artisanal stuff will always be true for the bleeding edge frontier, it feels notable that a more standardized industrial approach gets you into the top 10.

Read more:[Microsoft announces new NDm A100 v4 Public AI Supercomputers and achieves Top10 Ranking in TOP500 \(Microsoft\)](#).

Read more:[Still waiting for Exascale: Japan's Fugaku outperforms all competition once again \(Top500 site\)](#).

#####

Tech Tales:

The Experiential Journalist

[East Africa, 2027]

After wars got too dangerous for people, journalists had a problem – they couldn't get footage out of warzones, and they didn't trust the military to tell them the truth. There was a lot of debate and eventually the White House did some backroom negotiations with the Department of Defense and came up with the solution: embedded artificial journalists (EAJ).

An EAJ could be deployed on a drone, on a ground-based vehicle, or even on the onboard computers of the (rarely deployed) human-robot hybrids. EAJs got built by journalists spending a few weeks playing in a DoD-designed military simulation game. There, they'd act like they would in a 'real' conflict, shooting stories, issuing reports, and so on. This created a dataset which was used to finetune a basic journalist AI model, making it take on the characteristics of the specific journalist who had played through the sim.

So that's why now, though warfare is very fast and almost unimaginably dangerous, we still get reports from 'the field' – reports put together autonomously by little bottled up journo-brains, deployed on all the sorts of horrific machinery that war requires. These reports from 'the front' have proved popular, with the EAJs typically shooting scenes that would be way too dangerous for a human journalist to report from.

And just like everything else, the EAJs built for warzones are now coming home, to America. There are already talks of phasing out the practice of embedding journalists with police, instead building a police sim, having journalists play it, then deploying the resulting EAJs onto the bodycams and helmets of police across America. Further off, there are even now whispers of human journalists becoming *the exception* rather than the norm. After all, if EAJs shoot better footage, produce more reports more economically, and can't be captured, killed, or extorted, then what's there to worry about?

Things that inspired this story: Baudrillard's ideas relating to Simulation and Simulacra; fine-tuning; imagining the future of drones plus media plus war; the awful logic of systems and the processes that systems create around themselves.



Tim Harford | My books of the year 2021

-  2 minutes
-

Ananyo Bhattacharya, [The Man From the Future](#) – A biography not only of the genius's genius, John von Neumann, but also of von Neumann's ideas and influence, which are nearly impossible to exaggerate. Serious and brilliantly-written.

David Bodanis, [The Art of Fairness](#) – A delightful and moving exploration of nice

guys, nasty guys, and what it takes to succeed without being a jerk.

Michael Brooks, [The Art of More](#) – The history of how ideas in mathematics (such as algebra, geometry, statistics and accountancy) helped to shape the modern world. Given my own [predelictions](#) I was delighted with this book.

Oliver Burkeman, [Four Thousand Weeks](#) – Did you want a strangely moving mix of [Getting Things Done](#), [Being and Time](#), and the [Tao of Pooh](#)? It's here. Burkeman's book is one of the hits of the summer and deservedly so.

Jordan Ellenberg, [Shape](#) – A really fun, witty exploration of ideas in geometry and their surprisingly wide-ranging application.

Julia Galef, [The Scout Mindset](#) – A charming and original contribution to the genre on being open-minded and curious. Great stories and ideas, alongside a serious argument for the virtues of exploring rather than defending ideas.

Malcolm Gladwell, [The Bomber Mafia](#) – Gladwell's podcast company Pushkin publishes my [Cautionary Tales](#) podcast, but is also experimenting with 'enhanced audiobooks'. This is their first attempt and it's a cracker.

Adam Grant, [Think Again](#) – Grant is always witty and humane, but assembles a terrific range of ideas and research to analyse and overcome the obstacles to rethinking our own views and (even harder) persuading others to rethink theirs.

Steven Johnson, [Extra Life](#) – Johnson explores the astonishing expansion in life expectancy over the last two hundred years, and asks how we measure it and who – and what – deserves the credit. Wide ranging and a pleasure to read.

Daniel Kahneman, Cass Sunstein & Olivier Sibony, [Noise](#) – when I [interviewed him](#), Kahneman all but admitted that this is not a life's-work-masterpiece like [Thinking Fast and Slow](#). It is, however, brimming with interesting thoughts.

Cal Newport, [A World Without Email](#) – this is marketed as a self-help book by a self-help guy, but it's much more than that. Newport delves into the manufacturing productivity revolution of the late 19th and early 20th century and makes a serious case that we need (and can get) the same kind of revolution in knowledge work.

