

Demetri Kofinas: What's up everybody? Welcome to this week's episode of Hidden Forces with me, Demetri Kofinas. Today, I speak with Josh Wolfe, co-founder of Lux Capital, a venture firm that specializes in the hard sciences, supporting scientists and entrepreneurs who pursue counter conventional solutions to the most vexing puzzles of our [00:00:30] time. Josh is also a founding investor and board member with Bill Gates in Kymeta, which makes cutting edge antennas for high-speed global satellite and space communications. He's a Westinghouse semi-finalist and published scientist.

He previously worked in investment banking at Salomon Smith Barney and in capital markets at Merrill Lynch and in 2008, co-founded and funded Kurion, a contrarian bet in the unlikely business of using advanced robotics [00:01:00] and state-of-the-art engineering and chemistry to clean up nuclear waste. Josh is also a columnist with Forbes who has lectured at MIT, Harvard, Yale, Cornell, Columbia, NYU, and has been invited to the White House and Capitol Hill to advise on nanotechnology and emerging technologies. Josh, welcome to Hidden Forces.

Josh Wolfe: Great to be here. Thanks for having me.

Demetri Kofinas: Man, what a bio, dude. I've read some people's bios before. That was long. I had to cut it down and figure out what I was going to put in there and what I wasn't going to put in there, and make it lyrical.

Josh Wolfe: [00:01:30] I like your voice. It's good.

Demetri Kofinas: So I'm actually very excited to have you on, Josh. When I came across your work, I was like, "This guy is a perfect fit for what we do in Hidden Forces." Then I found out that you're a board member at the Santa Fe Institute.

Josh Wolfe: I am.

Demetri Kofinas: Which is amazing.

Josh Wolfe: Yeah, and a listener of Hidden Forces.

Demetri Kofinas: That's exciting. So what have you heard? You've heard Geoffrey West.

Josh Wolfe: I heard Geoffrey West. I heard Ray Monk, which was amazing because it was philosophy in math, yeah. Let's see what else. What other ones stand out? Throw out some other names, I'll tell you.

Demetri Kofinas: Well, I mean there are a lot. The Tim [00:02:00] O'Reilly is really good.

Josh Wolfe: Yes, about the future.

Demetri Kofinas: Yeah, yeah, yeah. Tim O'Reilly is really good because that also fits in with Hidden Forces. There are a bunch of really good ones. It's hard for me to even remember all the different ones. I have my personal favorites, but it depends. I mean like in terms of the sciences, yeah, the Geoffrey West one's great. I think it actually worked with the slime mold thing.

Josh Wolfe: Yes.

Demetri Kofinas: Because I think that's what you're getting at with some of that, and I want to actually ask you about.

Josh Wolfe: Well, and some of Geoff's analogies are totally apropos for startups. They start as these totally nascent things and then they grow very rapidly and you try to understand what [00:02:30] are some of the universal forces that might affect a very large company that is plodding slow like an elephant and has a low probability of dying, high probability of surviving, but really needs the environment to be totally stable. Whereas then you have very small organisms like shrews and hummingbirds and insects and they have higher mutation rates, higher reproductive rates, higher probability of failure, and those are basically startups.

Demetri Kofinas: Fascinating.

Josh Wolfe: So that continuity in the scale of life between small organisms, heart rates, number of [00:03:00] beats per life, and then the kinetic pace of startups I think is totally analogous.

Demetri Kofinas: You're a total geek. There's also the economies of scale in the multicellular organisms that you touched on with the slime mold which we've covered with Geoffrey, which is that you get these economies of scale as you scale up in physical systems. That a million cells organizes an elephant, well there's more than a million, but whatever the number is are far more efficient than the version of individual. For those who are relatively new listeners who haven't been with us since [00:03:30] the summer, I was invited and stayed at Santa Fe. Jenna invited me, and I had an amazing time. It was like camp for [crosstalk 00:03:37].

Josh Wolfe: For nerds. Yeah, totally. It's nerd camp.

Demetri Kofinas: And there are kids there, too, and they're really smart and they're there also. There's all sorts of people.

Josh Wolfe: Well, they do a complexity course for kids and so there are a lot of the people, whether they're trustees or friends or professors. So you get this science and the kids that are coming and yeah. No, it's total nerd camp.

Demetri Kofinas: What's really embarrassing is I tried to be friends with the kids because I thought it was so cool. I was like I thought they were so cool because they were

[00:04:00] doing this stuff and I felt like they thought I was like some creepy guy asking a lot of questions. I was like, "All right."

So let's start first with your background because you have an interesting ... You're an interesting guy, period. You fit the mold kind of what I imagine would be a listener of the show basically. So give us a little bit of your background. Who is Josh Wolfe? Where did you come? Where did you grow up? All that.

Josh Wolfe: Well, philosophically and geographically. So graphically, I come from Coney Island, Brooklyn. I was actually born in Cali, parents split at a super young age, gave me a little bit of a chip on the shoulder, raised by my mom.

Demetri Kofinas: How old [00:04:30] were you?

Josh Wolfe: I was two and a half, three years old, and moved in with my mom and my grandparents. Grandma was a meter maid, grandpa was a newspaper delivery man for the Daily News. I used to mark the papers, wrap them and sell them at night and I'd sleep in his bed. It was four of us in a two-bedroom, one-bathroom apartment in Coney Island. My mom is actually still there. Yeah, so that was the upbringing, and she pushed me to be a nerd.

Demetri Kofinas: She pushed you explicitly?

Josh Wolfe: She was like, "Look, this is your path. Be a nerd and-"

Demetri Kofinas: That's [00:05:00] so fun.

Josh Wolfe: So I was always driven by the meritocracy of it and be the smartest, be the best in the class. I had highly competitive peers growing up, and so I would come home with like a 98 on a test of my two best friends, Jimmy and Adam, she would say, "What did Jimmy get? What Adam get?" If they got a 99, it was always relative. So I was psychotically competitive.

Demetri Kofinas: That's so horrible.

Josh Wolfe: But that also went into Sundays, people would play football and I played football. People would watch football and I wouldn't. I would maybe play video games but otherwise, I would read voraciously and try to learn everything that I could. [00:05:30] So I was psychotically competitive about what can I know that nobody else knows and that's me-

Demetri Kofinas: From when you were a kid, you were like-

Josh Wolfe: Yeah, since I was like probably six, seven, eight years old just reading as much as I could, and even watching documentaries or movies or just anything that I could learn. But it was always driven not by this insatiable just innate curiosity, it was

always some competitive aspect. I wanted to know more than the next guy. She pushed me to be a science nerd. I was a Westinghouse semifinalist, which you mentioned. That was really born actually from having seen this movie *And the Band Played On* and this was literally [00:06:00] like early '90s, HBO talking about the AIDS crisis and I had the gumption, the gall to be like, "I'm going to go find something that's going to cure AIDS."

I found a researcher at SUNY Downstate, the guy Dominick Auci who was a PhD researcher. He wouldn't let me into the lab and I wouldn't take no for an answer and eventually at 13 years old started working in the lab and did a publishing science research on that. That lab was counterintuitively the reason I ended up in finance because here's this guy who's spinning down a centrifuge of blood and I got way enamored with what he was doing while we were waiting which [00:06:30] was basically trading futures and options. I was like, "What the heck is that?" and knew nothing about finance markets. I didn't know the difference between a stock and a bond and he sort of educated me on that, and then went to Cornell, became really enamored with capital markets. Every opportunity that I could get to get an internship or something like that from a Cornellian or Brooklynite, worked my way in.

Then for me, venture capital was the ultimate hybrid between science and finance, and that's where my life is today. It's beautiful because both are these endless frontiers. Science itself is this endless frontier. [00:07:00] You never know what new thing, what new discovery, what sort of entropic surprise is going to occur. Then that new surprise becomes the seed kernel to combine with something else that people already know and it creates a new technology and then that opens up some new market and disrupts an old one. It's this endless beautiful frontier.

Demetri Kofinas: So when you got out of Cornell, what the Cornell ... First of all, when were you a Westinghouse scholar?

Josh Wolfe: During high school.

Demetri Kofinas: What year was it because I was a finalist for Intel which replaced Westinghouse, and it was the year right after Westinghouse got replaced.

Josh Wolfe: So I was Midwood High School Brooklyn [00:07:30] in '95, Cornell '99. So yeah, so early, mid '90s.

Demetri Kofinas: So you graduated from Cornell at the very height of the tech boom.

Josh Wolfe: Dot com bubble.

Demetri Kofinas: Dot com bubble.

Josh Wolfe: Yeah, and went into investment banking and I joke that I wasn't smart enough to collect my first year bonus and along the way ... Everybody was chasing dot coms, right? So it was either dot com or optical networking, and I was totally enamored by

both science and finance and we, me and another partner, Peter Hébert, decided that we wanted to start a firm but we wanted to focus on the thing [00:08:00] that nobody else was focusing on. That was all the hard science stuff, so chemistry, physics, material science.

We went out to raise friends and family money and I joke that I had a lot of friends and a lot of family, none of them had any money. Mom was a schoolteacher and Pete's parents didn't make a lot of money. I got lucky, met a guy, Bill Conway, who's one of the founders of the Carlyle Group which is now a giant private equity firm. It was the luckiest day of my life.

Demetri Kofinas: What year was this?

Josh Wolfe: This was early 2000, so 2001, 2002.

Demetri Kofinas: You slugged a few early on. That's a big deal, getting in with the Carlyle [00:08:30] Group.

Josh Wolfe: Yeah. It wasn't Carlyle as an entity, it was Bill specifically. But it was really just appealing to somebody's interest in saying, "Okay, these are smart guys that are going to do something. I trust them. I think they're going to be ethical. I think they're going to be intelligent. I think they're going to hustle." Those are the same characteristics when we're backing somebody that we want.

Demetri Kofinas: That's really cool. So you've been in this game for a long time.

Josh Wolfe: Yeah.

Demetri Kofinas: So you started Lux in 2001?

