

The Great Simplification

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[00:00:00] **Nate Hagens:** Good morning. Many of you are aware that my general thesis is that global economic growth may soon end. And today I wanna walk through some different ways that could happen. But before we imagine how growth ends, we have to understand what growth actually is, and how it came about. So take a look at this line.

[00:00:25] This is the material standard of living of the average human being going back ten thousand years. For almost the entire length of this line, it barely moved. A person born a thousand years ago lived in roughly the same material world and conditions as their great-great-grandparents. And they fully expected their own great-great-grandchildren to live in that way too, which they mostly did, until the Black Death, which was seven hundred years ago in Europe.

[00:00:59] Every culture and empire we ever learned about lived and died inside what in retrospect was pretty much a flat line versus today, materially, biophysically speaking in any case. And then in the era from our great-great-grandparents to us, this line goes almost straight up. But because we've lived through that straight-up time, our culture considers continual material growth as a normal state, almost like a law of nature.

[00:01:37] This line suggests instead that it's growth that's actually the anomaly in human history. And even that long flat part was not uneventful. Underneath it, civilizations rose and crashed. The Bronze Age and Rome and the plagues I mentioned that emptied half of Europe. Growth and decline were always a normal response to the same human thing, a surplus of resources that was found and then used up, and the swings kinda canceled out because they were all local.

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[00:02:10] What we've actually never seen in ten thousand years, or more correctly in three hundred thousand years, or more correctly ever, are our present circumstances. We have never seen a single global tightly connected economy riding a giant pulse of non-renewable ancient stored planetary productivity towards seemingly endless growth that entangles every culture and society on Earth.

[00:02:40] And it means we also have no analog for how such a curve ends and comes back down, which is why I have this channel and do this work. We all remember the old Road Runner cartoon where Wile E. Coyote runs off the edge of the cliff but just keeps going for a bit, suspended in air. He's completely fine until the moment he looks down.

[00:03:11] And I'm fairly convinced our global, at least Western, economy is like that. We ran off the edge of the cliff a while ago, and the financial markets are the reason and will be the thing that eventually causes us to look down en masse. So the question I want to address in this Frankly is not whether this spectacular phase of growth ends.

[00:03:35] It always ends. The question worth our time is how it might happen and roughly when.

[00:03:55] Okay, before I get to seven possible ways that growth ends, some context on why the ground underneath a century of growth is getting less stable. It helps to remember what GDP actually is. If we strip away the dollar markers, it's really a tally of energy and materials pulled through the economy and the accompanying ecosystem drawdown in order to satisfy the wants of 8.3 billion people.

[00:04:27] Every dollar underpins a good or a service, and every good or service is energy that we apply to stuff. Technology does let us get a bit more value out of

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each unit of that stuff, but it has never, anywhere on Earth, let the economy grow while the physical throughput stayed flat. So can this line continue straight up?

[00:04:55] Well, every government and pension fund in the world expects it to grow roughly three percent per year going forward in perpetuity, and all that implies. So historically, materials and GDP are about one-for-one correlated, and energy is about zero point seven, not one-for-one correlated, one-for-one actual use, depending on the timeframe.

[00:05:28] So if we grow GDP at three percent a year, that means it'll double about every twenty-three years. So in seventy years, we would see three doublings, and GDP will be eight times bigger than today. But that would also mean energy use more than quadrupling from today and eight hundred billion tons of material a year pulled out of the Earth instead of today's one hundred, all in less than a human lifetime.

[00:06:04] This is just math and physics based on historical coupling rates. And even if we use the most generous numbers in the current literature, three more doublings still-- of GDP would still mean roughly tripling the energy we use and quadrupling the material that we pull out of the Earth. Is that possible?

[00:06:26] Is that desirable? What happens if it doesn't happen? I used to wonder about the first two questions, and I no longer do. It's the third question that I'm spending a lot of time on. Presented this way, it seems kinda obvious, but why do we feel culturally that this is so unlikely? Lots of reasons, but basically, we've confused what actually drives our progress with what merely looks like it drives our progress.

