

Alex Danko | Magic Words and How to Use Them | The Viaduct | S3L3

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SUMMARY

The Vioideuct lecture series, hosted by Ben, focuses on transformative ideas and individuals, with a particular emphasis on hidden infrastructure in Toronto. The evening features a talk by Alex Danko, who explores the concept of "magic words" and their power in shaping reality and communication, drawing parallels between various disciplines such as thermodynamics and information theory.

- The Vioideuct aims to build an intellectual community in Toronto, inspired by the vision behind the construction of the Prince Edward Viaduct.*
- Alex Danko discusses "magic words," emphasizing their role in transforming social situations and fostering self-determination.*
- He connects the concept of magic to communication, highlighting how words can resolve uncertainty and create shared realities.*
- The lecture touches on the importance of self-determination and the potential for AI to disrupt traditional coherence in society.*
- Danko suggests that magic words can help individuals navigate complex social dynamics and foster community engagement.*
- The talk includes insights on the parallels between music scenes and tech scenes, emphasizing the importance of obscurity and community in fostering creativity.*
- The discussion concludes with reflections on the challenges and opportunities presented by AI and the evolving nature of social interactions.*

Welcome to the Vioideuct. Uh, can we give it up one more time for Kuba? Amazing. Uh, Kuba actually runs the music program for the Vioaduct. So, if you've been to any of the previous lectures, uh, any of the great musicians that, uh, you've heard during the last couple weeks, uh, Kubler is responsible for, uh, finding and organizing and bringing all of that together. And uh it's been a wonderful partnership and so I'm I've been thrilled thrilled to uh be able to share that music with everyone. Love you too, man. Uh this is the Vioideuct. Uh the Vioideuct is a seasonal lecture series highlighting people and ideas with the power to transform our society, our city, and us as individuals.

We take the name from the Prince Edward vioaduct. Uh this is the bridge that goes between Blur and Danforth over um the Dawn Valley. Uh and this represents a strange moment in our city's history. Uh the bridge was constructed in the 1910s and it's a big project. This is, you know, it's not quite the same scale as the Brooklyn Bridge, but it's the same kind of order of magnitude. And uh when it was constructed, Toronto was uh uh Toronto was basically a backwater. Uh you know, it was like a couple hundred thousand people. Uh and to give

a sense of how much of a backwater it was, uh this is a photo from the 1930s, so like two decades later of North York. Uh if you think about North York, you think about on Young Street, you have those giant skyscrapers everywhere. That kind of thing. That's what that place looked like in the 1930s when they decided to build this bridge.

And the architects for this bridge, they knew that Toronto didn't really need a piece of infrastructure like this. This like really didn't make sense to go and construct something like this for the people that were there. But they had a vision of what the city could one day be. You know, they imagined RC Harris and the other people that he worked with, they imagined that one day Toronto could be this gleaming metropolis. It could be a center of industry, of art, of culture. Uh and they wanted to build for that future. Uh and so in exactly the same way, we hope that this lecture series will be a way for us to build the intellectual community and the fellowship of ideas for the future of the city of Toronto. Uh you know, you have all chosen to spend uh your Wednesday evening listening to uh this talk. Uh you're in a room surrounded by people who are curious, who are engaged, who are very well educated. And it's, you know, it's it's an experiment. It's something that we're working on together. And so thank you for being here. Thank you for putting in the effort. Uh and uh I'm excited for this evening. Uh now before we move on, I'm gonna uh turn it over to uh our sponsor quickly. Uh then after our sponsor, Alex is going to uh take the stage. Uh I'll give a brief introduction to Alex uh before he goes on. I think Alex is going to speak for about 60 minutes. Uh at the end of which uh there'll be a Q&A period. I'll explain how Q&A works at that point uh before we break for social.

Everyone has some sense of what's happening. Everyone's in the right place. This is what you kind of expected was going to happen. Okay. Amazing. We hand it over to our sponsor. Thank you, Ben. Hello. Hello, everyone. >> My name is Tommy. Nice to see you all tonight. Uh my name is Tommy and and I'm one of the co-founders of new.

I'd like to start by thanking Ben for everything he's doing with the Toronto Society for Diffusion of Useful Knowledge. Um and obviously the Vio lecture series that we're attending tonight. Um I want to thank all of the speakers, Kevin, Bonnie, and Alex tonight for everything they've done as well. I want to thank all of the staff production crew for making this event series possible. And I want to thank all of you for obviously being here. Um, new is a media company that reveals depth.

We like to take subjects that the world already feels like it understands and we want to show it to you in ways that make you feel like you're seeing it again for the first time. We do this through a couple different projects. The other stuff is a show in which we conduct interviews and field investigations with interesting individuals, environments, subject matters. Um, and we like to let them affect us. We process that out loud and we share with the world.

New stadium is our creative third space in which we invite creatives, technologists, academics to host their own events and programming and to gather with one another. And new studio is our production arm in which we work with individuals and companies who we believe are at the frontier of their respective domains um and we help them express their vision through storytelling and film making. So over the last two lectures I've been

walking through the I've been walking the crowd through a different exercise each time. The first one was a thinking exercise. The last week was a physical exercise and I thought in the spirit of magical words tonight I'd walk you through a verbal exercise. So, what I'm going to do is just I'm going to flash some sentences on the screen. Feel free to fill in the blank with the first word that comes to your mind after I say it.