Steven Pinker, [Rationality](#) – the joy of this book (other than Pinker's playful wit) is the sheer range. It's a crash course in game theory, logic, statistics, political science, moral philosophy, etc. etc. Perfect pre-reading for your PPE degree, but guaranteed to teach you something.

Adam Rutherford and Hannah Fry, [The Complete Guide to Absolutely Everything](#) – just delightful, wide-ranging stuff from the surely best science-communication

double-act in the world. The perfect gift for the nerd in your life.

Gillian Tett, [Anthro-Vision](#) – my colleague Gillian Tett makes the case for thinking like an anthropologist in business and in life. The description of how KitKats took Japan by storm is a particular delight.

I've set up a storefront on Bookshop in the [United States](#) and the [United Kingdom](#) – have a look! Bookshop is set up to support local independent retailers. Links to Bookshop and Amazon may generate referral fees.

[*The paperback of "How To Make The World Add Up" is now out. US title: "The Data Detective".*](#)

"If you aren't in love with stats before reading this book, you will be by the time you're done."- Caroline Criado Perez (*Invisible Women*)

[*The paperback of "The Next 50 Things That Made The Modern Economy" is now out in the UK.*](#)

"Endlessly insightful and full of surprises — exactly what you would expect from Tim Harford."- Bill Bryson




Not Boring by Packy McCormick | Idea Legos

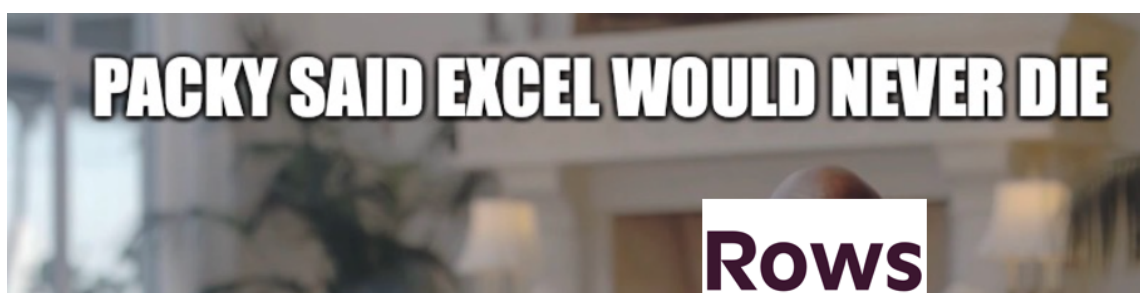
-  **10 minutes**

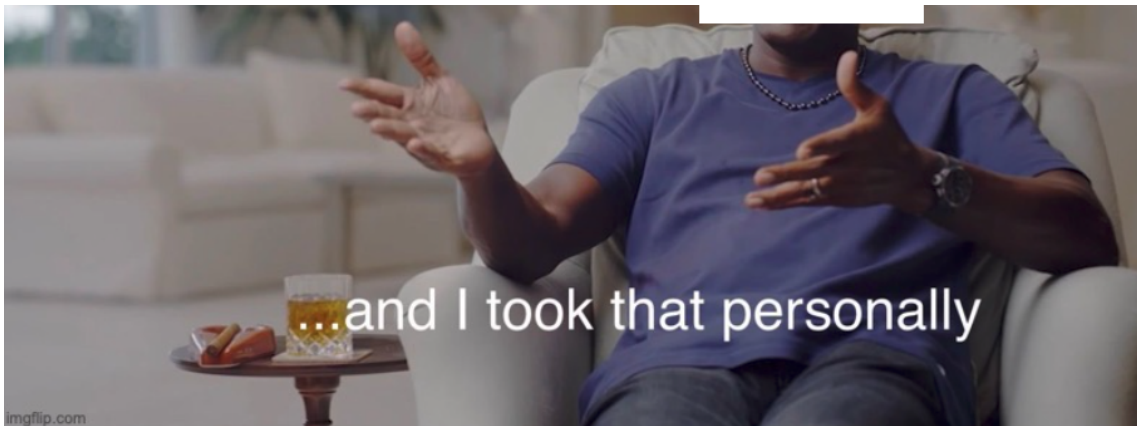
Welcome to the **2,079 newly Not Boring people** who have joined us since last Monday (exactly the same growth as last week)! Join **88,087** smart, curious folks by subscribing here:

[Subscribe now](#)

 To get this essay straight in your ears: listen on [Spotify](#) or [Apple Podcasts](#) (*shortly*)

Today's Not Boring is brought to you by... [Rows](#)





You know I'm bullish on all things web3 - NFTs, Solana, ETH. But let's face it: behind every crypto project, blockchain and DAO there is basically a spreadsheet with a list of transactions, customers, reports, and product roadmaps.