[00:06:58] Energy applied to materials inside ecosystems that are still functioning is what produces everything. Those are the ultimate drivers. Money is the proximate driver, the signal that society uses to pull the real stuff around and

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through. But because it's what we see and what we control, we've come to treat it itself as the driver.

[00:07:26] We can print money from banks and from governments and in a country like the USA as much as we want to for now. We cannot print energy or molecules or copper or topsoil or a stable climate or orangutans or biodiversity or pollinators. So when our biophysical base starts to thin out, when we've used up the easiest oil and the richest ores, and the shallowest easy-to-get-to mines, and what's left gives us less for every unit that we put into it, we did the one thing we socially and politically could do.

[00:08:13] We printed more claims against it. New money lets us get a bit more of the more costly energy faster than we otherwise could. And since this was easy and everything kind of grew in tandem, nothing felt wrong. That's the delay. Using our cultural credit card makes the system look much healthier than it is because it smooths over the limits, and in doing that, it postpones the biophysical feedback.

[00:08:46] The claims kept growing. The stuff underneath them didn't, or it did, but only marginally. And that gap between them is exactly the thing that kept us from noticing there was a gap. There's a very long Frankly that I've been working on, things are happening so fast, on how money and debt actually get created and why it matters, 'cause I think there are many myths surrounding this topic that need ice water thrown on them.

[00:09:19] I'll probably finish it the week after a sovereign debt and currency crisis arrives. But for today, just remember that all financial debts are a claim on future energy and materials, and we've written far more of those claims than the future is going to be able to honor and are probably about to write many more.

[00:09:42] And this is a recent phenomenon. Before the early two thousands, the broader economy mostly grew on its own surplus organically without a lot of new

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borrowing and without the government stepping in to first front-load it and then to carry it. But after then, after the Great Financial Crisis, almost every bit of growth we measured was borrowed growth or government growth or both.

[00:10:12] Because it's taken more and more new debt to produce each extra dollar of GDP. Deficits have become permanent rather than something that we just run in bad economic times. We now have countries like France, which I'll talk about in a moment, where government spending accounts for fifty-seven percent of the entire economy.

[00:10:36] This is the spinning of Wile E. Coyote's legs. Debt and public spending have kept our perceptions stable after we left the level ground of the twentieth century. We did actually briefly glance down twice since then, in two thousand and nine and again in twenty twenty. But both of these times, central banks magicked a floor under us, and we kept running. But those magics come with a deferred cost, AKA the feedbacks have merely been postponed.

[00:11:17] In the USA, we added more to the national debt in each of twenty twenty-five and twenty twenty-six, neither of them remotely recession years, than we did in two thousand and nine in the worst modern financial crisis. Following the news today, US emergency oil reserves are at their lowest ever since the SPR was first filled.

[00:11:38] The AI build-out, the thing that everyone... well, the reason that some people are extremely excited about, is already short of power and transformers and copper. So heading into twenty twenty-seven, the physical base under our economy is about as fragile as it ever has been, and we're papering over the gap with more claims than ever.

[00:12:05] To use the cartoon metaphor again, the empty air under Wile E. Coyote's feet is the gap between our financial claims on reality and reality itself.

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So, long-winded intro here to the seven ways growth ends, but those seven ways are the seven ways that gap closes. Okay, number one, biophysical musical chairs.

[00:12:34] This is the gap closing on its own with nobody having to purposefully or accidentally push it, and it's the one that I would put my money on, or rather my digital and paper claims on biophysical and ecological reality on. It is merely the natural extension of everything I've been describing on this channel for many years.

[00:12:58] The digital claims have compounded for decades while the net surplus underneath them continues to get thinner. The financial music has played for so long that almost everyone assumes there will always be a chair for every financial promise. There will not be, and human history and the madness of crowds suggest there probably never was going to be.