My name is You guys are pretty good at that. Today, I am feeling the first word. The first word that comes to mind together we are I love. >> Thank you for >> I hope you all enjoy the evening tonight. Thank you for everything.

I'm so thrilled that we um I could partner with new for uh this event series. Uh new has been a huge inspiration to me. Uh they have encouraged and supported uh everything that the Toronto Society does and uh I'm just thrilled to get a chance to partner with them. Um, and if you were intrigued at all by uh that exercise or by their projects, I highly recommend uh you check out new stadium, you check out the other stuff um and learn more about their work. So, season 3 of the vioideuct has been about hidden infrastructure. Uh in the first week, we heard from Kevin Brian who helped us to see the hidden infrastructure that we live in our city in a new light. trying to understand the way that the architecture of our city actually leads to our progress uh and our well-being.

Uh in the second lecture, we heard from Bonnie about the digital infrastructure that we don't see but has a very big toll on our attention and the way that the algorithms that have been built for short form content drive uh our children's experience and also our experience as well. And then tonight uh we're going to hear from Alex Danko on magic words. uh and perhaps a somewhat mysterious piece of infrastructure. Uh Alex is an extremely accomplished uh person. He's the editor at large for A16Z. Uh he was formerly at Shopify. Uh I think a lot of people may know him though that from his essays. Uh he has a cult following from uh his Substack before that his blog. And uh Alex, Alex's work is uh it's delightful. Uh I'm stealing to steal a phrase from a friend of mine. Uh his pieces, they have this um confetti of object level complexity that resolves into a few big powerful ideas that you know I think are exactly the kind of thing that we want to highlight that have this possibility of transforming us as individuals. Uh and so uh I am I'm just so excited to hear from Alex this evening. And so, Alex, without further ado, hand the stage over to you.

>> All right, is everybody ready? >> Okay, so my name is Alex Denko. Thank you very much, Ben, for that lovely introduction. Um, I was told that at least some of you thought that that picture on the slide recently was me. Uh, it is not. It's close. It's as if Ben used the GPT 2.5 or something to make a good attempt, which is fine. Uh, but now, uh, we're going to spend 60 minutes together, uh, sharing some ideas and then we're going to have some time for some Q&A after. And it's going to be a lot of fun. So, today, as Ben told you about, we're going to talk about magic words and how to use them. Uh, which is a topic that, oop, this is going backwards. That's going forwards. Which is a topic that I think about a lot. Um, by way of background, so I am at Andrea Horowitz right now. Like Ben uh told you, I live in the east end of Toronto, which I'm told some of you think is full of thieves and scoundrels. Um it's really okay. It's lovely. Uh actually, if you were to rotate your field of vision just that way, you would actually see the vioaduct, which the west end does not have. Um and it's really lovely place to be. Um, so while I do live in the east end of Toronto these days, you know, working at A16Z, I

actually spend a lot of time in San Francisco and I go back and forth between the two, which is an interesting way to experience in stop motion what is going on over there in some relief because right now if you walk around San Francisco and you go look at pretty much anybody, it's a one company town these days, at least in the part where we hang out, uh, everybody has got the same thing on their mind, right? It's a little bit like the beginning of COVID when everybody was all thinking about the same thing in February of 2020, realizing like, oh man, um, what is going to happen to my livelihood and my ability to, you know, have a career and maybe this is going to be exciting, but I don't really know what I should be investing my time or my skills or my livelihood into. Um, if AI is going to be good at everything or whatever we think is going to happen next, like what should I do? So, I'm going to tell you in this lecture what you should get good at and it's magic.

Simple answer. Uh, not this kind of magic. Although I know who you are. I would love to talk about this later. Uh, this is a valid form. Also, not this kind of magic. By which I mean card tricks and slight of hand and other this is honestly a really interesting profession, right? Professional magicians who do this kind of stuff. This is a wonderful book if anybody wants to read it about how magic has come back in the age of YouTube. how the craft has changed a lot around not necessarily trying to obscure everything but creating these other layers of mysteries around the practice which is pretty cool but I'm not talking about that kind of magic either. We're going to talk about this kind of magic. Um, which is really what I want to talk to you about, which is like how do you be the guy on the right in this era where everybody can kind of like do a lot of stuff, but that doesn't necessarily mean you can do it well and it doesn't mean you can get what you want out of life, which I think is really the only intelligence test, right? How do you be the guy on the right? So, we are going to talk about a lot of things, right?

We're going to talk about thermodynamics. We're going to talk about music scenes and how they work in some amount of detail. We're going to learn this idea that magic works because it is communication. We're going to learn about what communication actually is. We're going to do some math, which I don't think you counted on. We're going to do some Hegel, which if you want to leave, you can leave now that I understand. Um, we're going to talk about why the secret of magic is to transform the magician, which is something for you to think about. Also, OJ Simpson, eternal life, and the really wonderful Toronto Ravine system. Um, everybody cool with that? Does that sound good?

Okay. What is magic? Like, what what what is it? What are we talking about when we talk about magic or when I'm talking about magic? Well, it has something to do with this idea called intersubjective reality, right? Which is things that are real because we all think they're real, right? Which is actually a number of the important things in life, right? We're all at U of which only really exists because we think it's real. We're in Toronto, which only exists because we think it's real.

We all, you know, have families and friends, which are something that we exist because we think they're real. So, that's important. Magic has something to do with self-creating realities, which is a subcomponent of this, which is really where things can become true, right? Because they're ready to become true, right? Where our perception of something actually is an input to the reality itself. So that's kind of important. And then finally, you know, magic has to do with this idea of Hegel, which we're going to get to, called self-determination, right?