Josh Wolfe: Yeah. So the first few years, we basically answered the question how do we have an edge. Every venture group is the same and they're totally undifferentiated and they claim that they've got brighter deal flow, [00:09:00] they claim that they have special value add, and most of the time it's all BS. So we wanted something structural and real. We ended up creating these three different entities, one inspired by Carlyle which was let's have close proximity to Capitol Hill, try to influence where the legislature might go, where non-diluted money or three-letter agencies might allocate to. Then we started a media business with Forbes, and this was born in this old Ben Franklin quote, "Would you persuade appeal to interest, not reason?" Here, we were appealing to the vanity, the ego of the individuals that we want to get access to who otherwise [00:09:30] wouldn't have given us the time of day.

Then Peter had a good idea. Let's start a research business which basically became Lux Research, very creatively spun from Lux Capital. The idea here was anytime there's a high degree of information uncertainty, people don't know what they're going to do or who's for real or who's full of it, they will spend a lot of money on information to reduce that uncertainty. Just like Gardner Forrester, a corporate executive board did that in the IT and information service space, we did that in the emerging tech space.

So that became a platform. Then we had the paradox how to raise a fund without track record, how to get track record when you got no [00:10:00] fund. We went to Conway and in his magnanimous way, he put us in business and that became fund one. Then from there, we went and raised a series of ever successive larger funds. So fund two is a hundred, fund three was 250, fund four, 350, fund five, 400, and another \$300 million co-invest funds. Now we're a billion and a half across those funds, over a hundred companies, and all kinds of lessons learned along the way.

Demetri Kofinas: So you structured the offer different investment opportunities? You can invest in them separately?

Josh Wolfe: They're all standard venture fund, so it's a pool of capital committed over 10 years and we raise money [00:10:30] from limited partners, from institutions, endowments, families, wealthy individuals, and we manage that. That money is locked up for 10 years, and I think that's actually one of the great advantages of a venture which is time arbitrage. Whereas I have so many smart friends that are hedge fund or global macro guys, and they have to be responsive to coming up with weekly, monthly, quarterly returns because they're competing with other people who are doing that and therefore their risk of losing capital from their investors is very high. I think it ends up leading to suboptimal decisions.

So we have very [00:11:00] uncertain, very high risk, very high probability of total failure but what matters is frequency versus magnitude. We could be wrong 99% of the time but on the 1% of time that we're actually right, the magnitude of how big we're right matters, less all the things that we've lost money on.

Demetri Kofinas: There are few things that I've heard you talk about that I want to mention at the top, and then I want to go deeper into this. The way you invest, not just your thesis and your model but also maybe the qualitative aspects of how that process happens for you. [00:11:30] But I've heard you talk about 100-0-100 and randomness and optionality. Can you talk about those two for us, for the audience?

Josh Wolfe: So these are defining philosophies, and I think they're sort of timeless meaning from fund to fund, we might invest in different subsectors, we might invest in different people, we might size our investments differently, we might co-invest, but these are constants. So the first one is randomness and optionality, and this is more specific to me and a handful of people in the firm. It's not the entirety of the firm. Some people are more linear thinkers. They look at point A, they look at point B, they figure out what's the shortest [00:12:00] way to get there.

I am a little bit more random in that I like to meet and talk to everybody. I'm able to find that I can connect dots sometimes after the fact, but I have an intellectual honesty that you never know a priori whether A is going to lead to B. It might be A to D to A prime to Z, and then suddenly ... All these things connect back after the fact. So what I call internally is R and O, which is randomness and optionality. You want to expose yourself to as many people, as many ideas with the intellectual humility that you don't know what the thing is

that's going to matter. Then all of those are effectively [00:12:30] free options, free options in that you've spent time, maybe as little money as possible.

Learning is the greatest free option there is. Reading lots of different books in lots of different sectors and then finding cohesive ideas between them. Meeting lots of people in different disciplines is another way. Then sharing ideas with people and saying, "Hey, I'm interested in X," and then they connect you to somebody who connects you to somebody. Then just after the fact, this constellation of things is obvious but beforehand, I'm intellectually honest that you just never know.

So that leads into this other philosophy that I've [00:13:00] dubbed 100-0-100, each is the successive probability that describes some combination of arrogance and ambition and intellectual honesty and humility. So the first hundred is I have 100% certainty. This is the self-aggrandizing, ambitious, aggressive thing which is that Lux will be investing in the most cutting edge crazy things that you can think in the next two years. The zero which follows is I have close to no idea what those things are going to be. But the last hundred is the certitude of where I will find them. That's generally at the edge [00:13:30] of our already cutting edge companies.

So I can connect the dots afterwards, but I probably again don't know. But typically, if I'm investing in some company that's on the cutting edge and then they're solving some problem which means by definition like the edge of the edge, then that's a clue for me to go find the company that's developing the thing that could solve their problem because even though there might be early and nascent and insufficient demand for the masses for that company, it matters and then that's going to lead to the next thing. Then as long as I maintain a little bit of that ambition and the quest to find it and the paranoia [00:14:00] that if I don't find it, I'm going to be behind the rest of the herd, then that always makes sure that we're on the cutting edge.

Demetri Kofinas: That's interesting. It's like they're hunting dogs or these companies that you have, because they're out there at the frontier, they're giving you proprietary information that other people don't have access to and are able to use that information where to leverage your future investments.

Josh Wolfe: Totally. Maybe less hunting dogs than foraging ants, right?

Demetri Kofinas: It was the herd.

Josh Wolfe: Yeah.

Demetri Kofinas: You mentioned the herd, that's what I thought.

Josh Wolfe: Yeah. So the ants go out and then they find something, they come back, [00:14:30] and they double back on the signal, and like, "Ah." Then maybe we let the hunting dogs out and then they go and lead us to the next thing.

Demetri Kofinas: And you're in a unique position to capitalize on that because you have access to all of those different companies. They may not have access, but you do and you're able to see all those different patterns emerge.

Josh Wolfe: Exactly.

Demetri Kofinas: There's a quote of Steve Jobs that I love. I've always found him fascinating from when I was a child. There's a quote of his that I really like that I thought of when I read some of your stuff and heard you in two prior interviews. [00:15:00] It was when he talked about when he was at Stanford and dropped out and then he was auditing a course in calligraphy. He says, I'm going to have this quote for the audience, "You can't connect the dots looking forward. You can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something, your gut, destiny, life, karma, whatever. This approach has never let me down, and it has made all the difference in my life." That's part of a beautiful speech, a speech he gave at Stanford.

I am [00:15:30] curious. I hadn't actually intended to ask you this but now it came to me. He says you have to trust in something. I've definitely found that to be true, and I found that as I've gotten older, in order to have that type of randomness and optionality that you're talking about, I've had to learn to be comfortable with uncertainty and knowing that the dots will connect and not being afraid that I don't know how they will connect.

That took a long time for me to get to where I am today where I can be in that state of flow, [00:16:00] which I think is also part of what that's all about. You see here, I have a picture of Michael Jordan because another person that I've always idolized, Michael Jordan, because of the way in which he reveled in that level, in that place of uncertainty, in that place where anything could happen, and that he could step in and perform.

Anyway, so I'm throwing a bunch out there but I'm curious for you, because you're a performer, you're very much in that place where you've got to perform. What's that like for you, that process, [00:16:30] how does that happen? How do you sort of ...

Josh Wolfe: Well, I'll take two things. So first, Jobs who I think is on the one hand a genius, on the other hand and this is almost heresy, slightly overrated in that if you actually look at some of the most amazing things that Jobs is attributed for having commercialized, they were actually really from Sci-Fi, science fiction. So I actually sometimes joke that he ... of course, he's a genius but he was also a great Sci-Fi archivist.

Demetri Kofinas: Was he? Was he a big reader of Sci-Fi?

Josh Wolfe: Well, I don't know if he's a big Sci-Fi reader. I actually haven't read that he was, but he stole from [00:17:00] Sci-Fi. So the iPad really came from both Star Trek Next Generation where Picard's got literally, and you can Google Image this, all these tablets on his desk. In fact, even in the litigation between Apple and Samsung, Samsung

invoked 2001 Space Odyssey, the first flat, two-dimensional screen reader saying Apple couldn't have invented it because it was invented by Kubrick.

Anyway, but I think there was something in that Jobs quote that you read that caught me which was almost akin to [00:17:30] faith. It's a weird thing for me to reconcile because I find I have very little faith. As a very empirical scientific view, I have faith in gravity, that gravity exists. But to use that word sort of speciously. But I actually don't know. The randomness and optionality, my 100-0-100, I have very high certainty that it's going to lead to something but it's a weird thing that I wouldn't actually call it faith. It's this subtle distinction with a difference.

On the Michael Jordan piece, the thing that [00:18:00] I love about him and this was recounted recently by some sports journalist, but was how psychotically competitive he was. He shared the same virtue, I would call it a virtue, some would call it a vice, that Tyson did. Tyson would walk into the ring and he would look at somebody and just think I'm going to destroy you. Tyson was a fellow Brooklyn guy. Jordan is renowned for, like he would find the vendetta, he would find the thing to get him angry and mad to draw that inner emotion out.

Demetri Kofinas: The log in the fire, he talked about that in his acceptance speech in the Hall of Fame.

Josh Wolfe: [00:18:30] I think that that is so critical in any domain, doesn't matter what you're doing. You're an athlete, you're an investor, you're competing in something, you need that flame. I've personally found for me and I became aware of what I think it is, which tends to be the chip on my shoulder having not grown up wealthy and resenting kids who did, seeing people who got things because of nepotism not because of meritocracy, seeing people who had strong nuclear families when mine was all screwed up.

I like people. I like betting on entrepreneurs who have something broken inside. I've identified even [00:19:00] in some of my limited partners, prominent patriarchs of families that something happened to them when they were young. Maybe they had a lisp or maybe they had something that people made fun of or maybe they weren't the favorite child or maybe their parents ... there's something broken and it doesn't matter how much success they achieve or how much money they make, they end up with that still that sort of bottomless hole inside that they keep feeding. It's a weird thing because on the one hand, when you become aware of it, you can heal it. But on the other hand, you need it to continue to achieve progress. So it's another one of those dichotomies I don't know is reconcilable.

Demetri Kofinas: [00:19:30] I've actually had this conversation before with people, with writers and with other artists because I also have the sense that great art and great writing comes from a place of discontentment of some sort. I wonder, and there are people that have argued with me on this and I'm not sure about it. But I have openly wondered whether you can achieve the types of things that we consider to be success, great success, if you are content.