[00:13:29] This musical chairs moment can happen and manifest in two very different ways, and most people usually only envision the first one, which is the hot version, that we keep papering over the gap with more and more claims until the currency itself starts to erode, and then the reconciliation happens through inflation. The money loses its value and its meaning.

[00:13:58] It can also go the other way, a debt deflation, where the claims are so numerous that they start to destroy themselves. Asset prices fall, and because the debts are fixed in dollar terms, they get heavier in real terms as everything around them also drops. So people are forced to sell, which pushes prices down further, which forces more selling.

[00:14:26] And since new credit every year is spent in the world on real stuff, we're left with way more infrastructure and wind turbines and data centers in the world than is actually needed or can be afforded. And since almost all our money

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is wide-boundary debt, AKA claims on real stuff, when the debt gets destroyed, the money supply itself contracts.

[00:14:55] This is what happened in the nineteen thirties, and it's what almost happened in two thousand and nine and twenty twenty without the central bank stick save. So this financial overshoot gap can close in two ways. And of course, it could be both ways. Inflation first, government's powerless to stop it, and then the bond market pulls the rug and triggers the deflationary depression.

[00:15:25] We're actually watching the bond markets doing something like this right now in France. Last week, the French ten-year note went through five percent for the first time in twenty-five years. French yields are blowing out versus their German peers, and the cost of insuring French debt against default is making new historic highs.

[00:15:49] Some of that is France's own budget mess and the riots and such, and some of it is global. The Israel-US-Iran war pushing up energy prices, central banks hiking yields in response, so bond rates are going up everywhere, and they're exposing the weakest borrowers first, like France. Some of this is also AI borrowers, which I'll get to in a moment, who are competing with governments for the same pool of lending.

[00:16:24] I think the contagion is the part to watch, and when French yields jumped last week, Italian and Greek yields jumped. Even some German yields moved, and the euro hit almost a two-month, sorry, a two-year low. And on that continent that imports most of its energy, this is not good. And as I've said many times over the last couple years, France, specifically France, is too big to save.

[00:16:56] But for now, the only thing a government can do when its borrowing costs blow out is cut spending, which is what is sending a million people into the streets right now.

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[00:17:09] We're seeing a microcosm of this on turbo with the trillions of dollars flooding into AI. That sector is now borrowing on a scale that competes with the US government for the same lenders, and only a handful of companies are responsible for most of the expected earnings growth through the entire S&P 500 this coming quarter.

[00:17:33] A growing share of that entire build-out is funded by debt, not by free cash flow or profits, and the financing runs in, as we're learning, a big circle, the chip makers helping fund the companies buying the chips. And the lenders themselves are starting to admit the entire bet depends on enough cheap, abundant energy showing up to power it.

[00:18:03] E—even Wall Street is starting to acknowledge this thing as an energy wager, and Wall Street doesn't really understand energy, in my opinion, so there will be a delay. But I do think the AI situation is truly a microcosm of society's entire prize fight between technology and money versus energy and ecology in real time.

[00:18:31] The money is buying more machines and more chips and more server farms, and yes, GDP is going up sharply. This is all real, but the net isn't, at least not yet. So net investment, which is what's left after you replace all the gear that wears out, has been stuck around three percent of GDP for over ten years, the same way net energy has been flat while gross production continues to climb.

[00:19:06] And I learned this recently: total factor productivity, which is the number that informs whether the human economy, capital and labor, are actually getting more benefit from all of it, hasn't budged and is actually slightly negative, at least so far. To me, this all rhymes with the gross versus net argument in energy, but is playing out in finance and GDP.

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[00:19:33] Our cognitive slaves from AI, or I better say SI, are hella powerful, but they depend on the armies of fossil laborers, which are raising their rates and will soon be retiring, to power them. And it is the clearest window we have into the Wile E. Coyote gap because it's happening so fast in, in the AI ecosystem that a lot of people can actually see it and understand it.