[Rows](#) reinvented what spreadsheets can do. In March, I wrote that Excel Never Dies. I may have spoken too soon. Rows very much wants Excel to die. It has a shot: it's one of the most "Holy shit 🤯" new product experiences I've had in a long time.

[Rows](#) is a spreadsheet powered by APIs. They built 50 integrations with services like Google Analytics, Twitter, Stripe, Salesforce, even your custom APIs - and public databases like Crunchbase or LinkedIn. All to build gorgeous reports that update automatically, enrich leads faster and much more, right in the spreadsheet.

Plus, Rows lets you publish spreadsheets as web apps for others to see and interact with your data, but without access to the setup and formulas. Anyone can make their spreadsheet interactive with buttons, date pickers, charts, and use it to build forms, models, and internal tools. All with no code. They even built me a [Not Boring startup portfolio](#) to showcase it.

It's kind of like if Excel, Airtable, Zapier and a BI tool had a baby, plus access to databases that normally live behind paywalls. It's a no-brainer.

[Get Started for Free](#)

Hi friends 🙌,

Happy Monday!

It's a short week so I'm going to keep this one short. Hopefully it helps you explain the magic of everything going on out there to your family just a little bit better.

Let's get to it.

Idea Legos



Ideas can build on each other like legos, just like software. Ideas are composable.

Composability is one of the key features of web3. [Chris Dixon](#) defined it as the “**ability to mix and match software components like lego bricks**” in a thread he kicked off with this analogy:

“Composability is to software as compounding interest is to finance.”

Compounding interest is just money building on itself. It’s math that, on a long enough time horizon, looks like magic.

Every time you earn interest, that new interest starts earning interest, too. Take \$100k, buy a bond at 6% interest (ah, the good ol’ days), sit back, and end up with \$1 million in forty years. Compounding is an easily quantifiable concept that’s hard to internalize. We underestimate its power often.

Composability is just **software building on other software**. Each new protocol or NFT is like a lego to snap into others.

Each new combination becomes its *own* new lego block, until, a few interactions in, you end up with something exponentially more powerful than the original building blocks. That’s why Chris said composability is like compounding.





Because software isn't as cleanly quantifiable as money, it's even harder to intuit the impact of composability than of compound interest.

Examples help. Scalar Capital's [Linda Xie](#) dove deep into the concept's applicability to web3 in June, arguing that "[Composability is Innovation](#)."

Snap a [Zora](#) smart contract into a [Mirror](#) smart contract, for example, and you have an essay that turns into an NFT, funds the author's work, and turns fans into owners.

We've discussed composability in Not Boring, too, both as it directly relates to web3 and as it relates to tech more broadly.

Last Monday, I told you about the launch of [Composer](#), whose elegance is derived from users ability to "compose" building blocks into automated trading strategies called Symphonies. The product *is* composability.

And on Thursday, I [quoted](#) Stytech's Reed McGinley-Stempel on the power of APIs:

Serendipity is one of the most powerful building blocks for developer platforms. You're exposing helpful primitives to developers so that they can build better products.

This isn't a new phenomenon. Composability is the engine that drives open source software.

Whether web3 protocols, APIs, or open source software, **composability means building in such a way that the next builder can pick up where you left off, add their own twist, and leave the combined work for the next builder.**

That has implications beyond software. In August's [Compounding Crazy](#), I wrote that composability is the reason that human progress accelerates:

That's what powers the increasing pace of innovation. Discoveries become inventions become building blocks become inventions become building

blocks, ad infinitum.

That idea was a riff on an idea from Tim Urban's 2017 *Wait But Why* [essay on Neuralink](#):

*The forces of macroeconomics make the **Human Colossus's core motivation to create value**, which means it tends to want to **invent newer and better technology**. Every time it does that, **it becomes an even better inventor, which means it can invent new stuff even faster.***

Urban's is the most expansive view of composability I've come across, even though that's not what he calls it, because he's not talking web3 or software specifically, but about **knowledge**.

Language made **ideas composable**. "Knowledge, when shared, becomes like a grand, collective, inter-generational collaboration." Then technology -- from the printing press to the telegram to the phone to the internet to Twitter -- made it easier to connect to people and share knowledge. Ideas got bigger and better faster and faster. Ideas composed and compounded more quickly.