Josh Wolfe: In a sense, success often, [00:20:00] not always, is defined by some exogenous approval. You're seeking approval from other people which could be celebrating your art, it could be celebrating the song, it could be buying your product, it could be putting on the cover of a magazine, it could be standing ovations at a concert hall or at a stadium. But all those things in a sense are for other people. It's extrinsic.

I have argued that I think true art is the kind of art that people make in private for themselves. Now, I don't happen to do that. I do things that I want to touch the world, I want people [00:20:30] to celebrate. I imagine myself at 75 years old with famous Nobel laureates applauding not only the great scientific work that I've helped them to pursue but some of the great commercialized entities that have reached billions of people because of that. But it is a really interesting phenomenon that you raise that there is this sort of not just the art of war but the war of art, that there's some internal struggle that some of the best producers have.

Demetri Kofinas: I was looking for this quote here because I had put a quote on my Twitter account. [00:21:00] I wanted to get the exact quote. I don't think I could find it here. But it's essentially about chaos being the measure of our own ignorance and that really there is no real true randomness. Here it is. "Chance is only the measure of our own ignorance. Fortuitous phenomena are by definition those whose laws we do not know." It's an interesting point that came to my mind as you were talking about faith, and I think this is an interesting conversation to have which is what is faith and what is [00:21:30] God? What is the nature of reality? Are these questions you ask yourself at all? Do you say it's not really? You take this [crosstalk 00:21:38] epicurean idea.

Josh Wolfe: No. Again, being competitive and being fascinated and interested in everything, I've sort of tempered some of my views. But I would say they were, for most of my life, very atheistic, meaning not believing in any deity, not believing in supernatural forces. Everything for me has some empirical, even if it's not understandable cause. In the quote that you read, it's interesting because I think of [00:22:00] Laplace's demon and if you had infinite computational capacity to be able to look at every molecule, then in the sense there would be no randomness. I actually, I don't believe that. I think that they're-

Demetri Kofinas: That goes against the whole school of thought in Santa Fe.

Josh Wolfe: Exactly.

Demetri Kofinas: To clarify for our audience, you're contrasting a deterministic view of the universe versus a non-deterministic one.

Josh Wolfe: Correct. Right, and that gets into fascinating topics. [00:22:30] For example, I've loved watching two brilliant minds in both Sam Harris and Daniel Dennett debate free will. Is there free will if these are ultimately deterministic neural processes inside, which themselves are responding to outside stimuli that are producing thoughts or is there some agent in the machine that you're able to conjure your own independent thought?

So yeah, I think about these things a lot. I don't believe in personal God or the existence of God. I am much more in the Dawkins and Hitchens camp. I would say the only thing that I've tempered is that I used to be [00:23:00] militant atheist and then I-

Demetri Kofinas: What's that mean?

Josh Wolfe: Well, I realized that I was counter indoctrinated. The very thing that I was railing against very religious people, I myself was arguing.

Demetri Kofinas: Well, I think that's like Dawkins to me. Dawkins and Dennett maybe. I don't know if Dennett qualifies for that, but Dawkins comes across to me as very militant atheist.

Josh Wolfe: Well, he's very fervent in his belief is probably a euphemist way. But I much more subscribe to that view of the world, one that embraces science, embraces reason, rejects on natural thinking. I think that it creates [00:23:30] a lot of harm in the world, and I understand how it pacifies many. But I do think that still to find curiosity and basically saying we know the answer when at best, all we have are tentative answers is a dangerous thing. Science itself is a tentative thing. We hold ideas until you find evidence that the thing in which you believe you can no longer believe whereas religious doctrine is antithetical to that.

Demetri Kofinas: I found that putting aside dogmatic, and there are people who have a religious view [00:24:00] of the world that is couched in a materialist way of thinking. It's a very odd thing. It's the same sort of people, I think, that attempt to think that they can prove the existence of God. It's this weird idea. They're using empirical methodology to try to prove a non-empirical phenomena. Bearing those types of arguments, putting aside those types of arguments, there's an interesting meeting of the minds for me between enlightened religious thinkers who have a particular approach [00:24:30] to that mystical approach to the nature of reality and such and the scientific community. Because for me, when I think about this problem, the one thing that has always been a challenge for me is to understand how to view the world materialistically because I can't account for the distortions of my own subjective experience.

I've talked about The Matrix a lot on the show for so many times over so many episodes because it was a foundational myth [00:25:00] for me seeing it at that age and then subsequently through my experiences because it spoke to something that I've always felt, which was that I couldn't trust my subjective experience. Then there came a point in my life, I don't know if you had this, but there came a point my life and I think it was at the end of college, senior year, where I had a total breakdown. I couldn't get out of bed. It coincided and I think not coincidentally with the end of college, which was this just massive level of uncertainty, what is my [00:25:30] life-

Josh Wolfe: Radical change.

Demetri Kofinas: Radical change. I couldn't get out of bed because I fundamentally did not trust the floor. I had lost total confidence. The crazy thing is that I, and I don't think you know this, but I had a brain tumor later on in my life that caused dementia. I lost full contact basically with the world around me. I actually experienced that physically later which I experience metaphysically earlier or just from a philosophical and a sort of-

Josh Wolfe: Psychological, yeah.

Demetri Kofinas: Psychological. [00:26:00] So I've always found the idea that we can use empirical, the scientific method to answer the deepest questions that matter most. I don't think science can offer those. I've always had the view of I don't know, or not always but I've come to this point in time in my life where I can answer the question of what is the nature of experience, what is the nature of reality. But if I were to have to answer that question, I would rely on my subjective experience and [00:26:30] the revelation that comes from that experience than I would any kind of empirical studies.

Josh Wolfe: Well, the last part of what you said before, not trusting reality in a sense or your perception of it, I actually feel like technology plays a really important role in being able to more objectively measure regardless of who the subjective user of the instruments are.

Demetri Kofinas: But that's the thing, absolutely.

Josh Wolfe: Objective reality. So I don't know how you see red or I see red, this sort of classic philosophical qualia problem. But I [00:27:00] know that the instruments every time that they see certain wavelength of light are going to measure that it's red. Now what we call red and what you experience is red, I don't believe that it will ever experience. But I think that technology helps us to what I call trend to truth. It helps us to identify a more accurate sense of what the reality is around us.

Demetri Kofinas: Well, it addresses the sensorium component of this, which is that we can gather information that we couldn't gather before.

Josh Wolfe: Correct.

Demetri Kofinas: But it still doesn't address the subject of component which is the perceptual, the way that we ... the [00:27:30] problem of the-

Josh Wolfe: The experience.

Demetri Kofinas: Yeah, Descartes' demon.

Josh Wolfe: Yeah, the problem of experience. That, by the way, is very interesting even in the artificial intelligence debates that go on now because we know that artificial intelligence really is about intelligence. It's able to do an analysis of a problem. It's able to do large fact finding and search. It's able to do pattern recognition. It's able to do intense

mathematical calculations. It's able to do predictions from priors. It's not able to sense or feel. It's not able to consciously be aware of itself doing that.

So I think that that's still a problem where [00:28:00] we don't understand how that works, we don't understand consciousness. It's the classical "hard problem." Even some of these terrible prognostications about AI taking over, I think, are totally improbable in large part because there's no reason why the highly analytic engine should want to do moral bad, notwithstanding we just had a case where an Uber self-driving hit somebody. But that wasn't the agency of the car deciding to do something bad, it was a failure of programming to correctly identify [00:28:30] a pattern in the world. It didn't detect truth.

Demetri Kofinas: Well, that's interesting what you're saying there. I agree that the idea that there would be Skynet moment and it would be driven by some nefarious motive by the AI, I don't think that's necessary. But I think though it is an interesting question to ask. What sorts of machines would a human being or a race of humans create versus a non-human intelligent life form? The AI could be executing what it thinks is its [00:29:00] program and in so doing drown you, [crosstalk 00:29:03].

Josh Wolfe: Yeah, and this is [crosstalk 00:29:03] the paper clip problem, that it has a specific end motive and that the best thing that it can do is extract the iron from your body to be able to continuously make paper clips. Steven Pinker in particular, I think, has a wonderful set of counters to this. You've got Elon winging because he's really ... Elon Musk really subscribe to the super intelligent view of thinking okay, if Pinker doesn't understand this, we're all in trouble.

Demetri Kofinas: Harris, too, also takes a dim view of this.

Josh Wolfe: Yeah, and although he's tempered by ... his [00:29:30] counter would be David Deutsch who basically thinks that the worst we're going to experience is the equivalent of these intelligences gone awry and he's like, "We already have them, but we call them teenagers." So I'm more optimistic.

Demetri Kofinas: Well, isn't there some great myth of a tempestuous God as a child and just wreaking havoc on the universe?

Josh Wolfe: Yes.

Demetri Kofinas: I don't know where that is from.

Josh Wolfe: Yeah, it's not one that I believe in but yes, it's ... But yeah, I think all these, this entire set of questions, both the physical, the metaphysical, philosophical. I actually think now in technology, these [00:30:00] were areas by the way philosophically that were totally ignored. In the same way that neural nets were totally ignored and now become some of the most important basis for novel AI. Some of the philosophical questions, the moral questions that were left for the classical liberal arts, in the soft sciences, the social sciences are now some of the most pertinent questions. People that are coming out of

programs like at Stanford, like symbolic systems, they're the most qualified, in my view, to deal with this intersection of morality and technology and then think about the implications [00:30:30] that they're going to have for society.

The famous quote that I love from Kevin Kelly that when you think about technology, the question is not to ask what happens when such a technology exists. It's what happens when everybody has one. That, in turn, leads to this moral question of is technology good or bad. I'm of the view there's nothing either good or bad, but thinking makes it so. Just the mere existence of a technology, I think, tips it one basis point over towards good because again, randomness and optionality, you've created an option that can be used.

Now the problem is all technology, [00:31:00] fire, nuclear power, social media can all be used for good or bad. Fire can be used to heat a home and cook or it can be used to burn a home or a village down. Nuclear can be used for perfectly zero carbon, high energy density power or can be used to incinerate a city. Social media can be used to connect loved ones and keep them informed with each other or as we're seeing now, influence a populace and corrupt the democracy.