This idea that when you make yourself what you are, that's actually the main way to be real, right? And the main way to actually be free. And we're going to get to this in due course, but I want to start with this sort of fairly simple and obtuse idea that magic words are relevant to you because they can do real work.

Real work. Like what does that mean? Right? Like, so I'm going to start with these are my kids. This is a quite candid photo yesterday when I was making this talk. This is what it often looks like in the house. And I don't know how many people can we show a hand. How many people here are parents? >> Okay, parents. What's the magic word? That's right. Everybody knew obviously is the magic word. Why is the magic word? Oh, this is important by the way.

Whenever you see whenever you see um a word that's in black here with this yellow, that's a magic word. Well, it's important to know this for the talk. Why is the magic word? Does anybody want a hazard guess? >> It does that, but why does it do that? I mean, that's not not a bad answer because your parents make it. So, I like that. I'm gonna use it. You're asking. Yeah. Okay. Getting somewhere.

Participation in a social contract. Excellent. I'll do one more. Oo, I wish that were true. Um, I mean, it is true that sometimes in surrendering to your parents, you actually get what you want, right? The word please actually does have some pretty important magic power, right? But it is going to help us understand this idea of what we mean by work exactly. And when I say work, maybe some of you might be thinking of like Newtonian work or some idea of like forces mass times distance or whatever it is. Force times distance. I can't even remember. Like perhaps, but like I don't really think that you can say words that are going to move a cart forward. Maybe you can.

That's more advanced magic than I can do. But that's not really the kind of work that I'm talking about. And that's actually too bad because we're very good in the world at extrapolating that kind of Newtonian work into all kinds of domains. Like the ability to say like, hey, like accounting is a kind of Newtonian work. The ability to have stocks and flows of money is a very logical thing to be able to reason about and that kind of thing. But the use of magic in these domains are fairly discouraged, which you might have noticed by paying attention to who this financial statement is from. So we're not talking about Newtonian work. I mean something that's a little bit closer to thermodynamic work. This is a different kind of work, right? What is thermodynamic work? Well, this is closer to the idea of transforming something into something else, right? The work of having something become something, right? This is closer to what we mean by the kind of work that magic can do, right? And there's a very interesting turning point in world history around you know the 1800s and even getting into the early 1900s where the big dominant mental metaphor that everybody used to think about how the world works stopped being like the world is an amazing clock made by God as a watch maker which was some enlightenment level ideas and started more tuning towards the world is like a furnace that is always burning things and I was always moving in a direction which is both quite a bit actually more correct as a way of understanding how the world is but also as a really useful metaphor for some of the characters we're going to talk about in this talk later. But what I mean by thermodynamic work, there's really only one concept that you need to know here, which is this idea of disorder. Right?

We're going to use the word entropy here in a minute, which is a slightly scarier way to talk about it. But just this idea that like thermodynamics is about moving between states from more disordered to less disordered and back, right? If you look at, you know, the same drop of water that is in water form, you say, okay, the position of any of these water molecules is going to be quite random when it's in the liquid state. and it is going to be less random. There's actually some amount of there's an information difference, right? In terms of like the arrangement of an ice cube, right? And this is at a simple level just this transition between more ordered and less order is where we're going to be spending our time.

Now, I use this analogy of less ordered versus more ordered states because a lot of the important work that we're trying to do here is the work of a bunch of individuals becoming a group, right? or the a participant becoming a leader or the work of an idea becoming organized purpose within the group of people are actually like the really important and valuable things that a lot of us are trying to do. If you think about starting a business, right, not in the like later stage form of like when you're doing accounting, but like can you get this team to come together? Can you get this product to work? Can you get whatever to come together? A lot of the actual work that needs to happen is basically turning chaos into less chaos than actually something that's a bit more focused. which is why magic can actually do something useful to you here. And so there's a category of magic words like let's begin that communicate something really important. Right? This is an interesting magic word because it tells people all right we are no longer in this state where we're all individuals here. We're actually going to go into a state where we're now a team or we're now a project or we're now something. And when used correctly, this kind of magic word can actually change the situation, right? turning something into a situation that has begun where we are going to be a part of it.

Now, part of where I learned how to use this magic word called let's begin is when my time in band several years back where we would be touring around, we would play a lot of shows and when you're playing a lot of shows, you learn a lot about how to do this kind of magic word called let's begin, right? Which is you start at a show, you walk on stage and you have a crowd that is not dancing and you have to get them to dance quickly, right? How are you going to do that? Right? There is when you play a show, right? The guy jumping, by the way, is right over there. U feet fe of acrobatics is very impressive. Um when you're playing a show, right, what you're doing is you're saying, "Hey, we're going to do a performance that is going to turn a bunch of individuals into a crowd, right? That is dancing and is having fun. And there is a fair amount of magic that is quite rehearsed and practiced going into how to do this." Well, and if you look, there is a special type of word that often initiates playing a show, which is usually classically it's are you ready?

which if you remember was the first thing I said when I stood up here which is hey like are you ready to dance are you ready to get going which is a kind of magic word that again can when you clue into it and you know how it's going is going to sink everybody into dancing together right so these kinds of social engineering through words spoken correctly is something that like hopefully by now you're convinced happens right both in everyday settings like going to a show but also you know more interesting settings you know like trying to get real work done David Burn from the talking heads he's the lead singer there has some interesting like rules for music scenes. He wrote these in this book called How Music Works, which really, if you were titling it accurately, should have been called How My Music Works, but he has a whole section that is about venues, right? And how venues are supposed to work if you want to have a good local music scene.