If compound interest is easy to quantify but difficult to feel in your bones, and software composability is harder to quantify and even harder to intuit, **idea composability is the hardest to measure and feel of all.**

When an engineer plugs in an API or web3 protocol, they're making a conscious choice. When someone picks up and riffs on an idea, though, they might not even know that they're doing it. If you want to pull this thread, you should read Questlove's [Creative Quest](#). My main takeaway is that **creativity is remixing.**

Idea composability is underappreciated because it's hard to measure and trace. But idea composability is one of the main contributors to all of the progress and speed we're experiencing. **Ideas are building on each other more quickly than ever before, too.**

We've only had access to the world's knowledge at our fingertips for like twenty years. That's practical knowledge -- like mathematical equations or SAFEs or lectures -- but it's also inspirational knowledge -- whenever a person or group of people does something, the rest of humanity knows that thing is possible within minutes. It wouldn't make any sense for that access to knowledge and inspiration *not* to result in progressively more spectacular results.

On the inspirational side, the famous example is the four-minute mile. The mile world record dropped from 4:06.2 to 4:01.4 between 1942 and 1945, and then it **stood unbroken for nine years**. After Sir Roger Bannister broke the four-minute mile, the next person did it 46 days later. A year after that, three runners

broke the four-minute mile in the *same race*.

Bannister proved that humans could run a mile in under four minutes; other runners took that knowledge off the shelf and used to break it four minutes themselves.

I remember reading a book a few years ago, I think it was *The Rise of Superman*, in which the author described a similar phenomenon in extreme sports like skateboarding. A particular trick would be impossible until it wasn't, and then the next batch of skaters would build on top of that trick. That guy did a 720? Cool, the next guy will try to rip a 900.

Importantly, unlike software, skateboarders can't just plug in the other person's 720 and snap another 180 on top. Skateboarding tricks aren't *technically* composable. Each skater has to do the full thing themselves. But the proof that something is possible unlocks something that helps the next person go bigger. From there, 1080, then a 1260.

Things that seemed utterly impossible a decade ago are table stakes now.

The same is true in the slice of the world that we cover here: startups and web3.

The **gap between idea and execution is shrinking**. Composable software and composable ideas compound in parallel and feed off of each other.

A new idea, built on a long chain of older ideas, can quickly combine with software that's been composed of other software and go live within weeks or even days. That project gets to market quickly, teams up with memes and money, spreads, and its technical and conceptual components become new building blocks themselves, waiting to contribute to the next idea.

If software composability alone is like the traditional example of compounding interest, that bond that clips 6% every year, then the composability happening at the intersection of these parallelized compounding streams looks more like DeFi 2.0, in which people are staking their tokens to earn up to 0.9% *every eight hours*.

APY	Total Value Deposited	Current Index
1,657,465%	\$46,424,679	1.452

Project name hidden for your own financial safety, you degenerate

Smaller, faster advancements compound on themselves quickly. That kind of rapid compounding produces very big results very quickly.

Let's get meta. **DeFi 2.0 itself is a prime example of this phenomenon.**

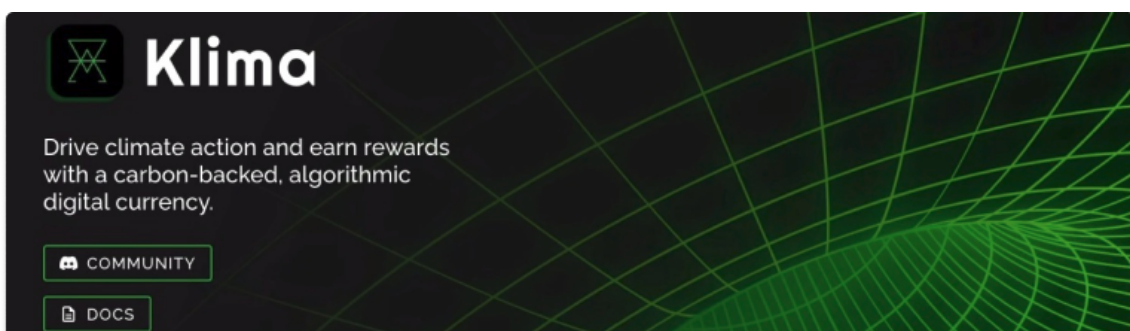
Decentralized Finance (“DeFi”) exploded in popularity in 2020 during “DeFi Summer.” Total Value Locked grew from ~\$1 billion on Memorial Day to ~\$8 billion by Labor Day. DeFi 1.0 created a new opportunities for on-chain lending and borrowing, but also faced challenges, namely protocols’ ability to retain liquidity. In the beginning, they offer eye-poppingly high yields to convince people to stake and create liquidity, but once yields drop, the money goes away. It’s not loyal.