Demetri Kofinas: I think also inherent in that is the rate of change.

Josh Wolfe: Yes.

Demetri Kofinas: Because you can adapt to things and [00:31:30] then your measure of what is good and what is bad is relative and changes based on ... which is why we can't judge past generations based on our current moral compass.

Josh Wolfe: I think that's absolutely right and in fact, we have these geographic ... when you asked me where am I from, there's a philosophical place I'm from, there's a geographical place.

Demetri Kofinas: Your answer to that question, by the way, completely gave you away. The fact that you broke that down by philosophical and geographical boundaries. I was going to make a joke about that but [crosstalk 00:31:54].

Josh Wolfe: But I think that there's East Coast and West Coast or coastal elite, [00:32:00] Silicon Valley and Route 128 Cambridge and then the rest of the Midwest and you've got this between the red states and blue states. But I actually think that there's a time signature to these people as well. These people meaning a lot of the coastal people in Silicon Valley and coming out of academic and research are, by definition, they are trying to invent the future. They're pushing on the boundaries of science. They're trying to look at how they can solve problems. I think the vast majority of people are doing that benevolently. They're not trying to create ill for society. I think they want to be celebrated by their fellow scientists and researchers. They're technologists, they're engineers, [00:32:30] but they want to produce something that helps to do something that people couldn't have done before and make lives easier.

But the net result of that is that they're advancing a future at a rate to your point that almost like a species that isn't mutating fast enough to be able to adapt to its environment where you have a larger group of people that are trying to live in the present or in the past, and there's nothing to say morally. Hey, you need to adapt, you need to change, you need to abandon the old way of doing things. There are people that liked their farms and their TV shows and they liked three shows at night, not 30 on 4,000 [00:33:00] different stations. It's overwhelming.

So there is this race between people who are trying to usher in the future and people who are trying to protect the past. We happen to be situated on that fault line, pushing and funding and fueling the people who are inventing the future. But you can't do it without consideration for the people who are really being disrupted and not being asked permission. They're saying like, "This is the new way that you have to adapt."

Demetri Kofinas: It's interesting to stretch the boundaries of your metaphor, the fact that you were talking about the geographical location [00:33:30] of these philosophical divide. It's like the coast are tearing the center apart.

Josh Wolfe: They are.

Demetri Kofinas: Yeah, they are. You're right, and I agree with that and it's an interesting point. Something else I want to say because you were touching on it before, how to deal with the fact that some of these disciplines that weren't really important in the practical world forever are now very important, and I think that nowhere is that more true than in machine learning and artificial intelligence because it is like applied philosophy. You're taking these questions that we've been asking for millennia and that now we need an answer to [00:34:00] because we need to actually create a utility function that incorporates these ideas as we design these machines, these intelligent machines.

Josh Wolfe: I think that's absolutely right, and it's not just the social sciences. In some cases, it's literary, in poetry, in thinking about words and semantics and parsing language. This to me is like almost a resurgent renaissance of all these different disciplines.

Demetri Kofinas: And identity, also when you talk about free will, these are real issues. We did a show with Jeffrey Rosen of the National Constitution Center dealing with this question of what do you do in a judicial system where [00:34:30] if you assume that free will is ... there is no free will.

Josh Wolfe: Right. How do you punish criminals or mete out justice?

Demetri Kofinas: Exactly. You mentioned something else when we're talking about this. I think you were suggesting that somehow the concerns around artificial intelligence getting to that Skynet moment are if not overblown, premature. That reminded me of something else you mentioned to me when we had a brief call before this interview, which I want to get to which is your thoughts on climate change. I find those very interesting and forward thinking. I [00:35:00] just want to throw that out there because I don't want to

forget about it. But I want to continue along ... try to go along this rundown I've got here. I wanted to come back to this thing about process. My subtitle here is geeking out. I have my own little process that I go through and I've always gone through this which I follow ... You've talked about passion and I have this picture here of Michael Jordan just killing it, just on the court just in it.

Josh Wolfe: Intense.

Demetri Kofinas: Just so in it, just in love. So whenever I've had that feeling as I've gotten older, I've [00:35:30] learned really ... The first time I probably felt anything like that was I'd say I began to start doing it after college when I decided I turned down a good job and went to Italy instead and just worked in Italy for NYU, managing off campus apartments. I didn't always just follow my heart. But as I began to do that more and more, I began to indulge in things and the more I would indulge in them, there will come a point I'd worked them over my [00:36:00] head. I'll get let's say ... Recently, for example, and it's not the first time this has happened.

We covered a certain bunch of topics on the show for a while and I just took some time off, like time off. I literally just didn't work on whatever I was working on. I just let my brain go in an unstructured way. I really kept thinking about quantum information theory because it's something that I really wanted to work my mind over with and it's something that I've thought about in the past and I've always let it go. I started doing it again and I started looking at some quantum computing stuff. Let's say this [00:36:30] were the perceived and I would go down this cyclical route. I would start to obsess. I would find the tail. I'd grab the tail.

Somehow, I'd grab something sturdy because a lot of times I'll go into something like that, for example, and quantum physics is the classic example. I've consistently had problems. I tried taking online course of Leonard Susskind's at Stanford. I couldn't get through the mathematics. That was a barrier for me. It's always like how do I grab the subject? But if I can grab the tiger by the tail, if I can find a way in, then it's like there is this obsessiveness that will happen and I'll start to work [00:37:00] through the material and eventually something will come out of it. Yeah, I just wonder how your process like that is. How do you get into something and then create something out of it?

Josh Wolfe: Well, so a few different ways. One is an awareness of others and so part of that means understanding what the consensus is. What is everybody else talking about? What is everybody else interested in? Now, the vast majority of people, I believe, and now, I'd somewhat arbitrarily say it's more than 50%, probably 70% of people, would prefer to identify what the consensus is and join [00:37:30] it. That's [crosstalk 00:37:31].

Demetri Kofinas: For sure, a hundred percent.

Josh Wolfe: Maybe it's 90% of people. But I've never been like that. So my personal disposition as manifest in the things I'm interested in, the music I'm interested in, the art I'm interested in, the clothing I'm interested. It's always been like okay, identify

what the consensus is and there's an intentionality to it. I wouldn't say it's this honest innate thing. It's what is everybody else doing and what can I do slightly differently?

Demetri Kofinas: You don't think it's innate at all for you?

Josh Wolfe: Well, I'm saying it's overt in that I'm doing it not because it's just like, "Oh that's me."

Demetri Kofinas: You're doubling down on your impulses.

Josh Wolfe: Yeah. [00:38:00] But in part, it's informed. I don't know if my interests would, being intellectually honest and self-introspective here, I don't know if my interest would be purely interest in the things that I'm interested and were not for the fact that I'm able to identify what the crowd is interested in and then said, "No, I don't like that kind of stuff." Now, some of that is easy. I don't like pop music. It just got a certain 4/4 classics chord signature to it and I like more discord and weird stuff. I like heavy metal. I like hip hop. I like weird, eclectic experimental music but mostly because my early days were ... nobody else was listening to that stuff. So you have [00:38:30] this opportunity to find white space.

When I hunt for ideas, it's the same thing. There's a mathematical basis for this and then just a psychological basis. I'll give you the mathematical one. If you assume, whether you're an investor in the public markets or in the private markets like me, if there are a hundred companies and you assume that 90% of them are crappy companies, so only 10% of them are actually good-

Demetri Kofinas: You decide a priori.

Josh Wolfe: A priori. Well, let's say that that's the base rate, that 90% of companies in a given market are going to crap and 10% are going to be really good. So you get 10% are good, 90% are [00:39:00] bad. Ninety out of our hundred sample, ninety are bad, ten are good. Let's say I have an analyst that's working for me and he or she has a 90% success rate at identifying those. So of the 90 that are bad, she picks 90%, so she gets 81 and correctly says that those are bad. She picks wrongly that nine of them are good when they're actually bad. Then of the 10 that are actually good, she only says nine are good and gets one wrong.

So now, I've been delivered [00:39:30] a list of 18 companies, but only nine of them are good. So think about that for a second. When there's a 90% chance that companies are bad and in 90% accuracy rate of being able to identify them, nine out of eighteen, I still have a 50% hit rate of being right. So I'm no better. Some people with a 90% accuracy rate is no better than flipping a coin. Simple Bayesian math I'm looking at that. So when I thought about it, I said, "Okay, either you can find somebody that's better than 90% accurate," and geez, I'm not even close to 90% accurate, let alone some other analyst or somebody I'm going to trust.

So I have to find [00:40:00] an area where there's a higher percentage of good companies and good companies could mean themselves that they're intrinsically good or that nobody else is looking and therefore, as a function of price, it's scarcer. So I like to go into areas where other people aren't looking because I think I have a higher probability of finding one in five instead of ten in a hundred. So that's a mathematical way to think about how do I look for weird stuff. The reason I do it is the same reason why I like Life of Agony and Biohazard growing up instead of Bruce Springsteen.

Demetri Kofinas: [00:40:30] The way I think about that, I used to say that when ... before this show, I had a television show and I used to say because everyone had opinions about how we should do it. They all based their opinions based on what CNBC was doing or what some of the other big networks were doing. I just thought it was such a ridiculous idea that we would want to compete with the large media organization on their terms. I would say it's like everyone's over here and there's abundant ... it's like the Hamptons. It's like yeah, it's fully developed, everything's priced in. Are you going to go [00:41:00] and invest there or you're going to go try to find the next Hamptons or something like that? You know I mean? That would be an example. But it's this idea that, from my perspective what you're saying is you want to go where you've got the best odds.

Josh Wolfe: Go where you got the best odds, which means go where there are fewer people or was less crowded. So whether that's in a neighborhood where you're looking for real estate. Now look, sometimes there's good reasons why people aren't there. There's a reason that downtown Newark historically wasn't as beautiful as the Hamptons. But the same thing applies in books. Reading the top 10 bestsellers on the [00:41:30] New York Times list to me is like running on the treadmill on the Lewis Carroll, the red queen. You just have to run that fast just to stay in place. It gives you no informational advantage over your fellow peers if you're competing with them. Whereas if you're reading the obscure thing that nobody's thought about or something going back into the archives that people have forgotten about, that's where the interesting big discoveries happen.