You know, he has a bunch of really thoughtful things like the venue needs to be the right size, right? It needs to be full of musicians who are getting in for free. They have to get free beer. And there's an important one at the bottom, which is interesting, called it must be possible to ignore the band. There's a really important segment of this, right? So he talks about CBGB, which is this legendary punk venue in the Lower East Side in New York, and he compares the way that the venue worked before and after this renovation that he was quite critical of. Right before the renovation, the way it would work is the musicians would be here, and most of the people going to the bar were not here to see the band. They would have to walk here by the band and then they would be behind the band at the pool table, right? Hanging out over here where the handful of people actually there to see the new band could hang out over here.

But what this meant is that the pressure was off you having to listen to them so you actually could listen to them, right? You actually could get discovered. This is actually very important for scenes of experienced musicians and younger bands to be able to interact in the correct way. After this renovation, which by the way was optimizing for some maximization function called it's all about the music, right? the stage was moved to the back and there was nowhere that you could be in the bar that was not looking at the music which is actually a big problem and became less relevant and all kinds of other things contributed to this too. It wasn't just the Renault.

But ultimately, in order to for these scenes to work, my point here is that all of these nuance details go in to the functioning of these scenes. And when it does work, it's magical. And a lot of things contribute, right? It's not just the band saying, "Are you ready?" But saying it well does contribute to the magical working. Now, anybody here who's in tech will know full well if you spent any time in it that the tech industry just is a music scene. It is the exact same thing.

There are no differences. Um, when I came up in the tech scene, it was in Montreal. Paul, anybody recognize this initiative by the old guys at Real Ventures to try to get a space for everybody to hang out in. And I'll tell you what worked about Nomman House, which was in addition to this cafe where they had these horribly uncomfortable chairs that were just terrible. The whole place smelled like metal. I don't know why, but it smelled like hot metal.

There were these office spaces that you could go to in the back that were incredibly hot. The air conditioning didn't work. It was just a horrible place and it was perfect, right? It was absolutely a perfect place to just kind of get work done, right? And this is because it provided for the kind of mingling between people and the kind of encounters that actually really genuinely worked, right? It was a very very good attempt. And by the way, and you know, so like as you as the tech industry tries to get itself into bigger and bigger events, you get lots of things like demo days that look like shows and some of them are too big so they don't work, but some of them are the right size and they do. And ultimately, this is how you get stories like this, right? Where when it is our turn to create new scenes and we have all kinds of new stuff that just emerge from an East End man throwing a Jamaican patty at someone, you actually get a kind of self-organizing sort of sustainable thing that can keep going and going and going without needing to be prompted, right? They were all initiated by just one thing that happened.

My point here is that these scenes are you can reasonably describe them as being alive, right? Alive is actually a useful word even if we don't mean in the strict biological sense. So, we should talk about what it means to be alive and the reasons that matter for the context of our magic words. Everybody here, for example, I hope knows the difference between like a dead group chat and an alive group chat. They're not literally alive, but like we know the difference, right? Something is going on. And there's a really useful book here. This is one of my favorite books. It's called Every Life is on Fire by this guy Jeremy England, who in addition to being like a pretty accomplished physicist, is also a rabbi.

So, he's got a really interesting cross set of perspectives here. And what he talks about is basically this idea of decipitive adaptation, which we're not going to get into right now, but basically this means that like life is this thing that's happening when rocks that are rolling down hills are happen to be always hitting the exact same trebushe that knocks them back up to the top over and over and over again in a way that keeps working. Right? And if you look at this magic word, right, this is one of my favorite magic words to hear. Truly magical, right? If you asked, "How is it that Santa comes every single year all around the world all at the same time? How does this happen? Is this a thing that is alive? It's like, well, obviously, yes, right? This is the realest there is, right? Don't be this guy. What an idiot. Right? You don't want to be Neil deGrasse Tyson in the world where we're going, right? It is not going to do anybody any good. If you think, "Oh, well, I don't think any of the some components of this thing can really stand up to any scrutiny." It's like, "Oh, yeah. Well, like, why does it keep happening then, idiot?"

Anyway, so back to magic, right? Right. And how magic actually interfaces with this? Magic works because it is communication. So what's communication? Anybody want to hazard a guess? But transformation is interesting. Moving from one place to another. Okay. All well kind of the negative sign. Yeah. Back. Anybody in the back?

Influence. Influence is interesting. Okay, one more. Information ordering itself. These are good. These are these are these are good. These are good. Um, first of all, by the way, before we get into the entropy and all that, this term um, magic works because it is communication comes from this book uh by Toby Chapel. He's an interesting guy. Uh, he is a former software engineer who is now a member of the left-hand path. If anybody knows what that is. Uh, I think that means he's a Satanist, but I'm not sure.

uh if he watches this, I don't think I think he would uh agree with that, but again, I'm not completely sure. We'll see what the internet does with this. Uh interesting book. I didn't understand half of it, but the half that I did understand really resonated, so we're going to go with it. Um I'm going to say that like most of the magic words that we're going to talk about usually work with the same sequence of three steps, right? Which is first the introduction of possibility. Please may I have ice cream? The delta of impossibility. No, you just brushed your teeth and it's after dinner and I'm not getting you ice cream. No. For all these reasons, no.

