

The Great Simplification

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[00:00:00] **Nate Hagens:** Good morning. It is Tuesday, March 10th, 7:30 AM Central. I recorded the following video yesterday morning about the wide boundary risks of the unfolding Iran war. My team worked very hard to get it ready to release yesterday, and then oil fell over \$30 a barrel, and President Trump announced a press conference last night.

[00:00:21] So I delayed its release in case something dramatic wasn't announced. It wasn't, but this situation will likely be a rollercoaster for a while, and the news and the markets may stay disconnected from real events on the ground. Either way, the global system has now fundamentally changed as a result of the events in Iran.

[00:00:44] So the points that follow will stay relevant no matter what happens. And. The Great Simplification has likely gotten closer. Here's yesterday's video, lot's going on in the world. For over 10 years, I've been using the Strait of Horn Dynamics as an example of how concentrated the spice is on our planet, AKA oil and gas, and how fragile the global human economic system really is.

[00:01:15] But now that the strait is blocked and we're at war with Iran, I have to say it's a different thing to anticipate it than to see it and seeing it comes with emotion, and reveals things that anticipate it. Never could. What's happening is incredibly complex, so much so that nobody has the full picture, and I will not be breaking any news on this story.

[00:01:41] My goal, as usual, is to widen the lens because of the second and third order effects. Are already being seen. And the fourth to end out order effects, are where the real damage and surprises, tend to be. So here's this week's wide boundary news.

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[00:02:12] As many are aware, the US and Israel launched Operation Epic Fury against Iran for. February 28th. The Strait of Hormuz has been effectively closed since March 2nd, though some Chinese ships, and Iranian ships with transponders are being led through Qatar declared force majeure and halted LNG shipments.

[00:02:30] oil as of this recording is about a hundred dollars, a barrel. it spiked to 120 overnight before there was rumor of a coordinated, strategic. Petroleum reserve release. Russia has announced they're no longer neutral in this war and are providing Iran targeting intel on US military operations.

[00:02:55] US is still demanding unconditional surrender. Iran refused. There've been attacks on water, desal plants, refineries. There's been black rain in Tehran and the like. These are, but some of the headlines. So stepping back, here's how an economist might frame what's happening in the strait of Ous. Right now about 20% of global oil consumption passes through that narrow, strait, and if it's closed, oil prices spike.

[00:03:22] But since energy is only about 3% of global GDP by cost, that's a meaningful but manageable disruption. A few percentage points of GDP would argue that framings like this, A really narrow boundary, potentially catastrophically. So yes, energy is only a few percent of global GDP by expenditure, but without it, we lose almost all GDP because modern life is a continuous conversion of fuel into food, heat motion, and.

[00:03:58] Materials. Modern industrial civilization is not powered by financial capital or human ingenuity. It's powered by those things, coupled with a continuous, uninterrupted flow of dense, portable, storable, and inexpensive energy. Primarily oil and gas. Every calorie of food that reaches your plate was grown, processed, refrigerated, packaged, and transported using fossil fuels.

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[00:04:34] All of it runs on an energy substrate that we have as a civilization, and decided to route through a narrow maritime corridor between Iran and Oman. Modern global society is powered by the labor equivalent of 500 billion human workers, and a meaningful fraction of those may have just lost their metaphorical export visas.

[00:04:59] My reading is just like the Ukraine War was for Europe. This incursion is gonna remove the energy blinders for a much wider portion of our society. We may now be facing an energy access problem, and as a society we have almost no intuition for what that actually means. 'cause we've trained ourselves to think about energy in terms of cost, when we should have been thinking about it in terms of benefits and dependency.

[00:05:27] We are. Energy blind. The second angle is related, but also distinct. Even people who understand the centrality of energy to our lives, who believe that oil underpins the physical economy, tend to think about this crisis in terms of the headlines. Oil and gas prices go up, inflation rises, the economy slows down.

[00:05:51] That's accurate, but it's first order thinking. Here's what second and third order issues might look like. Let's start with something almost no one is talking about: sulfur. The majority of crude oil that passes through Horus is classified as sour Crude has a high sulfur content, and when you refine sour crude, you produce elemental sulfur as a byproduct, you pull 17 million barrels a day, plus or minus of sour crude off the market.

[00:06:23] And we're not just losing fuel, we also are potentially losing sulfur and sulfur's. The feedstock for sulfuric acid and sulfuric acid is what we use to leach copper and cobalt outta the ground in places like the DRC and Zambia, which the two of those together supply. Over a sixth of global copper and more than 70% of global cobalt.