So even in my reading, on a daily basis, I read four papers and one of them happens to be USA Today because I want to know what the masses of Americans are reading and what's influencing them so I can understand the consensus. [00:42:00] But then I read weird obscure journals and things that I think nobody is reading specifically because I think nobody's reading them.

Demetri Kofinas: That's really interesting. So you've got a daily regimen. What is that? Can you tell us? [crosstalk 00:42:10] secret sauce?

Josh Wolfe: It starts with information anxiety.

Demetri Kofinas: Really?

Josh Wolfe: Yeah, no. If somebody mentioned something to me, the idea that I wouldn't know something about that something is literally like a-

Demetri Kofinas: See, I can feel that talking to you. That's what I meant though. You do have a wicked level of informedness. I can feel that. That's what I'm trying to say. So you've definitely [00:42:30] soaked up a ton of information over a lifetime and put things together.

Josh Wolfe: My biggest anxiety, I look at ... I'm 40 years old and I look at oh my God, like one day, I'm going to die, and I do have existential fear.

Demetri Kofinas: We got to talk about that [crosstalk 00:42:42].

Josh Wolfe: Yeah, and I want to get as much in it as I can. But it's endless. There are exponential production of information and go back to this technology piece. This medium through which we're talking today, maybe had radio 20 years ago, but it didn't exist. The proliferation of content is so great [00:43:00] with so many interesting people and great minds. You get to eavesdrop basically. You and I could be having a conversation on the phone right now and thousands of people get to listen to us.

Demetri Kofinas: A hundred percent. Oh, absolutely.

Josh Wolfe: The amount of content that's being produced, it's like ... you can, in my view, be a curious person that wants to know and absorb as much as you can and not have information anxiety. So my morning regimen? I wake up, coffee with my kids, we listen to the news on Alexa, and I'm reading four papers digitally. I like to read the physical digital replicas of the papers. So New York Times, Wall [00:43:30] Street Journal, USA Today, Financial Times. Why do I read the physical replica instead of the online? Because you get to see what the editors said deserve to be on A1 or C22. If I have a differing view on what the magnitude of the importance of the story on C22 is and I think that basically everybody else is going to discount the thing on C22 but I think it's really important, then maybe I've got an analytical advantage.

We're all getting the same information, but I'm applying a different weight or probability to the thing and that to me is a source of edge, too. So [00:44:00] I look at the placement of where people are putting the news as this meta piece of it as well.

Demetri Kofinas: All right. There's so much really cool existential stuff I want to talk to you about but I also want to get to some practical things. In the interest of trying to prioritize here, let's talk a little bit about how you apply the amount of information that you gather. So okay, you gather tons of information, we talked about a little bit. How do you allow or enable or cultivate the assimilation of that information into your brain?

Josh Wolfe: [00:44:30] I would only come up with a post facto lie. I really have no idea. I mean if it's a clear quantitative thing, right? So the example of the thing that I was describing where you're looking at a certain pond and you know how many fish are good in that pond kind of thing, that's Bayesian analysis. The same thing that applies towards getting a misdiagnosis at a doctor and what are the odds given the base rates that you actually have that can apply to an investment selection. So in that case, that's purely

mathematical. That's an arrow in the quiver, that's a mental model, it's something that I can reference and sometimes you can pull it off the shelf and say okay, this applies in that case and [00:45:00] being able to have the repertoire of a wide set of mental models, sometimes you can apply the right one.

The other problem is sometimes those mental models contradict with each other, and so you might use one but then in different mental models, you do something different. But the other piece is just the pattern recognition and I love this to the point where I will read multiple books at the same time and sometimes I'm reading a paragraph in ... so right, now both Nassim Taleb's Skin in the Game and Steven Pinker Enlightenment Now. By the way, I was going to say they hate each other. Nassim does not like Pinker.

Demetri Kofinas: He doesn't like a lot of people.

Josh Wolfe: Yeah, no. But [00:45:30] he specifically-

Demetri Kofinas: He's a curmudgeon.

Josh Wolfe: It's so sad because he could be an amazingly celebrated philosopher.

Demetri Kofinas: Yeah, he is grumpy though.

Josh Wolfe: But I might read a paragraph in one and then later on, I'm reading a different chapter in the other. I might conflate the sources or I might be, "Oh, this actually reminds of ..." You start to build that same randomness and optionality star map and you start to make connections between things that transcend the boundaries of the actual book or transcend the boundaries of the origin of the medium. It would be a total post facto lie if I said how I synthesize these things, but it's trying to absorb as much [00:46:00] as I can, filter it through that information anxiety which is the motivating force of how I collect all this stuff and then start to connect the dots. Sometimes, it's telling stories. It's telling a narrative. It's putting the pieces together into a cohesive way that I can remember.

Demetri Kofinas: So for me, sleep which is very difficult and doesn't come by easily for me. But if I can get sleep, that accelerates everything. Also, art. Engaging with different types of art, different types of music and film specifically for me is super useful in helping me piece together, let's say, [00:46:30] this raw information that I'm getting from reading books or this hard science stuff or [crosstalk 00:46:36].

Josh Wolfe: Film, as in watching a documentary or is [crosstalk 00:46:38] like a real drama?

Demetri Kofinas: Not a documentary. [crosstalk 00:46:40]. Yeah.

Josh Wolfe: Again, that's narrative, right?

Demetri Kofinas: Exactly.

Josh Wolfe: We are narrative telling, making, consuming primates and stories are just such a powerful medium. Even by the way, if you have looked at some of the memory palace stuff. How do you remember large sets of data? Without being any "genius" we could both memorize a string of-

Demetri Kofinas: Tell our audience. [00:47:00] It's an anecdote from a Roman. There was a case of someone in Rome where the palace collapsed and he remembered where everyone was sitting. That's where the term memory palace comes from which is that you create a visual representation in your mind for the location of information or things or objects.

Josh Wolfe: Correct. In fact, if I told you let's, okay, close your eyes now and think about your childhood home or apartment or your work, you have a very visual memory and you actually traverse that memory in a physical space in your mind and [00:47:30] consistently. You know where things are, you know when you turn left, when you turn right. So basically taking an advantage of why ever and however we evolved for that. You could see men, particularly maybe hunter-gatherers, you're traveling to a place hunting for food, coming back, whatever the evolutionary basis for that. We have these very strong salient memories of physical places.

I remember the mess hall in freshman year college. I remember the office that I worked in. I remember jobs going back, like the physical infrastructure even though I don't remember the people's names or things like that. [00:48:00] Now, if you want to do numbers, you would assign to an object like a number or something else a character. So it might be if you were trying to remember the number 11, you might remember Phil Simms. You place Phil Simms, let's say, at the front door of your house. Now you're going to remember after 11, 56. Well, okay. Now, Phil Simms is there with Lawrence Taylor, number 56. By the way, I know these not because I watch football, because I played copious amounts of Madden growing up on Sega Genesis. So that was the way I remember the rosters.

Demetri Kofinas: [crosstalk 00:48:28]. Wow.

Josh Wolfe: So you go [00:48:30] 11 56, but you don't remember 11 56, you remember Phil Simms and Lawrence Taylor. But you don't just remember the two of them together, you remember them doing something really like-

Demetri Kofinas: Weird.

Josh Wolfe: Provocative and weird and like oh, you know. You can assign anything to that. You can do a grocery list, you can do a set of principles, algorithms. It's just a mental trick, but it is exactly to what you were saying that you respond very well to movies. It's a narrative. It's a mind movie that you're telling with just really weird objects.

Demetri Kofinas: To bring it back to my experience with my brain tumor, there were things [00:49:00] like The Matrix. I've always been big in films and I just didn't appreciate. It took time to understand why and a big part of that is I'm just a visual learner. But there

were certain movies that I've always really loved since I was a kid. The Matrix is one of them. Gattaca was another one of them. The Thin Red Line, Terrence Malick. Also Days of Thunder which people always make fun of me about because it seems so ... It's like, well, Tom Cruise. But actually it really, I think it's a great movie.

Josh Wolfe: People make fun of my favorite movie of all time, Point Break.

Demetri Kofinas: Really?

Josh Wolfe: I mean it's just-

Demetri Kofinas: That's a great movie.

Josh Wolfe: Yeah, but it's Keanu Reeves and Patrick Swayze, I mean how cheesy can you get?

Demetri Kofinas: But [00:49:30] Patrick Swayze was awesome.

Josh Wolfe: He was awesome.

Demetri Kofinas: He was so awesome, man. He was in The Outsiders, he was in Dirty Dancing, he was in these epic films. What's great about Patrick Swayze is that he was the masculine and the feminine.

Josh Wolfe: By the way, he was also in a super weird cultish movie that I loved, Donnie Darko.

Demetri Kofinas: Yeah, I haven't seen Donnie Darko or I've seen a little bit of it. I don't think-

Josh Wolfe: It's awesome.

Demetri Kofinas: Everyone says it's really great. I haven't seen that. But Patrick Swayze was amazing. I love Patrick Swayze. But this is what I was going to say. It had to do with narratives and narrative storytelling. After my [00:50:00] brain surgery and I had developed complete dementia and I anterograde amnesia and I couldn't remember anything for the duration of months. But then all of a sudden, I regained access to all my memories. I've described it as having the reader went offline and then all of a sudden it was back online and I had all data dumps. It was out of order, so I had to ... everything was like there was metadata and I had to order everything post facto.

But when I started watching movies like The Matrix and Days of Thunder and Gattaca and [00:50:30] A Thin Red Line, they had this arc that was similar throughout all of them. It's something that I've relied on since and it's helped me make sense of my life. It's like the hero's journey, that sort of thing. Anyway, I don't know how to tie that back into

everything. So we talked about your gathering, your information foraging, and you have information anxiety.

Josh Wolfe: Yes.

Demetri Kofinas: So you forage like crazy, like a squirrel.

Josh Wolfe: Constantly, yeah.

Demetri Kofinas: You gather this information and there's-

Josh Wolfe: By the way, [00:51:00] let me tell you one thing that manifest itself, and this is almost like a tic. I'll be flipping through if I'm in the gym in the mornings, I also I'll go through the magazines.