And then the listener has to figure out how to resolve the gap of this possibility based on how it's framed or the principles of the thing or the appeal to prior precedent or any number of other things. But the ability to pull off this magical phrase of please or whatever other magical thing that you're going to do has to close that gap, right? Has to resolve that uncertainty of how is this going to happen? And I tell you this because formerly the

definition of communication, right, according to this guy we're going to hear about in a second is the resolution of uncertainty. This is the correct definition that we're going to go with, right? Which is communication is about there has to be a range of possible states that then collapse into one of the possible states that it could be in.

And that resolution is what communication actually is. Right? The the the easy to remember version of this is communication isn't what you say, it's what they hear, right? Now this was brought to us by this fine man right Mr. Clo Shannon truly looks like the guy, doesn't he? Uh, one of the absolute G's of the 20th century, wrote his master's thesis on like binary logic and computers. And it was, first of all, his master's thesis. And it wasn't even the most important thing he did. Most important thing he did was this thing called information theory, which is basically formed the foundation of like all this stuff. Not only does it form the foundation of all of tech, it's also, I think, one of the actually like completely true fundamental branches of science, right? and a lot of things that we're now realizing are actually derivations of information and information theory, especially if you look at what the computers are up to now. Um, this is just a pretty profound accomplishment from this guy. Anyway, if you remember back to when I was talking about this idea of the main idea that we're going to get from thermodynamics and from chemistry is like states moving from more disordered to more order, right? This just being like the main thing we're talking about. Now, if you remember back to this idea of like the melting ice cube, right? Imagine that you have a liquid ice cube and there are this many possible states. the water molecules could be in. And then if you have ice, it's you only a smaller number of possible states they could be in.

Now, let's take it to if you look at the really really simple version of this, the absolute simplest version of information theory, um it's a coin toss, right? We're going to actually go through the basics of how to think about this. In a coin toss, right, imagine you have a coin. It's a fair coin, right? How does a fair coin work? Anybody want to tell me what a fair coin is? 5050. 50% heads, 50% tails. before I flip the coin, right? There is some amount of uncertainty as to what it's going to be. And then when I flip the coin, there is resolution of that uncertainty. And if you ask how much uncertainty, well, let's look. If there is genuinely a 50% probability of it being heads or tails, then there is one bit of entropy. And I'll tell you what a bit of entropy is. It means it can be answered by one yes or no question.

That's what that means. We'll get to that in a second. Whereas, let's say the coin is completely unfair. Let's say it always ends up heads. Well, then flipping the coin doesn't do anything. You already knew it was heads, right? There's no information, right? It's just completely no information was happened because no uncertainty was resolved because there's no entropy in the coin. Similarly, if it's all tails, same thing. If it's 80% likely to be tails, there is some amount of uncertainty, but less than if it was a fair coin.

Everybody with me so far? Okay, good. Because we're actually going to learn what this equation means. And I promise you, it's not actually that bad. It's not even that bad of an equation, but by the end 10 minutes from now, you are going to be able to talk fluently about what this means, and you should feel proud of yourselves. Okay, so the way I'm going to explain this to you is the total amount of entropy in a situation, right? Call it a bunch of coins or something else. We'll get into an example is equal to the sum of the probability of each possible outcome occurring. So heads or tails or anything else times the number of yes no questions you'd have to ask on average to deduce that particular outcome out of all possible outcomes which is the log base 2 part. I'll

tell you why it's b right out and then how many yes no questions.

Let's walk through an example. The way that you teach this is the game called 20 questions. Everybody know this game. Come up with something. You have to ask questions. Great. Let's do a really simple version of this where we're going to play 20 questions, but there are only two things I could be thinking of. It's dog or cat. Okay, so this is the same as the coin flip, right? It's the exact same thing. We're going to say, okay, the total amount of entropy here is for each option, the probability is 0.5. And it would take you one yes no question to figure it out. So the total amount is 0.5 time 1. Oops. Should this should be dog and cat. My bad. Um, and then plus 0.5 times cat. So one, right? There's one bit of information and whether it's dog or cat. This should check out. Now let's do a slightly harder one. Right?

It could be 12 possible answers. It could be dog, cat, bird, cow, shoe, books, box, camera, wine, boat, lake, heaven, or all equally plausible. So let's go. On average, it will take you 3.58 yes, no questions to correctly guess one out of 12, right? which is just you know log base 2 of a 12th right is 3.58. Ignore that negative sign just because logs of fractions are negative forget about it. So how much disorder is in this game of 20 seconds? It's actually also really easy to work out.

It's just $3.58 * 12 * 12$. Right? So 3.58 bits of entropy. Now let's switch it up a little bit. Let's say it's actually a bit more likely to be boat and lake and not likely to be Kevin Olri or wine. Unlikely. So now let's redo the math, right? We have two options. Whoops. That are probability of 0.125 or 1/8. Right? So on average, you take three yes no questions if you were asking the questions correctly. Eight options that were same probability as before and then two options that have lower probability.

Okay? So if you actually add all this up, you get 3.51 bits. Okay. What do we learn here? Well, we learned that when there were some answers that were more or less likely than chance, we actually added up to get less entropy, right? That whole structure of questions is a little bit more ordered because some of the answers were more or less likely. Okay? And now you've actually done this math along, so you could do this tomorrow if you needed to. Not bad.