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[00:06:50] So the little oil snafu in the strait of hor could lead to no marginal copper or cobalt. No transformers. No transformers, no grid expansion. No grid expansion, no data centers, which means no EV charging infrastructure, no AI build out and the like. So this chain chorus to sulfur, to acid, to copper, to transformers, to compute really has very little to do with gasoline prices.

[00:07:21] But it's the one example of the complexity and risk of our interconnected just in time system, which I've labeled, one of the four horsemen of the 2020s. So here's another hotter effect: Natural gas. Qatar sits inside the Persian Gulf. They're responsible for roughly 20% of all globally traded LNG Europe.

[00:07:44] Spent two years after Ukraine's invasion, rewiring its entire energy import infrastructure away from Russia. Pipeline gas towards us and Qatari, LNG. So their dependency now runs directly through this closed straight. And unlike oil, there is no overland alternative for LNG. And the price spikes are already.

[00:08:07] Hitting European importers and futures markets. There's also nitrogen fertilizer. Over 40% of internationally traded nitrogen fertilizers originate from or are navigated through the Persian Gulf Nitrogen fertilizer starts with natural gas, which is then the feedstock for ammonia, which becomes urea, which goes on the fields around the world, and a disrupted planting cycle could translate.

[00:08:36] Food price inflation very quickly. within months and food inflation, in import dependent nations that have very thin fiscal reserves like, Egypt or Pakistan or Turkey, becomes political quite quickly. A recent guest on TGS Craig Tindell labeled this situation as a potential globalized Arab Spring.

[00:09:05] Beyond energy, fuel, and inflation. There's also the supply chain precursors for something like 6,000 distinct products that move through that straight thousands of products, from polyester to medical plastics to

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semiconductors. They all use petroleum as precursors. Their physical products or in the process that makes them The wide boundary point here is this.

[00:09:32] We're not watching an oil price shock. We're watching the exposure of a civilization that organized itself around maximum efficiency and zero redundancy, and built a single point of geopolitical failure. Into the center of a global physical economy, the straighter Horus and the situation there is the most consequential single location on the planet for the foreseeable future.

[00:09:59] Okay. wide boundary point number three. In ecology and economics, stocks are what's accumulated and flows are what moves through them. The problem is that flows feel infinite right up until the stock runs out. And I refer to this as the slurping sound with respect to oil extraction. Stocks and flows apply to military capacity as well.

[00:10:27] The United States has historically had the most impressive offensive flow, capacity, shock and awe. Precision strikes the ability to put bombs on target anywhere on earth, within hours. But the stocks, particularly the stocks of things like interceptor missiles. Maybe getting dangerously low. I'm told by people who follow this closely that the US and Israel have been firing five to seven interceptors for every incoming Uranian missile.

[00:10:58] And by the way, each of those interceptors cost millions of dollars and takes months to manufacture. A-A-P-A-C three interceptor costs like \$4 million. In contrast, a Shahid drone. Made in Iran costs around 50 K. That's a cost exchange ratio of 101 in Iran's favor. So Iran doesn't need to win the Air War outright.

[00:11:23] They probably just need to keep up intermittent launches long enough to limit what we can shoot back with. And Secretary of State Rubio said publicly that Iran is producing offensive weapons faster than the US and its allies can

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manufacture interceptors to stop them. And the Secretary of War suggested this war may go on for months.

[00:11:46] So the US is historically structured for periodic high intensity bursts, not sustained engagement. The assumption has always been overwhelming force shorter duration than restock, but that model does not hold if a conflict drags on. Especially a large conflict. So there is an unfolding military stock and flow problem in this war, and no one really knows what Iran's stockpiles or launcher capacity is or will be.

[00:12:17] In my last wide boundary news, I opined. That the betting markets poly market was betting on war and soon after that, completely unrelated to my missive, of course, they disallowed betting on whether a nuclear bomb would be used. And when they closed the market, there was a 24% chance that we would see a nuke this year. I am afraid that because of the perilously low stocks.

[00:12:46] Of missiles that the US and Israel may resort to tactical nukes, to end this conflict, which would then open up another Pandora's box. but there is another stock and flow story here. Perhaps the most critical one. It is the oil and gas sitting in the ground. In the Middle East, where approximately two thirds of the 60 to 65% of the world's remaining oil reserves reside.