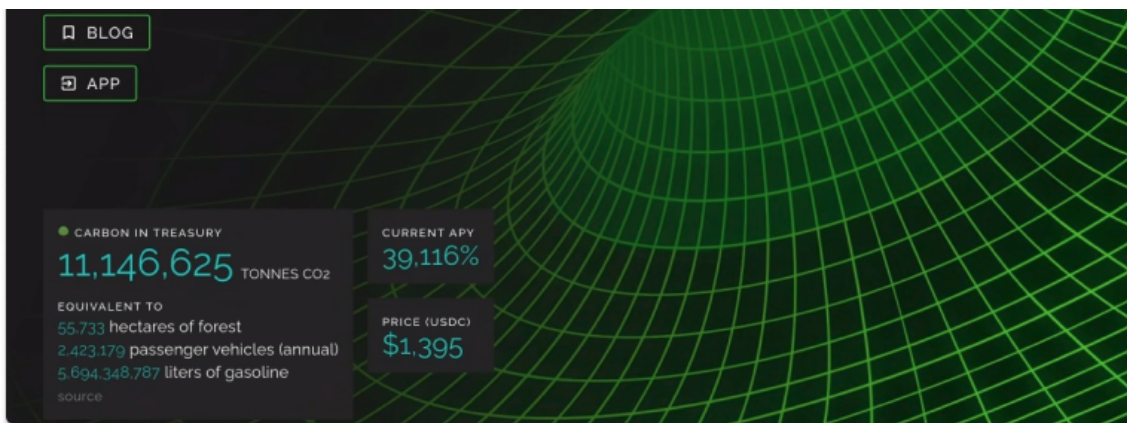
So [OlympusDAO](#) launched in March this year, less than a year after DeFi Summer, with proposed solutions to common issues with DeFi, kicking off DeFi 2.0. The TL;DR is that **DeFi 2.0 protocols own their liquidity instead of renting it**. Olympus isn’t composed of DeFi 1.0 software as much as it’s composed of DeFi 1.0 *ideas*, game theory, and market understanding of DeFi. Offering 7,000% APY seems less scammy once people are used to very high DeFi yields.



Olympus

Since March, Olympus itself has become a building block, spawning a new generation of offshoots like [Klima](#) that compose Olympus’ DeFi lego, using Olympus Pro, but also its idea lego, namely: what happens when you create a black hole for certain types of assets using bonding and staking. (We’ll have to do a piece on these soon to explain, but for now, focus less on the details and more on the process.)





Klima

Instead of sucking in crypto assets, like Olympus does, Klima sucks in carbon offsets. It's a financial instrument that also might help save the planet. Klima, in turn, is inspiring a new wave of builders to dig into how we might protect the oceans or improve healthcare with a similar mechanism. Using **DeFi for good** is a new idea lego, a primitive on top of which serendipity will happen.

Without the idea of DeFi, no one would have thought of Olympus. Without Olympus, no Klima. Without Klima, no next thing that sucks real-world assets on-chain to help people or the planet. The software composability is important here -- it will be much easier for the next entrepreneur to get the product off the ground -- but the **idea composability** is just as big a factor.

And then, of course, there's [ConstitutionDAO](#) (📜,📜).

Last Thursday, a couple of people saw that a copy of the Constitution was going up for auction. Sunday, a DAO was set up and contributors were contributing. By Thursday, we bid up to \$40 million for the document at Sotheby's before losing to Ken Griffin.

ConstitutionDAO itself was a beneficiary of both software composability and idea composability. The core team was able to snap together existing pieces like ETH, Juicebox, Discord, Twitter, meme formats (📜,📜), DAO legal structures, people's understanding of crowdfunding, and their vague understanding of DAOs to create something out of nothing in a matter of days and pull in **\$47 million from 17,482 people in less than a week**.

But no good idea goes unpunished.

Throughout the week, I saw a bunch of tweets that basically said the same thing: "Instead of buying a piece of paper, why don't you use that money on something important, like [curing cancer/ending homelessness/saving the planet/etc]?" All of which are valid asks, and all of which miss the point entirely.

Those critiques view the option set as binary and static instead of composable

and exponential. There will be DAOs that tackle those challenges sooner *because* ConstitutionDAO existed.