Now, very conveniently actually if you were to look at those yes no questions in the little game and if you were to say okay we're going to look at an ice cube strictly in this information basis and calculate how much entropy is it going to melting versus if you did the old fashioned thermodynamics way of doing like the way that you would do it with empirical measurement you get the exact same answer which is cool as hell I think that these two branches of science independently reach the exact same conclusion that tells you that something really important is going on honestly this pretty questions exercise to actually get better at the game 20 questions if you needed to. How would you do it? Any ideas?

Yeah, great answer. What's another one? Yep. I think that's probably I I'm going to lump that as about the same. >> Hey, this is a family affair. Um I think you're on the right track though. >> Yeah. Say please.

Um I'll tell you what I think the other one is. One is what you you guys all said which is get good at ontology,

right? Know the right questions, know the relationships. The second way is to know something about your opponent. Right? If I'm playing with somebody that I don't know, I'm going to be guessing according to some sort of generally optimal strategy. But if I know that I'm playing with my dad, I'm going to be like, "All right, well, like it's very likely to be something that has to do with guitars or the Cleveland Browns."

I'm going to ask there and my optimal strategy will be a bit different. Now, these two things ways of getting better are the last two little pieces of information theory we're going to know. One is this thing called course graining, right? which is there will come a point right where we have to say enough detail is enough right dog is fine I don't have to specify Labrador and since we're working in yes no questions this is why ultimately we get to the basis of all of this is ones and zeros right yeses and nos so how you coar grain things like how you define what everybody agrees is like the common order of information is actually very important for groups to do to be able to make sure that they're talking about the same stuff but the second thing that you can do this is this thing called mutual information which is I know you have a Labrador this is a Good place to start, right? You can talk about the conditional entropy of X_i , which in this case is just, you know, the conditional disorder in the given who this is by far the best paper on this thing called information theory for intelligent people, which I think many of you are. Um, this is just exceptionally clear writing and ways to understand this. But I walked you through all of this math and all of this analogy to basically get this idea which is that living systems and introspective realities where people have a shared understanding of what is going on are quite analogist to a system of participants that are really really good at playing 20 questions with each other.

Right? There is a very well-developed ontology. Right? Everybody knows what we are talking about. We have the same words for things. We have the same inside jokes. And there is abundant mutual information. Right? we can very very quickly snap shared versions of reality together. And that's a very important thing for any of these types of groups. They're going to have um be able to quickly get a crowd all doing the same thing or quickly get everybody to emerge onto a shared history or quickly be able to achieve goals with each other.

Now, where does magic come into this? Right? How does the ability to say words give you a power to shape any of these shared realities? Right? I think that you can probably gently rephrase this question, right? How does communication help you with magic? To say, how does communication help you create new things that are alive? And I'm going to do a little trick here, which is to replace the word things that are alive with a different kind of idea that is really the same idea, which is how does communication help create new individuals.

We're going to use the word individuals very in a very interesting way here. What is an individual, right? What do we mean when we talk about an individual in the context of information theory? Well, if we're going to be talking about emergent aliveness, which again is the goal here, right? The goal is to be able to create situations with your words that have an aliveness property, right? It is already tricky enough to nail down what aliveness even means. And part of the reason why, if you remember, is that if you think about emergence, right, as a general phenomenon that happens, it is relatively easy to talk about why chemistry emerges out of physics. You can just point to the atoms and electrons and say, "Here you go." But it is quite frustrating to say why biology emerges out of chemistry, right? or why life emerges out of any of this stuff which is relevant for us. So similarly you can talk about like is a virus like really alive kind of yes no it has some of the life properties that you want

are they really individuals hard to say if you look at an ant colony that can swim across the water as a big unit right like is that colony alive right independently of the individual ants kind of sort of like they check a lot of the boxes really but a possible answer which I'm going to submit to you is that life actually is less helpful if you think of it as an emerging property of chemistry and is a lot more interesting if you think of it as an emergent property of information theory.

Right? This is where we're going to head down in order to get some answers here. There's a wonderful paper that came out of the Santa Fe Institute a couple of years ago pointing at this idea called the information theory of individuality which basically says the degree to which you are an individual has to do with how much information you are actively passing forth. Right? Propagating information. Right? Whether this is in the form of the DNA that you pass down or things that you are teaching people or the ability to say, hey, like how much actual mutual information is being passed from one time state to another or from one generation to another or any of these other things is actually a really really useful concept in terms of thinking about things not only being able to be like individuals or not, but more interestingly being able to talk about grades of individuality, right?

Like there's no doubt that like a cell in my body is an individual but also that like I am more of an individual than that cell right it kind of makes sense to talk about these in terms of a gradient of saying look individuality can actually be a whole and massive spectrum but the consistent thing that's going through is actually this consistent idea of are you getting very very very good with playing the game 20 questions with the version of yourself that is either one second in the future or one generation into the future or one step of any kind of time or state into the future.

Now if we just think about this idea of an individual being just strictly boringly basically this idea of trying to maximally propagate information into the future, right? Again like I wrote this blog post a while ago that any of you can look up if you want more about this which is saying called like life is made of unfair coin flips which is basically like the thing that makes life actually work is that the coins are not randomly flipping. The coins are actually going to be very very biased in particular ways and the consistent bias going down the road is how you get to things called life. Again, Jeremy England gives a much much more articulate version than I do. So, I would just go read that. Um, however, there are lots of kinds of ways that we think about propagating information, right? I'll teach you something has a quality of saying, oh, like something is actually awakened here, right? If I could actually teach you something and now information is being propagated you right in a more powerful way than if I just knew it myself or hey some amount of resolution of uncertainty is going to escape the container that is me and is going to actually make its way to some of you.