[00:20:05] A mountain of claims piled on an assumed future, and underneath it, the same fundamental question: Will the energy really be there in order to redeem them? We do have plenty of fossil hydrocarbons left, arguably way too much for a livable biosphere within historic planetary boundaries. The issue is, for this conversation, do we have enough at a historically affordable enough rate to keep matching existing plus a hell of a lot of new financial promises?

[00:20:45] I don't think so. Okay, that was a very long number one. The rest are shorter, but that financial gap is an embedded backdrop for all the other ways growth might end. Number two, a world war. Not a regional fight, but a big one. A great power war unravels everything growth has depended on all at the same time.

[00:21:14] Currencies, I- letters of credit and supply chain and the ease of seamless cross-border trade, who controls the nukes, the basic trust and resulting complexity between trading partners that lets us send goods and energy around the planet pretty much with no friction. This entire just-in-time global machine assumes a constant baseline level of cooperation, even between rivals, and a real global war would kick that support out, popping this overextended balloon from outside the financial system entirely, at least initially.

[00:22:05] Nuclear weapons risk adds to this category. Nuclear weapons would do two different jobs in a world war. They could be the cause, the thing that ends growth all them- by themselves if a few of them are used. And they could be the multiplier, the thing that turns a bad war into a civilizational one, where economic

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growth not only ends, but the global economy kind of immediately goes to zero, like the growth of a turkey through a year to before Thanksgiving.

[00:22:42] Either way, war unravels all the components that have enabled growth. Okay. Number three, tearing it down from below. When a society's surplus shrinks, the fight over who gets what often looks like a fight against the system itself, not intended. I think we see this from three separate directions, but they all rhyme.

[00:23:13] First, people who look at inequality and an unfeeling global economic superorganism that really is failing a lot of society and want it changed fast. And then there's the angrier version of that, people who feel cheated and taken advantage of and want someone to pay. And third, there are those who now perceive that they have nothing left to lose, and from that vantage point, making other people lose, AKA burning it all down, becomes a perfectly rational plan to them.

[00:23:51] Look at France right now. The government has been trying to close a budget gap, cutting a few percent off public spending and public wages and freezing most pensions. In the scheme of things, this is a pretty mild version of a contraction, which is being forced by the bond market with French borrowing costs, as I mentioned earlier, at their highest in 25 years.

[00:24:13] So it's not even really a choice. But stack that on top of a fuel price shock from the Iran war and a decade of declining public services, and we see millions of people in the streets. Last week, a city hall burned to the ground, thousands of people arrested, and whatever else happens in the five days between when I record this video and it goes live.

[00:24:39] These things are what contraction looks like in political terms in a world used to the services and crook misuse of modernity. I think it will be generally hard for us to tell the difference between a responsible government

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trying to navigate a planned glide down and a corrupt one who's doing wrong by their population.

[00:25:09] I should add that the coalition in the streets in France includes the environmental activists, the very people who in theory want less throughput marching against the impacts of less throughput. And if a small fiscal tightening does that to the second-biggest economy in Europe, think about what a deliberate, meaningful reduction in material throughput would take and imply and what it would do to the systems holding everything together if we get fairness or anything else wrong.

[00:25:43] So basically, good intentions do not exempt us from how systems, especially systems in overshoot, behave, and the calls for fairness and justice are sincere. And the machine that they're aimed at really is failing a lot of people, which is why burning it down feels like a valid path to so many. But that machine is now a complex, fragile Rube Goldberg contraption, coupled and fragile, and the people who depend on it most are probably gonna be the first ones hurt when the, the pieces start to, to fall off. Risk number four.

[00:26:33] If the third risk is pushing for social change faster than a coupled system can absorb, the fourth is the opposite, trying to hold everything in place by force, and authoritarian control. When things start to wobble economically, at least historically, someone usually reaches for the steering wheel and puts child locks on the doors, in the metaphorical societal car.