After we lost the bid, many people involved, myself included, pointed out that the process demonstrated the power of DAOs. The perma-cynics pushed back on that optimistic take (this video is the funniest manifestation):

But perma-cynics have been proven wrong over and over and over again. They miss the forest for the trees.

ConstitutionDAO created another idea lego. In the past few days on Twitter, I've seen proposals of varying seriousness to launch DAOs to buy NFL teams, soccer (football?) clubs, the Empire State Building, fossil fuel companies, to buy and decentralize businesses, and to raise money for worthy causes. These ideas will get bigger and more impactful. The design space has opened up.

The **next DAOs to launch will have a built-in advantage**. The fact that DAOs operate more openly and publicly than a traditional company means that its lessons, positive and negative, are more easily composable. Even the (necessary, given time constraints) shortcomings -- like telegraphing our max bid in a public wallet, not being able to fractionalize ownership for regulatory reasons, and dealing with high gas fees -- gave builders new things to work on and provided the next DAO a clearer roadmap. ConstitutionDAO itself is using the learnings to adjust as it heads into its [second chapter](#).

Although DAOs have been around for over half a decade, publicly pushing the boundaries of what a DAO can do in just a few days and spreading the message on the wings of memes has incepted millions of people with new idea legos, which they'll be able to compose with other idea and software legos to run the *next* experiment.

ConstitutionDAO happened in a week. These ideas will spin up and compound quickly. In aggregate, the progress we make will get very big, very fast. By this time next year, chances are, the bid to buy the Constitution will be a quaint but important memory, one big lego near the base of a much larger composition.

The fun part is that anyone can add ideas to the composition. You don't need to know how to code. All it takes is an awareness of the building blocks available and a willingness to play around, remix, and add your own unique twist, even if your twist is just an idea. This essay was just a remix of other people's ideas, and hopefully it inspires new ideas and new projects.

The future will be a composition of the legos we create today.

Happy Thanksgiving to everyone, except the perma-cynics.

How did you like this week's Not Boring? Your feedback helps me make this great.

[Loved](#) | [Great](#) | [Good](#) | [Meh](#) | [Bad](#)

Thanks for reading and see you on Thursday,

Packy



The Seneca Effect | The Mousetrap Experiment: Modeling the Memesphere

-  4 minutes
-

Reposted with some modifications from ["The Proud Holobionts"](#)



Ilaria Perissi with our mousetrap-based mechanical model of a fully connected network. You can find a detailed description of our experiment [on ArXiv](#)

You may have seen the "mousetrap experiment" performed as a way to demonstrate the mechanism of the chain reaction that takes place in nuclear explosions. One of its earliest versions appeared in Walt Disney movie "Our Friend, the Atom" of 1956.

We (myself and Ilaria Perissi) recently redid the experiment with 50 mousetraps

and 100 wooden balls. And here it is. It was fun, except when (and not so rarely) one of the traps snapped on our fingers while we were loading it.

But why bother redoing this old experiment (proposed for the first time in 1947)?

One reason was that **nobody had ever tried a quantitative measurement.**

That is, measuring the number of triggered traps and flying balls as a function of time. So, we did exactly that. We used cell-phone slow motion cameras to measure the parameters of the experiment and we a system dynamics model to fit the data. It worked beautifully. You can find a pre-print of the article that we are going to publish [on ArXiv](#). As you can see in the figure, below, **the experimental data and the model go reasonably well together.** It is not a sophisticated experiment, but it is the first time that it was attempted.