I promise also a good one, right? How is this propagation of information? Well, what this is doing is this is restricting future possibilities in a way that makes something stable that may not have been stable before. Right? Words that restrict possibility can create mutual information and create a kind of aliveness. Right? This is one of the classic magic words that everybody kind of knows. Right? I now pronounce you man and wife does a somewhat tangibly real thing depending on what jurisdiction you're in and whether you have received the internet uh um preacher forum or whatever. But nonetheless, I I joke because um marriage is actually one of the

most important and sacred things.

Something very very important happens when those words symbolically pronounce you into a state of restriction, right? A thing is now alive because a kind of information, right? A kind of restriction is now being passed forth. By the way, those aren't actually the most important words or the most magical words in a wedding ceremony. Who knows what the most magical words in a wedding ceremony is? That is correct. It's I do. Why is it I do? What is so important about the word I do?

The word I do is really important because it's what you are saying to each other when you promise. I promise to love you and to hold you and to have you in sickness and in health as long as we both shall live. But even more importantly, this is actually the really most important part of a wedding is the audience then stands up. who are all your friends and your peers and your parents and everybody around you and they say we promise to help you also. We will. That's very important too because by the way we've spent this whole time talking about information theory. We haven't talked about the observer effect. The observer effect is a very real thing because we are all a part of systems that not only are what we're doing right here, but there are people watching and governing the systems and trying to provide feedback to it and always trying to keep us in line to what we said we were going to do. If anybody know these people, this is a really really fascinating and interesting couple. Gregory Bateson and Margaret me.

Um, if you know who these people are, the Margaret me in particular was a very famous anthropologist and both of them became the real pioneers in this field called cybernetics, which is this fascinating discipline that has completely all fallen out of favor because it just sort of disappeared into everything. But cybernetics is the study of all kinds of different things, right? It's information theory. It's sort of control theory. It's theories of how you govern systems through positive and negative feedback that were applied to people and to businesses and to all kinds of thinking, moving, alive systems. Very, very interesting period of history. Bates and me just wrote some unbelievably good and thoughtprovoking stuff. You should go look for it.

Cybernetics is particularly useful not only when you're talking about sort of first order feedback governing a system, which is, you know, that's there's nothing magical about that. That's just sort of regular system governance. What's interesting about it is when you get into second order cybernetics again which is people are watching the system and they are actors within the system and they have to decide if they think they are doing a good or a bad job which again think about the guests at the wedding saying we will help you right this is a second order feedback system saying by saying these words you now know that a second order governance system is in place which if we do it well will help you stay married to each other which is a very important part of your marriage staying alive.

weight. Another really interesting magic word. Why is this magical? What does weight do? What weight does is it takes a person out of the system and it says, "I need you to be an observer for a minute." And things can happen when you take somebody out of the system and you make them be an observer. All kinds of things can happen to a system when you suddenly pluck someone out. If you see a deal happening in a company, how do you kill the deal? You just say, "Hey, wait over the weekend." Time kills deals every time, right? Very reliable

method. So weight can really do some stuff. I don't trust that guy.

Very powerful second order feedback system for just absolutely changing the way that a system is working. If suddenly the meaning of your perception of my actions or my perception of your actions is called into question. Right? If you question someone's integrity, that is going to be a form of magic word, right? That is going to really radically change everybody's shared understanding of a system. So use cautiously. Now we're getting into the good stuff. So, so far I've told you about how you can say things and those things can have meaning and the meaning might have some relevance to a particular setting or a situation where there is a shared interjective reality and that interjective reality can have some aliveness properties. But what does it actually mean for you? Like what do you have to do? So the secret here, the line I really like, again this is from the Toby Chapel book. The secret of magic is to transform the magician. It's not about the subject, it's about you. What do I mean by this?

First of all, catch you right there. You did it. Good work. Oh, hey, it's Christa. Hi. So, I introduced this for a specific reason, which is so my friend Chris here caught this successfully. No, no effort whatsoever. Went really easily. How did this happen? Well, I ask how it happened because if you think about it, the motor neural circuit that forms your perception and your eyes following the clicker that I just threw going all the way up into your brain has to go do a whole bunch of things. It has to send this information back through the motor circuits and your arm and you have to catch the ball. And the thing about nerves is they're actually quite slow. Uh they're a lot slower than you think. The amount of time that it takes the um the um neurotransmitters to cross synapse is anywhere between 10 to 30 40 milliseconds, sometimes it's longer.

What this means is that if you have 10 neurons in a circuit, that adds up to a lot of lag. And wait a minute, why do you not experience the world in lag when I threw you that clicker? Why is there not a half a second delay on that? Huh? That is right. That is because the brain is mostly dealing with a model of the world. It is doing feed forward engineering on most of the stuff most of the time. It is only taking in the information that it absolutely needs to correct the model. That is really interesting, right? And part of why it's interesting, we're going to talk about this guy, Kant, right? If any of you know him, we're not going to talk that much time about Kant, but I'm mentioning him first because he is kind of the big name that you sort of want to think about in terms of establishing this radical at the time idea, which is like, hey, there is the world as it actually exists, what he called the ding an sich, like the thing in itself. And then there's our perception of the world, which has to do with like our ideas about what it is and our meaning that is expressed in our brains. And that's actually the world that we deal with most of the time which is shockingly preient for somebody a couple hundred years ago to realize this which has all been more or less approximately this is very smoothed over by what we now know about how the brain works. I mentioned Kant just because we don't actually care about Kant. We care about the guy who came after him which is the guy Hegel.