[00:27:06] Rules and regulations tighten, plus new weird ones come about. There's increased surveillance and the muzzling of media, all in an attempt to hold the system together by force as the legitimacy that used to hold it together in--organically is kind of ebbing away. And doing these things can suppress the symptoms for a while, but they cannot grow the net surplus back.

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[00:27:36] That's a different story. We see this in Turkey, where President Erdogan decided interest rates would come down because he said so, against every bit of economic logic, and their currency, the lira, lost about eighty percent of its value in the last few years. There's many other examples like this, and I suspect many more in the near future in a country near you.

[00:28:01] But a decree does not make more surplus appear. All it does is move the cost onto the currency, which means onto everyone who holds it. Even benevolent, AKA your ideological party, wielding concentrated political power, yanking a complex economic system around by new rules and decrees that lack systems awareness and planning, is gonna tend to smash things that took generations to build.

[00:28:38] And I, I see that risk on the horizon. And of course, there's a newer version of that which is also increasingly plausible to me. It's the merger of the big AI companies with government and surveillance and the military, because as fewer and fewer systems control the information, the tech, the surveillance, and the enforcement, not to mention the weapons, there are fewer and fewer freedoms for the average person, and our world starts to look like an Arnold Schwarzenegger sci-fi movie.

[00:29:16] In other words, the, these strongman risks existed in the past, but I think AI makes them a bit stronger. Risk number five, ecological limits. And this is where our economic structure starts to crumble from beneath. Global heating in coming decades is mostly gonna show up probably as a grind rather than a bang, though we might see some mini bangs in the next few months due to the Super El Niño.

[00:29:47] But over time, reduced crop yields, water tables dropping, insurance pulling out of entire regions, higher wet-bulb temperatures slowly forcing people to migrate in millions and hundreds of millions numbers. Those things will all take

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a slow but large toll on our system. This slow grind will create hard constraints, financial and economic ones.

[00:30:17] Yes, the heat will be a big one, but it's far from the only one. Soils are gonna become more marginal. Aquifers will drain. Global fisheries and forests and pollinators that do a lot of work that's not included in GDP are likely to decline. Phosphorus, which we need to grow food with, comes from a very small handful of mines that are not refilling and such.

[00:30:47] There's an old principle I taught in my college class called Liebig's Law of the Minimum, which says a system grows only until it encounters its single scarcest necessary input, and then that one thing, water or phosphorus or a stable growing season or whatever, caps the entire system no matter how much of everything else you've got. Money is not gonna be able to buy things that don't exist.

[00:31:18] So this risk is different from the others. The rest are risks, things that might or might not happen. This one will actually get more certain the longer that economic growth does continue, because every year we navigate past the other risks, we're adding to this one under our current cultural aspirations.

[00:31:37] If somehow we manage, with or without AI, to keep aggregate growth going for a while longer, these ecological limits not only can't be avoided, they will get closer. Number six, the thing from the outside. There are also ways growth ends that are separate from individual and aggregate human decision-making and behavior.

[00:32:03] A big solar flare frying our transformers and satellites, Yellowstone or one of the supervolcanoes erupting, a giant earthquake under, say, Taiwan's chip fabs, a big rock from space like the Bruce Willis movie, Armageddon. The movie was called Armageddon, but it was also-- it would also be Armageddon. Any one

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of those is obviously extremely unlikely in any given year, but they're non-zero over time.

[00:32:35] Risks like these have always been on the list to civilization, and in fact, they've happened before. In eighteen fifty-nine, the biggest solar storm on record, the Carrington Event, hit the Earth, and the worst it did was set some telegraph wires sparking because telegraphs were the only thing we had at the time it could impact.

[00:32:59] The difference today is a similar storm takes out transformers and satellites across the whole planet at once 'cause it lands on a tightly connected electronic civilization with close to zero resilience in it. So there's one act of God on my secular list of risks. Number seven risk, of ways growth could end, is everything else.