[00:13:18] And what happens when the bridge between those underground stocks and the global market flow gets severed? And that bridge is of course storage capacity? JP Morgan had an analysis last week showing that many Middle Eastern oil producers. Are approaching a full storage situation. Under current conditions, Kuwait and the United Arab Emirates are already reported to be shutting down production, and Iraq may be closed.

[00:13:44] When storage is full, no matter the mechanism, the entire system has to rapidly reduce production. That's what happened in March, 2020 when oil prices turned negative, and here's where this could get. Between interesting and

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catastrophic in a way that's not getting much attention. And I want to be clear, this is speculative, but I do think it's plausible after conversations I've had.

[00:14:10] Iraq's major oil fields are old. Many of them have been on continuous water injection for decades. A process where you pump water into the reservoir to maintain pressure and push oil towards the production wells, and these are not technologies you can simply turn off and turn back on, is when you shut in a field like this, the pressure gradients drop and the oil water context shift, then gas dissolved in, the oil can come out of the solution and then potentially reduce the permeability of the rock itself.

[00:14:48] And the concern from petroleum engineers I've talked with is shutting in a well. Of that type that's been on large scale water injection could cause reservoir damage that might be difficult or even impossible to fix in the future. You might get some of that production back eventually after months and significant investment.

[00:15:10] And in some cases you might not get that production back at all, and the time factor becomes extremely relevant. So Iraq, especially Iraq, may face two choices if the straight stays closed. Option one is a shut in. With the risk of reservoir damage and a slow expensive restart. And I've heard this morning that flaring has stopped, in Iraq suggesting that may be an option, that's unfolding.

[00:15:40] And option two is emergency disposal of some type flaring dumping in the desert or into the Persian Gulf burning crude in the country or anything that keeps pressures and flows from collapsing. Each of those options is ugly with its own second and third order effects. So there's an uncomfortable system logic here.

[00:16:04] The shorter Iraq expects the straight closure to last, the more rational the dump option may look because Horus reopens in two or three weeks, dumping oil, as catastrophic as it would be ecologically and otherwise might

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preserve. The reservoirs allow production to resume quickly, but shutting in by contrast risks permanent damage that matters even if the crisis is short.

[00:16:33] I'm not an expert on this, but the lack of storage in a just-in-time oil system designed for continual flow and not interruption is a story that we should be watching. and it's not only Iraq, many other oil producers as well. I'm highlighting Iraq because they're closest to full storage, have old wells and happen to be the second largest producer in OPEC.

[00:17:01] Okay, let me shift to one of the more interesting long-term aspects of this unfolding crisis. Gas prices. At the State of the Union address, president Trump cited low gas prices as a triumph of the administration's energy agenda and a key theme heading into November's midterm elections. Here's a wide boundary take, and I'll be transparent that this is my editorial opinion.

[00:17:27] The political obsession with cheap gas prices is, in my view, one of the most ecologically and economically counterproductive reflexes in our modern governance. I say this not from a moral high ground, but from a system one cheap oil and gas prices send. A false, intermediate, and long-term signal, and they suggest to producers that the stocks underpinning our flows are abundant and easily replaceable, and they suggest to citizens that our current patterns of consumption are sustainable.

[00:18:03] They suggest to inventors and innovators that efficiency isn't urgent and alternatives are not economically competitive. In the short run, you could argue that's okay, but in the intermediate and longer term, all of those signals are wrong. Oil and gas are non-renewable, full stop, and we are living off a rapidly depleting stock, not a flow.

[00:18:29] And the price at the pump doesn't reflect the depletion rate of this underlying resource, nor the environmental cost of extraction and combustion. Nor as we're learning today the geopolitical risk premium, that is detonating in

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real time. Or of course, the cost of climate disruption that future generations and our nieces, nephews, and cousins in nature are gonna have to absorb.

[00:18:55] So higher energy prices if sustained. Predictable and paired with support. For people who can't afford such a transition, which are all big ifs, could be one of the most powerful signals a transitioning economy might receive. 'cause they would trigger conservation and they would spur innovation with the right prices and make alternatives competitive without subsidies.

[00:19:19] Instead, administrations across the political spectrum continue to treat cheap gas as. Akin to a human right and a political sacrament. The US administration is not unique in this, but there's an irony that's hard to ignore. The USA just launched a war that has, as one of its many second order effects, exposed how fragile cheap energy civilization actually is while simultaneously treating affordable gas as the primary metric of our domestic success.