Demetri Kofinas: You work out every day?

Josh Wolfe: Every morning, I'm-

Demetri Kofinas: What's your workout routine?

Josh Wolfe: So usually three, four days a week, I'm at an Equinox and I'm riding the bike for 40 minutes, flipping through, reading, or the papers and then I will do lifting. Two nights a week, I box. One night a week, yoga. One night a week, basketball and I skateboard to and from the train stops and work. So slightly unconventional [00:51:30] on the sports stuff.

But if I'm reading through something and then I quickly flip a page in a magazine and I'm like, "Oh," I get information anxiety. I'm like, "Maybe I just missed the most critical insight," and I have to go back. It's almost like an obsessive compulsive thing and I'm aware of it. But it's just for information anxiety. I don't wash my hands like in an obsessive compulsive. But that's the one.

Demetri Kofinas: That's really interesting. I don't have that and that's so fascinating.

Josh Wolfe: I skip a page. I have to go back and say, "Shit, did I just miss something?"

Demetri Kofinas: Have you found that's a common trait in successful people?

Josh Wolfe: No, not at all. In fact, [00:52:00] the only thing is I will say there was one time where I remember I went back and it was a key piece of information. I can't even remember what it was now. But I was like, "I'm so glad I went back," and then ever since then, I can't skip pages. I got to flip through.

Demetri Kofinas: That's fascinating.

Josh Wolfe: Yeah.

Demetri Kofinas: Wow, that's fascinating.

Josh Wolfe: Bizarre, more than fascinating [crosstalk 00:52:16].

Demetri Kofinas: Yeah, well I mean both. The aberrance is fascinating. So you are an excellent forager. I can feel it, I told you. I've seen that from the very beginning, I feel it right now. You've amassed a tremendous amount of information but you've also [00:52:30] simulated it. How, we don't know but you've assimilated so much of it obviously. Now, you apply it as part of your life and your work and it's how you make money, it's how you feed your family.

Josh Wolfe: Yes.

Demetri Kofinas: Right? So talk to me a little bit about how you apply it, where you apply it, and through that application, what that application could tell us about what you think the future is going to look like.

Josh Wolfe: So part of it is again going through the consensus, what people believe. You mentioned energy, and we can talk about that.

Demetri Kofinas: You don't reject something just because people believe it?

Josh Wolfe: Well, I just in a sense [00:53:00] I'm arrogant to believe that I'm not arrogant enough to think that I have some edge over people, if everybody else is looking at it. I think that there's so many smart people. Think about it like this again with ants. If ants are going to find a piece of bread, it's really hard if you're the marginal ant, then go get a piece of that bread.

Demetri Kofinas: That's a really good point. It also sounds like what you're saying is you're putting a check on yourself. You're trying to find a way to check yourself.

Josh Wolfe: Totally. It's like well, everybody's already there. The crowd has formed, and so why do I need to go there? Can I go and find something else? There's always something else to find. So it starts with really understanding what is the consensus, [00:53:30] what is everybody else talking about. Now I'm very happy when everybody else is talking about stuff that they weren't talking about four, five years ago. We generally, as a firm, view ourselves as being contrarian, being independent thinkers. The reality is we want people to agree with us just later.

So we have to be four, five years ahead of where everybody else is thinking. Sometimes, we'll even throw out false signals because sometimes people will be looking at what we're investing in and so sometimes we'll throw out some ridiculous ideas. Then we've been amazed at how some of those ideas actually end up [00:54:00] getting traction, people are talking about that they are pursuing those ideas and so then, we get a little scared. But it

takes something like energy. Again, this is really interesting. You raised the point about narrative. It started with a narrative really around Al Gore's movie, An Inconvenient Truth.

Demetri Kofinas: That was 2006?

Josh Wolfe: Thereabout. You've got a guy, maybe politically motivated, maybe authentically believes it, but gives a PowerPoint presentation and somebody else who authentically believes and says this is good for the world, we need to show this to everybody. If you watch [00:54:30] that movie, it's motivating. He shows empirical data, he shows things that you can do, the world is warming, we're facing low probability, high magnitude catastrophic risk and if we don't act now, we're all doomed. He talks about solar, talks about wind, talks about biofuels, doesn't mention the word nuclear. That to me was interesting.

Now forward a few months later, John Doerr one of the most famous venture capitalist in history of Kleiner Perkins, super smart guy, somebody that we aspired to be like, his intensity and his intellect [00:55:00] and his influence and his ability to both secure deals and help his companies once he was in. His on stage at Ted and basically is crying. Now whether they're real tears or crocodile tears, he's crying about climate change and demanding that for the future of his granddaughter or for his daughter and his kids that you have to act now.

I started to see something which to me, the pattern went off and it was there's a religious movement here. Religious movements, whether it's Joel Osteen leading people on Sunday into a mega church or whether it's a cult [00:55:30] leader getting people to drink Kool-Aid, I saw religious behavior. Now it wasn't saying that people were ill-intentioned, but there was just the characteristic set of Eric Hoffer, True Believer, that nobody was being skeptical and if you were skeptical, you were immediately shut aside as a right wing climate denier.

I took a more nuanced view, which interestingly came from Bjorn Lomborg. Bjorn was one of the early, if not founder of Greenpeace, and Patrick Moore by the way who was the founder [00:56:00] of Greenpeace who I became friends with, was of the same view which two things. One, nuclear has got to be part of the conversation and it was such a third rail issue and particularly for Al Gore, it was the kind of thing he couldn't talk about. So I got really interested in nuclear, and nobody was talking about it.

Now there were a few different ways to look at nuclear. You could've done the uranium mining, mostly people in the mining are like hucksters and fraudsters, seemingly domicile, the New Mexico and Nevada, South Africa, Australia. But generally, we said let's stay away. You could do modular reactor, so small scale [00:56:30] nuclear reactors. Instead of building a gigawatt power plant for a billion dollars, you could build 30 megawatt ones. That was interesting too, but you had regulatory risk that would take a decade or more to get approvals and licensing. It took a huge amount of capital to test, build, design these things, get permits. So we like to have this very, as I joke, sophisticated question PhD level, which is what sucks. The thing that sucked about nuclear is what do you do with the waste.

So that led us to go and try to find a company that was doing something in nuclear waste. [00:57:00] We couldn't find anything, and so we do the next best thing which was we started from scratch. We ended up naming that company Kurion after Madame Curie who discovered and died from radiation. We locked up all the very best people in the sector. We licensed all the intellectual property we could, and we decided to focus on this in a way that in hindsight, we couldn't lose.

Demetri Kofinas: You were making a bet though. Implicit in that was the bet that there was going to be a bull market in nuclear energy despite the fact that there was a religious cult movement happening in parallel for renewables.

Josh Wolfe: So we [00:57:30] explicitly wanted to do the opposite of that. So if we were betting on uranium, you would've bet that there was going to be more demand for this, which itself was going to be a function of belief, which itself was going to be a prescription of what people wanted.

Demetri Kofinas: It was like a call.

Josh Wolfe: Totally. Instead, we said we want to be totally agnostic. I like being agnostic. So if there's more nuclear, great. There's more demand for waste clean-up because you have more nuclear plants producing more waste. Status quo, nothing changes despite the hype or the disbelievers and as plants [00:58:00] get older, they produce more waste and plus, you have all this defense bomb making which is a totally different market which need to be cleaned up no matter what.

Then let's say that the zeitgeist changes and people protest and say shutdown nuclear or we don't want it, then it's all decommissioning and deconstruction and so it's clean up. So the beautiful thing about that was win, lose, or draw, you could win.

Demetri Kofinas: Very creative.

Josh Wolfe: If you can find situations like that where you don't care directionally what everybody else is going to believe, you're hedge no matter what.

Demetri Kofinas: That's really cool.

Josh Wolfe: We started this company, co-founded [00:58:30] it, funded it, and very candidly, it would've been a phenomenal business over some years but it became a spectacular one overnight essentially because there was a total negative black swan, a low probability, high magnitude event in Japan which was the Fukushima disaster and we were the only company picked for the clean-up out of the US. We went from a few million bucks in revenue to 40 to 80, 120, 160 million and we had \$40 million of EBIDTA. We sold for 10 times to a big French company called Veolia and that'll happen in just a few years.

So that whole ride [00:59:00] was amazing and surreal. We made our investors a lot of money. But for me, intellectually, it was very gratifying because we were right and we were

right when in an area that nobody else was looking at ... By the way, we took it to other Sand Hill VCs, people that we admired and they all either didn't get it or didn't want to invest in it. In fact, I even pitched famous Nobel laureate Arno Penzias who is at a firm, NEA. I remember bringing in with the CEO this ball which was vitrified soil. Vitrified soil means [00:59:30] it was soil that was turned into glass, and it wasn't radioactive. This is the guy who discovered cosmic background radiation, won a Nobel Prize for it, understands the stuff. He looks and he goes, "What is that?" I'm like, "Oh, this is a vitrified ball of waste from outside of Hanford, but it's not radioactive." "Get it out. Get it out." He's freaking out.

Demetri Kofinas: Like a Woody Allen movie.

Josh Wolfe: Yeah. Anyway, but a lot of people told us no and so it is the same feeling of being told no, of having that fire that every no is fuel. [01:00:00] Look, some people might be no and they're right. But in this case, it was no not on the empirical facts but on their judgment and the opinion, and I think the opinion's proved wrong.

Demetri Kofinas: So much to unpack here, all right. I do want to get to other examples, too, just to say two things that I just really love about this as an example. Your success is an indication of a mechanism that is required [01:00:30] for the survival of the human race, which is that you have a herd mentality. That herd instinct is there for good reason because if we didn't have it, we'd die.

Josh Wolfe: Totally.

Demetri Kofinas: But if the entire culture becomes homogeneous and you don't have these contrarian impulses, you don't have the capacity to evolve. This is exactly the fact that you guys did what you did and you invested in this company helped to some degree who knows how much in cleaning up this waste. So you need this capacity for this type of [01:01:00] contrarian investing. It's essential, which is one of my concerns about what we've seen the financial markets since the crisis of 2008 and the low interest rates and the betting on beta and doubling down on what has worked. We've talked about that in terms of volatility. I think that's an interesting conversation.