[00:33:28] A system as large and precarious as modern industrial civilization has a failure list longer than a single person could write down or even imagine, and the items keep merging and compounding and influencing each other. We could see a pandemic worse than the last one or a cyber war that takes down a grid because of just the payment system with AI on both sides of those, or a complexity cascade in the supply chains where a single product like fertilizer, which, by the way, there are zero fertilizer exports coming out of Hormuz right now, or sulfur or high-quality quartz for crucibles fails, and these things take entire chains with it.

[00:34:15] There are more human possibilities as well, like a collapse of our shared reality and facts where humanity can no longer agree on enough basic truisms to even act together in a cohesive way. I really can't do more than speculate on any of these. The point is that the fragility of that line in this Wile E.

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[00:34:43] Coyote moment at this point in civilizational growth is high, and everything is connected all at once. Okay. Let's take a step back and look at our one single coupled global system all riding the same energy pulse, because it means there's a shared fragility underneath all seven of these risks. And for economic growth to continue the way all the spreadsheets and people's 401(k)s assume it will, every one of these pathways that I just listed has to be averted, no matter what disruptions or Rumsfeld's unknown unknowns are in store.

[00:35:33] And in preparing this Frankly, I repeatedly reflected that AI shows up behind several of these risks. The money requiring energy pouring into it in risk one, the destabilizing of jobs and civil stability in risk three. There's surveillance tools behind risk four, the speed of a cyber attack in risk seven.

[00:36:02] Actually, AI arguably accelerates all the risks that I've outlined because it makes everything faster, plus lots of unknown unknowns. So when somebody confidently tells you the system will hold together, they're really making a bet that this long list of things will all go right and continue to go right.

[00:36:24] And our monetary claims maintain their tether to energy, and the great powers keep the peace, and the supply chains maintain themselves, and we don't tear things down out of spite, and our politicians stay competent enough not to break anything, and Earth's ecology keeps absorbing all of the human overshoot ab-abuse, and no rock falls out of the sky, and none of the things we haven't even thought of yet come along and prick the bubble.

[00:36:57] In our book, I talked about the law of aggregate probability, which tells us the chance of every single one of those things going right year after year, given our fragile starting condition, keeps shrinking, which means the chance that at least one of them doesn't go right, in my opinion, approaches near certainty. One un- uncomfortable thing about this list, well, I suppose the entire list is uncomfortable things, is that of all these risks, the two where we actually have our

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hands kind of on the steering wheel, tearing it down and holding it by force, are both failure modes that come from our own attempted trying to fix it.

[00:37:45] Everything else more or less happens to us. And for all their noise, the political left and the political right, perhaps indirectly, have worked as kind of a stabilizer for the whole economic superorganism, both an accelerator and a brake, each side stopping the other from doing something catastrophically extreme at full throttle.

[00:38:11] And that causes the system to muddle towards the middle, and muddling, for all its ugliness, has some error correction built into it. But as the center hollows out, as one side or the other might get unchecked power, we could lose that error correction. Okay, I have to include this. To some of you who were sent this video by your cousin who watches TGS, I am aware how this all likely sounds to you.

[00:38:44] The end of growth has been predicted plenty of times, and the people who predicted it were famously wrong. Malthus over two centuries ago, Paul Ehrlich and The Population Bomb, the Limits to Growth team back in the nineteen seventies, which wasn't wrong so much as misunderstood. It wasn't the underlying logic that was incorrect.

[00:39:05] Each time, something in our economy showed up that actually opened up a whole new pool of real surplus and productivity, which allowed the financial claims to extend their biophysical tether a while longer. Malthus could not have known about the carbon pulse, the enormous one-time inheritance of buried ancient productivity that we were about to start burning, which grew far more food and far more people than his arithmetic could have en-envisioned two centuries ago.

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[00:39:40] Ehrlich's generation didn't anticipate globalization, the way that we would outsource our resource use to cheaper areas in the world, or the way that debt would allow us en masse to reach into the future and pull tomorrow's consumption forward to today. And I think almost nobody saw how long the whole thing could be stretched once central banks stepped up to replace what commercial banks did at the-- as the guarantors of last resort for all the new money and claims.