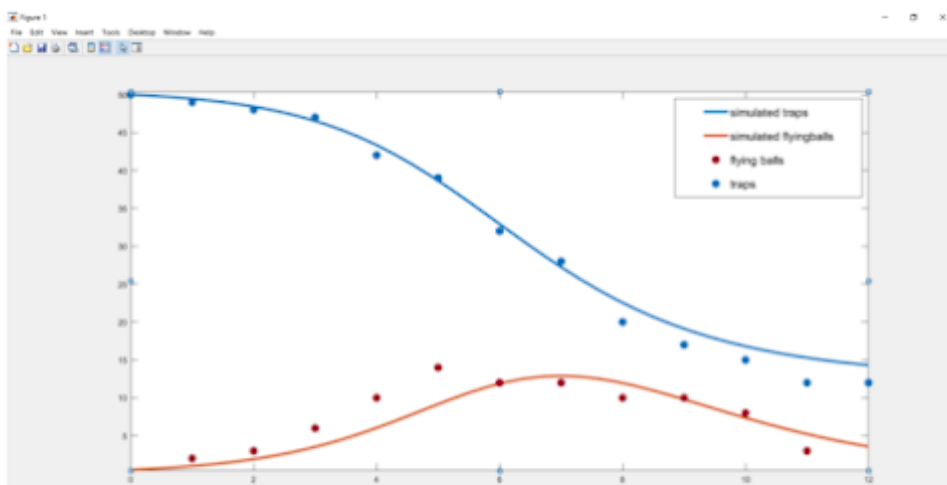


Figure 5. Results of the fitting using the SCLV model. The Y scale is the number of balls/untriggered traps. The X scale is the time in seconds x 4.

But the main reason why we engaged in this experiment is that **it is not just about nuclear reactions.** It is much more general and it describes a kind of network that's called "fully connected," that is where all nodes are connected to all other nodes. In the set-up, the traps are nodes of the network, the balls are elements that trigger the connection between nodes. It is a kind of communication based on "enhanced" or "positive" feedback.

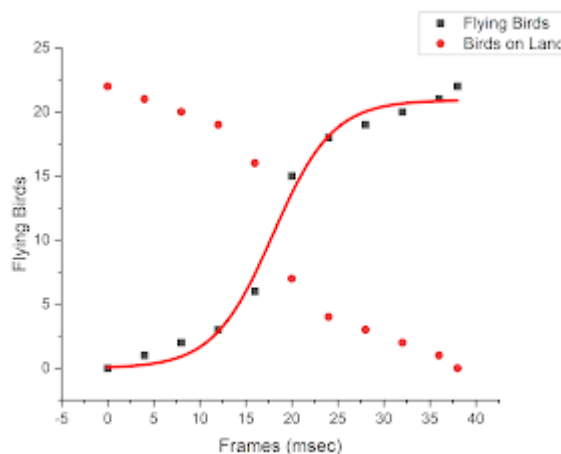
This experiment can describe a variety of systems. **Imagine that the traps oil wells.** Then, the balls are the energy created by extracting the oil. And you can use that energy to dig and exploit more wells. **The result is the "bell shaped" Hubbert curve, nothing less!** You can see it in the figure above: it is the number of flying balls "produced" by the traps.

We found this kind of curve for a variety of socioeconomic system, from mineral extraction to fisheries (for the latter, you can see our (mine and Ilaria's) book ["The Empty Sea."](#) So, **the mousetraps can describe also the behavior of fisheries** and have something to do with the story of Moby Dick as told by

Melville.

You could also say **the mousetrap network is a holobiont** because **holobionts are non-hierarchical networks of entities that communicate with each other**. It is a kind of holobiont that exists in nature, but it is not common. Think of a flock of birds foraging in a field. One bird sees something suspicious, it flies up, and in a moment all the birds are flying away. We didn't have birds to try this experiment, but we found a clip on the Web that shows exactly this phenomenon.

It is a chain reaction. **The flock is endowed with a certain degree of intelligence. It can process a signal and act on it.** You can see in the figure our measurement of the number of flying birds. It is a logistic function, the integral of the bell-shaped curve that describes the flying balls in the mousetrap experiments



In Nature, holobionts are not normally fully connected. Their connections are short-range, and signals travel more slowly through the network. It is often called "swarm intelligence" and it can be used to optimize systems. **Swarm intelligence does transmit a signal, but it doesn't amplify it out of control**, as a fully connected network does, at least normally. It is a good control system: bacterial colonies and ant colonies use it. Our brains much more complicated: they have short range connections but also long range ones and probably also collective electromagnetic connections.

One system that is **nearly fully connected is the world wide web**. Imagine that traps are people while the balls are *memes*. Then what you are seeing with the mousetrap experiment is a model of **a meme going viral in the Web**. **Ideas (also called memes) flare up in the Web when they are stimulated it is the power of propaganda that affects everybody.**

It is an intelligent system because it can amplify a signal. That is that's the way it reacts to an external perturbation. You could see the mousetraps as an