But the other thing is what you mentioned about the Nobel laureate, and that's the freaky experience of being on the edge, contrarian investor which is you have [01:01:30] this framework, you have this conviction, you believe something and for good reason, but there are many reasons why you've evolved to question that. You have someone like this who's so smart and so experienced and says, "This is a bad idea." I'm not saying that's what he said or know what he said. But let's say you have that and everyone will come to you, everyone else will come to you including your parents or your friends or whatever. They be like, "Josh, how is it that you're smarter than this guy?"

Josh Wolfe: Totally, totally.

Demetri Kofinas: "What do you know? You think you're the one guy that figured this out?" [01:02:00] That whole experience, I'm just --

Josh Wolfe: Yeah. You're dead on, by the way. This transcends what I do. I think it's so relevant for life. I think in fact, by the way, what ... I've got three kids. I want them studying in school. The people who were told by the consensus, by the conforming masses that will never work and they were wrong. The people that were doing it were right. So in my world, it's considered arrogance of the highest order because you're basically saying this is the way the world should look, everybody else says no, it'll never work. But those [01:02:30] are the great people that we celebrate. Go back to your movie analogy. The greatest protagonists in every movie are the Horatio Alger that rises from nothing or the person that is told, that hero's journey, are told no repeatedly and then they prevail in spite of the masses.

You understand that consensus, you find the varying perception, and then you go and do it, and then you of course have to be right. You can't be just contrarian and wrong. You have to be contrarian and right. So yes, sitting and being able to reject a [01:03:00] Nobel laureate because I felt the conviction that what we were doing was right and important, yeah, that felt really good.

Demetri Kofinas: I think that, and I credit my father most of any person beyond my biology because I do think there's a level of just biologically, you just have a desire to do that. It's okay, you're willing, you're able, you've got that desire to just, I don't know, take the punch or whatever it is, that edge. But I credit my father very much for instilling in me that sense that just because someone else thinks that [01:03:30] this is a bad idea doesn't mean anything. They may not know what the hell they're talking about.

Josh Wolfe: Totally.

Demetri Kofinas: None of it matters. So I always rely, and I assume you probably are the same way. I can meet anyone, I don't ever care about their resume or anything about them. All I care about is what I experience when I speak to them.

Josh Wolfe: Totally, and I used to. It was these shortcut heuristics of like where did you go to school and what was your pedigree. I increasingly realize, particular being around really brilliantly people, that it doesn't matter. Sometimes they're shortcuts.

Demetri Kofinas: Sometimes it's better if they don't come from a-

Josh Wolfe: Totally. So you mentioned something just a moment ago [01:04:00] about whether it's in markets or belief systems, the homogenized or homogeneity of this. I think that's so important because by the way, in ecosystems, take a principle from Santa Fe Institute, when you have a homogenous population, you're totally vulnerable to risk. Whether it's the bees or some other species, when you have uniform genetic drive in one area, they're totally vulnerable whereas when you have diversity, you can have survival.

So I actually think that markets are most stable when you have diversity, when interest rates are super [01:04:30] low like they have been, you have everybody taking much longer but bigger bets, and you have correlations between equities and bonds, and everybody is just moving as a herd. That though, I think, is also the opportunity for the contrarian to be able to in a meta way identify what is everybody else doing and where are they moving in a homogenous way. They are at risk, everybody that believe that housing prices could do nothing but go up, anybody that believes right now that technology can do nothing but go up.

Demetri Kofinas: Of course in retrospect, people look back and they say, "Oh, of course the housing prices couldn't go up [01:05:00] forever." But when you're in that mania, it becomes increasingly emotionally difficult to break through from that unless you have the disposition.

Josh Wolfe: Because you said, evolutionarily we evolved to stick with the herd. That's where we're safe. But if you go out on a limb, as they say, because that's where the fruit is, it's the riskiest place to be. There is no more painful feeling than leaving the herd. That is true if you read these stories. You can read a story and I can find the same principle even though I'm not particularly interested in their culture. New York Times talks about and there's a documentary about a woman who has [01:05:30] a Hasidic Jewish woman. She left and there was another one, I think a documentary about a guy that left and how painful they feel. The physical pain of being ostracized from the tribe. That's because they were unwilling to conform or questioned the dogma. But if you question the dogma of a scientific sector or you question the dogma of the market, actually I think it leads to great reward.

I love the story, Nobel laureate, Peter Mitchell. He was looking at the chemomechanical way that things transported within cells between membranes. [01:06:00] Everybody said he's totally wrong, he's an idiot. What was amazing was when he actually was proved right and won the Nobel Prize, he presented charts and the chart showed all the empirical data but they also showed, and this is the thing I love going back to like Jordan, they showed a list of all of the people who said no, that he was wrong, and the date that they changed their mind. He kept that grudge and he showed it publicly, and I love that.

Demetri Kofinas: Totally. I want to talk about that in a second. So let's talk about grudge and let's talk about that feeling of pain, of [01:06:30] loneliness because I do assume that there are people who excel because they don't have that empathic, they don't experience that, the pain associated with being alone or being off on your own. I personally do experience that, and it's a really challenging thing for me to do it but I still go ahead and do it. Do you experience that as well? It sounds like you do.

Josh Wolfe: Yeah, in different ways. For me, it's been a goal of my life in part because I was an only child, dad wasn't there, I had absolutely loving mom and grandma. But I wanted a really nuclear family for myself. So [01:07:00] I argue that the most important decision I ever made and whatever sequences of events that led to it and ultimately my wife decided that she was attracted, my ambition or whatever it was, that's

the single most important decision and anything that I've ever done is marrying Lauren, my wife.

Demetri Kofinas: How long have you been together?

Josh Wolfe: We've been together almost 14 years and married almost 11 and three kids, eight, five, and two. To me, they for me represent everything. I would say invert, always invert, Carl Jacoby, the mathematician. For me, it was won over [01:07:30] my dad. I don't think it was ill intention of him, but he was just a selfish guy. But I learned from him what not to do.

Demetri Kofinas: So interesting.

Josh Wolfe: As a husband, as a father. So me being very present in my kids' life is a function of him being absent and parents splitting, them not talking, terrible fighting. That dysfunction for me wanted the pendulum to swing the other way. But I think at a young age and it was probably, I was eight, I was living with my father, there was a custody battle on this random ranch in the desert in California. [01:08:00] I remember that was the time I felt totally alone, but that evolved a very weird instinct which was hyper introspection. I was totally aware of what I was feeling, why I thought I was feeling it, mostly because you're talking yourself. I was having these conversations with myself. There's school, I wasn't really friends with anybody. That was a really important moment in my life.

Demetri Kofinas: That's fascinating. You're a fascinating guy, Josh. There's so much to talk about with you, man. We're not going to get even close to all of it.

Josh Wolfe: Well, we'll do another one.

Demetri Kofinas: Well, let me ask you this. So that's interesting. [01:08:30] I've also experienced the grudge thing and it's a function of the loneliness thing. I think I don't let being alone get in the way of my decisions. I don't think at all. But the longer I'm alone and the longer I'm wrong and even though I believe I'm right, I know I'm right, and not just believe, I know I'm right, let's say. If I have total conviction in something and I don't think I'm deluding myself, it's because I really see it. I have that vision. There's a prolonged period in which I haven't proven [01:09:00] it to the rest of the world, that can create for me that grudge that I hold and then it takes time for me to let go of it. It takes time being successful in whatever it was that I had told everyone that it was going to be. I told you guys. I saw it, now it's happening, finally it's happening.

I've also experienced, I've had to also learn as I get older having gone through that cycle a number of times, there's no really prolonged satisfaction in saying I told you so. It just something I just have to accept that that's part of the process, that I have to be alone on that [01:09:30] journey, and there are certain people who are with me and those are very valuable relationships. That's one of the biggest rewards for me of going through a process like that. It's finding the people who believe in you and see what you saw early.

Josh Wolfe: Totally. So I have two reactions to that and you'll get a little preview of how my mind thought. So I was just saying that I'm thinking of two things, one, Black Panther. I don't know if you've seen the movie.

Demetri Kofinas: I haven't.

Josh Wolfe: He's got a technological suit that the more shock he gets hit every time, it just absorb in, absorbs in, absorbs in, boom. It creates a fire [01:10:00] back [crosstalk 01:10:00].

Demetri Kofinas: That's so smart. So cool.

Josh Wolfe: So as you're describing that verbally, I'm visualizing that right in my head and it's like that suit. Now he developed this protective armor, his sister developed the technology of protective armor. But in a sense, what's the protective armor for you? It's maybe a sense of stoicism or confidence and indifference to the judgment of somebody else. Then you're building and you're building and you're building, and then you're right and it's just like [sound of relief].

Now the other thing which came to mind is the asymmetry, the pain that any of us feel when you're doing something in solitude and people [01:10:30] are like, you know, you either sense their approbation, they don't believe in you, or you sense that they're doubting you or the naysayers. But let's say if you had to put in mathematical terms, for them it's just like it's easy to be a critic, it's easy to be a judge. They throw a negative one to you. For you, you feel a negative 10 because there's 10 different people, each one giving you a negative one. You're like, "Shit, that makes me feel really shitty." But for them, it's like nothing. But then when you're right, you feel like a hundred and to them, they're like, "Yeah. Okay, I was back to zero."

So for them, it's really distributed and dispersed and [01:11:00] massively asymmetric waiting on you. But then you're right, you really ... so I think it's important. I don't know. Have people around you that share that mindset because they're going to celebrate that with you, and then just try to vaccinate, inculcate yourself from those negative people and just know that it's a source of fuel.

Demetri Kofinas: There's that thing about finding community, and that goes back to the loneliness.

Josh Wolfe: So for me, I always found community in the misanthropes, people who were slightly off, people that came whether ethnically, they felt they were rejected from where they came from. I was just meeting with a [01:11:30] guy who's a writer for The New Yorker and we hit it off because he has the same musical interest, same taste. What was really interesting is I asked him, I said, I was trying to figure out what was the source of his pain. For him, it was at first, he was ethnically different. He was the lone guy in a certain community and everybody was white, and he wasn't. Being different, feeling the

pain of that, that's just simple primate, human stuff. But if you turn that into something powerful, I think it's [01:12:00] just such a great source of energy and fuel.