[00:40:15] That started around two thousand and nine. Every one of those was a genuine social or physical technology reprieve, but at the same time, not one of them repealed the actual limits. They just found an additional can to kick via new real surplus. And of course, there's a chance that there's some unknown productivity boost that extends our line a bit longer.

[00:40:43] Perhaps it is AI, despite all the accompanying risks. But the logic of a system this far in ecological overshoot based on infinite growth in a finite system still holds. I also expect plenty of very smart people to hear all this and say that I have it all backwards. And they look at the track record I just outlined and say, "Nah, human ingenuity plus markets plus substitution has found a way through every single time.

[00:41:18] "So why would you bet against the one species that always discovers the next thing?" Here's why I think it's wrong anyway. We can substitute one resource for another, run short of a metal or a grain or a fabric, and high prices will spur innovation, and we'll find another. But we cannot substitute our way out of net energy itself.

[00:41:47] High-quality energy, after accounting for its own energy and material input cost, is the master resource to human economies, and it's the one we spend in order to get all the others. And even a transition to a new energy system will cost an enormous pulse of energy up front, and that pulse will have to be paid for

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out of the current surplus that, cue France, is already seriously waning with social implications.

[00:42:20] So my take is the optimists are not wrong about human ingenuity, but they are wrong about what underpins and powers it and the waste streams. The Great Simplification, the name of this platform, is my shorthand for that Wile E. Coyote air gap closing through whichever of these seven it turns out to be.

[00:42:46] But before anyone reaches for the bunker or the bottle, look at that line again, because the top of it, where we are right now, roughly, is the most material wealth humans have ever had in aggregate in three hundred thousand years. Take ten percent off it, take twenty, take fifty percent off that peak, which would be brutal and chaotic and spread around very unevenly, and the average human would still land at a material level higher than anyone who has ever lived before our grandparents.

[00:43:24] Higher than every empire on the flat part of that line. The end of growth is not the end of life, and it is not the end of the world. Most of human history was lived on far less than what will be left. There are two ways I think that humans could get this moment wrong, and they are mirror images of each other.

[00:43:50] One is to never look down, keep the legs spinning, and just have blindness and assume there will always be chairs for everyone. The other is to look down and freeze or to decide that since the gap is closing anyway, there's nothing that we do that matters. As I've said before, nihilism and apathy are both ways the coyote just closes his eyes. Both versions end in similar puffs of dust at the bottom of the cartoon canyon.

[00:44:26] It's the path between those two where a strange kind of motivation is hidden. We can't choose which of the seven it will be, and we can't forecast this other than loosely, which is what I've been trying to do with this channel. But if

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you really internalize the logic underpinning this list, almost everything worth doing and worth preparing for is the same, no matter which one of these turns out to ultimately be the trigger.

[00:44:58] Carry less personal and professional fragility. Get your real wealth, the soil, the water, the friends, the people around you, the skills, into better shape, and worry less about your financial representations of what society labels as wealth. Become a metaphorical rock in the river. Build social capital with your neighbors, left and right, young and old, the people you'll lean on when the metaphorical water starts rushing faster.

[00:45:30] Help to regenerate the living Earth systems near where you live. And for some of you on this channel, and hopefully a lot of you, help to midwife the other species through the coming bottlenecks. And don't forget to actually live your human life because the best things we have, a walk in the woods, falling in love, a shared meal with friends, music, someone's hand or paw in yours, take hardly any energy or money at all. The coyote's real trouble came when he looked down and realized that he'd built nothing for the moment after.

[00:46:15] There will be a moment after. That is the whole point of the line on the screen, and we still have air under us, in this cartoon metaphor. Let's use that time to build towards bending so that we don't break, because the end of the world as we know it is not remotely the end of the world. Talk to you next week.

[00:46:40] Have a good weekend.