[00:19:58] Okay. There is a wide boundary angle that the mainstream coverage of this war isn't really touching at all, perhaps because it's too wide a boundary. Every side in this conflict appears to believe God is on their side and not just in a vague bumper sticker sort of way, but in a very specific end of times, the Messiah is coming away.

[00:20:22] Let's start here in the USA. According to the Military Religious Freedom Foundation, since the strikes began in Iran, over 200 complaints have been filed from troops across more than 30 military installations. Some commanders are telling soldiers that this war is part of God's divine plan, and one complaint quoted a commander saying that Trump had been anointed by Jesus to light the signal fire in Iran to cause Armageddon and mark his return to Earth.

[00:20:54] Okay, so that's one vector. There are two more. in Israel, the Jerusalem Post ran a piece by a rabbi drawing a straight line from the Iran War to Gog and Mago prophecy and Ezekiel, and he quotes a Talmudic passage suggesting that

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the west defeats Persia nine months before the arrival of Maia, the Jewish version of Messiah, pronounced with a Wisconsin accent.

[00:21:26] And then there's the Iranian side. When Supreme Leader Khomeini was killed last week, the IRGC called Khomeini, the rightful deputy of the Imam of the age, and his martyrdom, they said, was a sign of victory and approaching the goal. In other words, the IRGC's official military response to losing their supreme leader appeared to be.

[00:21:48] This is on track with the prophecy, the Mahdi is coming. In 12th century Shia Islam, which is the dominant faith of Iran's ruling class. The 12th Imam has been in a state of divine hiding since the ninth century, and he's believed to return during a time of global chaos. And Iran's hard line clerics have been explicit for years.

[00:22:13] The existence of Israel is seen as the main obstacle to his return. And senior IRGC clerics have said in speeches recently that removing Israel is the most important preparation for the mighty reappearance. So we have American military competitors apparently framing strikes in Iran as a Christian Armageddon, Israeli rabbis framing those same strikes as the nine month countdown to their Messiah coming and Iranian generals framing their own supreme leader's death as.

[00:22:49] Prophecy progresses toward the return of the messiah. Three different Messiahs, three different scripts. One war so far. That's the narrow boundary story. three religious headlines. The wide boundary story is human belief itself. Humans are a group survival species and shared sacred stories are one of the oldest coordination technologies we have.

[00:23:19] They compress uncertainty and clarify. Who belongs in the ingroup and they turn fear into meaning and meaning into willingness to endure pain and

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sacrifices. And those impulses are not unique to any religion. We see the symbols and the machinery that underpins this in flags and ideologies and revolutions.

[00:23:45] The wide boundary here isn't so theological. It's human behavioral systems. 'cause when leadership in all parties believe God is running the show, I am very concerned with who is actively looking for the off-ramps in this war.

[00:24:05] There's a lot more that I could say, but I will close with a civilizational warning. I want to invoke the war of 1812 as a reference point. Most Americans have largely forgotten it. It was a war. The United States initiated under the belief that the moment was right, that the enemy was distracted, and that the campaign would be quick and decisive.

[00:24:30] Instead, the British burned Washington, the Capitol, and the White House. We nearly lost the country we had just founded. It was by most historical assessments, one of the more reckless military miscalculations in American history, and it came very close to costing the USA everything. What we're watching unfold now in the Middle East, in my opinion, could potentially become the worst military blunder for our nation since 1812, not because the US and Israeli militaries lack capacity and.

[00:25:06] Intense capability. Obviously they don't. But because military capability is not the same as strategic wisdom and foresight, the second, third, and end order effects of a partially closed rate of or a destabilized gulf region, depleting military stockpile, a fragile global financial system. And especially a world accelerating, its reorganization away from American centered Trade and finance are all starting to combine and starting to be seen.

[00:25:46] I fear this war has the potential to unravel the economic foundation of a civilization that took. Two centuries to get to this point. And I hope I'm wrong about that. My appeal to anyone with influence watching this, end this as soon as

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possible, before we find out what the third, fourth through and order effects actually look and feel like.

[00:26:12] In my role as analyst and scientist, I have a lot to say about this unfolding situation. We are now at a point past a point where we need to respond, prepare, and engage as The Great Simplification encroaches. I will continue wide boundary updates when they matter. But my focus and the focus of this organization is shifting.

[00:26:36] The real work now is local coordination, ecological preparedness, putting rocks in the river, in communities so that we can slow the current and start rebuilding capacity. If you wanna do that work with us, please continue to tune in. and that is the ultimate goal of this platform and our work. Hope you're all well.

[00:27:02] May we live in interesting times? Talk soon.