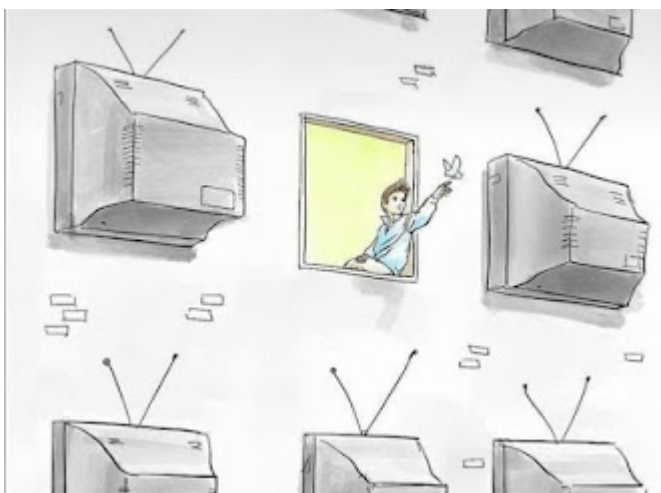
elaborate detection system for stray balls. But it can only flare up and then decline. It can't be controlled.

That's the problem with **our modern propaganda system**: it is dominated by memes flaring up out of control. The main actors in this flaring are those "supernodes" (the Media) that have a huge number of long-range connections. **That can do a lot of damage: if the meme that goes out of control is an evil meme** and it implies, say, going to war against someone, or exterminating someone. It happened and keeps happening again as long as the memesphere is organized the way it is, as a fully connected network. Memes just go out of control.

All that means **we are stuck with a memesphere that's completely unable to manage complex systems**. And yet, that's the way the system works. It depends on these waves of out-of-control signals that sweep the web and then become accepted truths. Those who manage the propaganda system are very good at pushing the system to develop this kind of memetic waves, usually for the benefit of their employers.


Can the memesphere be re-arranged in a more effective way -- turning it into a good holobiont? Probably yes. Holobionts are evolutionary entities that nobody ever designed. They have been designed by trial and error as a result of the disappearance of the unfit. **Holobionts do not strive for the best, they strive for the less bad**. It may happen that the same evolutionary pressure will act on the human memesphere.

The trick should consist in isolating the supernodes (the media) in such a way to reduce their evil influence on the Web. And, lo and behold, it may be happening: the great memesphere may be rearranging itself in the form of a more efficient, locally connected holobiont. Haven't you heard of **how many people say that they don't watch TV anymore**? Nor they open the links to the media on the Web. That's exactly the idea. Do that, maybe you will start a chain reaction in which everyone will get rid of their TV. And the world will be much better.





Astral Codex Ten | Open Thread 199

-  2 minutes

This is the weekly visible open thread. Odd-numbered open threads will be no-politics, even-numbered threads will be politics-allowed. This one is odd-numbered, so be careful. Otherwise, post about anything else you want. Also:

1: Last month I wrote a post, [Jhanas And The Dark Room Problem](#), about some of Andrés Gomez Emilsson's theories. Anders has since written a post of his own giving longer commentary on some of the things I said and explaining his theories in more length. [Check it out!](#)

2: The effective altruism movement is launching [EA Virtual Programs](#), some online courses and discussion groups and book clubs and so on. If interested, apply before November 28.

3: Still a lot of pushback on the [Great Families posts](#) (one of the most common comments on the ivermectin post was "this is so much more evidence-based than that family stuff"). I'm wondering if I've been blogging so long and cast such a wide net that I've collected readers who aren't familiar with [The Nurture Assumption](#) (book full of evidence that parenting styles and effects of early home environment don't matter for most outcomes later in life, within normal bounds) - anyone know of a good refresher I can link people to? But maybe some of you want to argue they matter for the top 0.01% - small enough that nobody will ever notice in a study, but enough to explain Darwins and Huxleys?

(Related: [new study confirms](#) no association between parenting and Big Five personality traits)

4: Also, several people pointed out that an ideal experiment would involve taking a really talented family, adopting away one of their kids at birth, and seeing what

happened to them. I know of one case almost like this. Mathematician [Paul Nemenyi](#) was one of [the Martians](#), a group of supersmart Hungarian Jews who revolutionized mid-20th-century physics. His legitimate son [Peter Nemenyi](#) was a prominent statistician who invented the [Nemenyi test](#) (which I have never heard of, but which is apparently the same as the Wilcoxon test, which I vaguely have). But Paul also had an affair that produced an illegitimate child, who was raised entirely by his mother without any contact with the other Nemenyis: [Bobby Fischer](#), later world chess champion. It's unclear if Fischer ever knew he was a Nemenyi relative, although Paul Nemenyi seemed to. I don't know of any other good examples of this - unless the [Justin Trudeau - Fidel Castro conspiracy theory](#) turns out to be true (it isn't).

5: Deadline for applying for an [ACX Grant](#) is end of day this Thursday.