Demetri Kofinas: I felt that. I mean I had that growing up, and it's interesting also that as I get older, I want to be different whereas when I was younger, I resented being different. It was a conflict for me. There was another thought that I had while you were talking, non-linearities. So it's interesting. What I was thinking about when you're talking there is that I've learned also for me personally over the span of my life that my successes are non-linear, whereas most people I think they climb that ladder or [01:12:30] they're, let's say, running or jogging or whatever.

I used this very particular metaphor recently when I was speaking with my father about this which was I've experienced this in my life where I'll stop and I'm doing something and people will pass by, and they'll be telling me, "What are you doing? You need to freaking run." I experienced that as like also the narrative I have in my head is, "Oh, they think I'm a lost cause. They think that I'm just wasting my time. I'm in the wrong place. Demetri's going off on another tangent again." But I'm sitting here and I'm [01:13:00] building a bike.

Then when I finally fly by you, that's a non-linear payoff because now you're going to be running for an indefinite period of time and you're not going to be able to catch up, and I'm going to be way ahead with that. But then I'll stop again, and I'll take a completely another ... I had a bike, why did you stop? But I don't know. I just got this crazy idea in my head and that's what I wanted to follow. If I didn't follow it, I'd be unhappy and that's what I've experienced in my life.

Josh Wolfe: That's most important thing. I think finding the process, the methodology that makes you happy. So your body is telling you all [01:13:30] the time like, "I'm not happy doing this." If you think about it, anxiety and depression, just those two emotions. Anxiety is being worried about the future and depression is dwelling on the past. I think if you can find ways to resolve both those things, so for me the salve of anxiety is having not that faith but the confidence that good things are going to happen no matter what. I don't know where and what they're going to be, but the dots are going to connect in some way.

The depression is like more of a stoic philosophy of this like, "I can't do anything to change the past. I can't go back. There's [01:14:00] no time machine. I can right that wrong, but that to me can be just fuel for the fodder for the future."

Demetri Kofinas: Josh, I'm going to have to end. There's so many things that I want to talk to you about. I got to think of some way for us to continue this conversation again for the show. We're going to be launching a media platform. Maybe I can do some one-off little things with you. I want to end it though with one question which brings us back to something you mentioned which was death anxiety. This is something that I've had since I was a kid in different ways. It became more acute as a result of my brain tumor experience with that. [01:14:30] For me, I experience also it very much in terms of loss and loss of others and then ultimately loss of myself. Right before I had gone into surgery when I had

been going through this whole just really powerful experience, the anxiety I had felt at that moment was tremendous.

Anyway, there's a lot of also really cool stuff that came as a result of that, but it is something that still ... I feel it when I see people getting older, when I see my parents getting older. I do [01:15:00] connect it very much to loss. Like I said, loss of others, loss of myself. I've spent some time as well having gone through what I went through. It gave me the courage to face it in a way and I read up many books and put on a conference called The Art of Dying with your corporate center in New York where we covered these topics. So it's something I've meditated on a bit. I wonder when you talk about death anxiety, what does that mean to you?

Josh Wolfe: This is a whole other episode, right?

Demetri Kofinas: Right.

Josh Wolfe: I've lost also a lot of people. I lost my brother-in-law a year ago to cancer, [01:15:30] a young guy, 43 years old. I lost a business partner two years before that to pancreatic cancer. It's surreal because when you think about investment risk, it's what's the probability of permanent loss. Well, that's what that is. It's a permanent loss. Now you can salve that in say okay well, you have memories of people and they live on in your mind, live on in your heart metaphors, but they're gone. They're existentially gone.

That anxiety of being existentially gone for me now with kids, I want to be there for them for all these great moments. But intrinsically, it's a selfish thing. So I always go back to, I don't know if it [01:16:00] was Hitchens or Dawkins who said well, what was it like before you existed? You have no memory of that. What's it going to be like after you're gone? Well, you have no idea about that.

The best thing that gave me some confidence or comfort on this and just a way to think about it were two books. One was William Irvine, which was the Stoic Guide to the Good Life. The second which maps almost perfectly with this was Stephen Cave, Immortality. The thing that I loved about the Stephen Cave book was he analyzed all the people who have ever tried not to die. So the first one is through the Ponce de Leon and the search for the fountain of youth and all this kind of stuff. It was like, "Okay, [01:16:30] step one is I'm not going to die." There's been countless attempts for that.

The problem with that is that the one thing that they have in common is that they're all dead. So that hasn't worked. The second one is fine, I'm going to die, but I'm going to come back, the resurrection myth. By the way, every one of these things has a technological analog today. So I'm going to come back is I'll upload myself into a computer or my likeness can be captured by virtual reality or augmented reality or something. So that also is not proven. Then the third one is I am something that's more than my ethereal [01:17:00] self. So there's a soul or a ghost in the machine kind of thing.

So if you suspend belief in any of those things, then what you're left with is the stoic mental model which is if you took a piece of paper and you fold it in half and on the front of it you put the day you were born and on the back of it, you put roughly plus 80 years, the day you're going to die, that's roughly the story of your life. Now some people will get unlucky and have a tragic short strip, comic strip of life and other people will get very lucky [01:17:30] and have this epic tome. But you don't have the control over any of those things. The only thing that you have control is the story that you write in between and the choices that you're making and who you choose to surround yourself with.

You may have heard one of my other tropes that I got from Jim Watson, which is avoid boring people. Avoid boring people and don't be boring to people. I think finding those things that you would define living that Jeff Bezos like way of how do I minimize regret. If I assume I'm lucky to live, I'm 40 now, another 50 years to 90, [01:18:00] what are the things that I would regret? I'm at every kid's baseball game and softball game and basketball game and ballet and dance practice, and I have minimized regret in my life. That to me minimizes some of the anxiety, but at root, I don't want to die. I want to live for as long as possible because there's so much to absorb, there's so much to appreciate, there's so much beauty in people producing art and content and arguing. By the way, even the ugliness that you see in the news today, there's something beautiful of it for the simple thing how lucky we are to be alive.

Demetri Kofinas: You've mentioned [01:18:30] Hitchens a number of times. You like his work a lot.

Josh Wolfe: I thought he was a brilliant border, linguist, writer, debater, argumentor, and he was eminently rational.

Demetri Kofinas: Well, he was a beautiful writer and a great thinker and a great writer and his words, he was so ... he weaponized. He could weaponize language. Did you read on Mortality?

Josh Wolfe: Yes.

Demetri Kofinas: There was a great description, I think it was in Mortality. I certainly read the book but I had also seen a lot of his interviews as he was dying. He talked about what dying was like for him. He said it was [01:19:00] like being at a really great party, and then getting tapped on the shoulder and being told that you had to leave. But as if that weren't bad enough, the party was going to go on without him.

Josh Wolfe: Yeah.

Demetri Kofinas: That really resonated with me.

Josh Wolfe: That's that feeling, totally.

Demetri Kofinas: I read that. There are certain things that I read, many things actually, as a result of ... after my personal experience, my reckoning with death that really resonate and also emotionally, and that was one of them. When you talked about what comes after death, same question as what was before I lived. There's [01:19:30] a great quote by Nabokov in his autobiography where he talks about this man. I don't know if you know the quote where he saw a crib. Only Nabokov could write this way. He said something like it had the pompous air of a coffin or smug air of a coffin or something. He saw a video of his mother waving from a balcony or a picture or something, and it was before he was born. It somehow reminded him of death [01:20:00] in a sense. I butchered it. It's an amazing thing. His whole autobiography is incredible.

Josh Wolfe: There's another short story about, I think it's called Night in Samarra. The premise of it is a guy is sent by his master into town to the marketplace and while he's there, he sees the grim reaper and he sees death and he freaks out, and he starts running. He gets onto a horse, and he flees two hours and he goes to another town. He gets there [01:20:30] and he is in Samarra and he sees death again, and he says, "Ah." Now he feels resigned. He says, "Why didn't you take me then and there in the market," and he's like, "Well, because I had a date with you tonight in Samarra," and he's just like, "I was going to catch up with you no matter what." We're going to die, right?

Demetri Kofinas: Yeah, for sure. I keep looking for these quotes and I can't ... here it is, I found this one. I'll read the Nabokov one. There's also another great one about the swan, which [01:21:00] I wanted to say. But here's the Nabokov quote. "The cradle rocks above an abyss and common sense tells us that our existence is but a brief crack of light between two eternities of darkness. Although the two are identical twins, man as a rule views the prenatal abyss with more calm than the one he is heading for at some 4,500 beats an hour," and then he brings up the quote about a young chronophobiac that saw his coffin.

Josh Wolfe: That's beautiful.

Demetri Kofinas: But there's also that great quote of the swan, and to close off, to talk about the weird ones, [01:21:30] the weird people.

Josh Wolfe: Yes.

Demetri Kofinas: I don't know if you're familiar with this quote, and I forget who wrote it but it's how awkward and ugly you could say a swan looks when it's out of the water but when it's in the water, it's majestic because it touches the elemental waters of its nature. Finding where you belong and that journey, that's so powerful and important. Some of us, we really want that. There's just the quote, I had to bring up one more thing, another powerful story or image that has always stayed in my mind or stood in my mind [01:22:00] for years now is the image of Odysseus sitting on the shores of Calypso's Island looking towards Ithaca because he knows that's where ... he longs for Ithaca despite having a goddess tempting him with immortality. Just knowing where you belong, looking for it, and having that North Star as long as you live till the day you die, there's something comforting in that and we're living that way.

Josh Wolfe: I think that's beautiful, and if that place ends up being philosophical instead [01:22:30] of geographic.

Demetri Kofinas: Great way to close.

Josh Wolfe: It's beautiful. Thank you.

Demetri Kofinas: Josh, fantastic having you on, man.

Josh Wolfe: Thanks man. Thanks.

Demetri Kofinas: That was my episode with Josh Wolfe. I want to thank Josh for being on the program. Today's episode was produced by me and edited by Stylianos Nicolaou. For more episodes, you can check out our website at HiddenForces.io. Follow us on Facebook, Twitter, and Instagram, @hiddenforcespod, or send me an email [01:23:00]. Thanks for listening. We'll see you next week.