And Hegel had to come up in Kant's shadow, right? He is dealing with this problem which is like okay like God Kant is this giant you know of intellect and he has this idea which is that our ability of intaking the world is this magnificent fixed thing. And he didn't really like that. He's like you know like actually our understanding of the world does not seem to be so fixed as that. It does not need seem to be so solid a process and it matters that he

was happening in the same time as where you know Napoleon was in the middle of changing absolutely everything about how everybody thought the world worked right absolutely everything is like today but far more so right far far more so if you know anything about Hegel you might remember the Hegelian dialectic you know this the thesis and the antithesis and then the synthesis the other thing you might remember about Hegel is this idea of the gist right anybody know this term gist This is this idea which is like hey it's the spirit of things being themselves that is one in the world and everything and it has a motive and has a purpose right this very hard to wrap your head around kind of thing but is very interesting just from the point of view of like oh okay there is some sort of metaphysical concept of self-determination term we'll get to in a second that seems important here. So if you read you know the um the the the phenomenology of spirit which is his book that he's famous for the gist is his word there.

Spirit is not a very good translating word but it's best we've got in English. Now Hegel contributed this idea which is going to call back to some of the other things we've talked about which is like okay you know there are actually a couple levels of understanding the world here. This is where he breaks with Kant a little bit and he says okay you know the first level of of understanding the world is going to be a pretty easy one.

This is just your sensation right? This is the information that is actually coming in that you are taking in you know sensory input. We know what that is. The second one that we can talk about is perception right this is actually like you have this model of the world right and it is modeled on your sense of the relationship between things and all the different meanings right this is your ability to actually map out the world and then feed it forward most of the time. This is why you don't catch why you can um successfully catch the pointer when I throw it at you. Now if you notice right one and two are basically how to play 20 questions as well as possible as an individual right like our ability to know things is going to be more or less predicate on do we have a really good sense of what is coarse grain and what the ontology is so we can ask good questions and then do we know things about the world such that there's a lot of mutual information that we can draw on and not have to rederive everything about the world every single time because boy that'd be tiring.

Now the third level of understanding, this is where it gets kind of hard, but this is where it gets actually very important is what he called understanding, right? Real understanding, which is this thing called self-determination. The self-determin in 20 questions is actually something, not you, but this new thing is going to start getting good at the game. This is a hard one, so I'm going to try to do a couple of different moves here to help you appreciate it.

So Hegel would argue, right, that something that makes itself what it is, a marriage, a music scene, a company is more real and more free than something that is strictly made out of other things. Seems reasonable actually, right? If you are self-determining what you are through all of your actions and all of your being and all of your existence, that is a kind of self-sufficiency that is genuinely real. It's quite freeing and it is a kind of knowing that is very important. Self-determination, it sounds like he is arguing, is a bit like this idea of actively propagating information forward in time. We've heard this before. It is very very similar to that Santa Fe paper. It is not perfect, but for our purposes, it is close enough.

Right? This is an interesting convergence of two separate lines of reasoning that I think is just genuinely really interesting. Right? And the way reason why we're going to employ this for our purposes is that your goal as a magician, let's go all the way back to what our goal is, right? Our goal is to be able to use words to create new shared understandings into existence that actually mean something. Is you want to be able to speak information that resolves uncertainty that helps a new individual. Individual can mean lots of things, right? It doesn't mean person, right? It can mean a new idea, a new relationship, a new state, become self-determined.

What's that mean? Well, again, what this means is that if there is something that is almost there, an idea that could be there, a relationship that could be there, a you could be there, what this means is that maybe the missing piece is you. The secret of magic is to transform the magician. Because all of these ideas that we've talked about are not you talking about the magical subject. They are all statements you make about you.

Please is not about the ice cream. It's about you. I promise is not even about the thing you're promising. It's about you. Are you ready? When you get on stage and you want to get people to start dancing is not about you. It's about I am going to start the show. It is all about your contribution to something that is just missing a piece to be ready to start being self-determined. This is why magic works because it is communication. It is resolution of uncertainty about who you are and how you are related to the situation at hand.

In order to make something else what it is, you have to make yourself what you are, which is very Yoda-ish. And it is okay if you think that's garbage, but I thought I find it quite nice in a self-referential sort of way. And again, right, when this works, it often works on this idea of there is a creation of possibility. This new gist could be real. There's a delta of impossibility, but it's not real. There is a new self-determined entity that is ready to be real and that is going to resolve the gap by you providing this missing thing that is you. And by the way, speaking of Hegel, this is more or less the same as his dialectic, right? It's thesis, antithesis, synthesis, right? How these things come into being.

Now, it's been a while. We haven't talked about magic yet. Very important to talk about bad magic because that's actually an important part of what magic is. There's not just good magic, right? Everybody knows this. There's also bad magic. What is bad magic? Well, what do we think the opposite of self-determination is? It's selfdeception. Selfdeception is bad magic, right? It means lying. And it don't just mean lying in a straightforward way to other people. It's mostly about lying about yourself and lying to yourself, right?

When you lie to others to make something real, which we've all done. We're all humans. Really, you're lying about what is real about you. Right? You're not really lying about the thing. You're lying about yourself. Right? That's what all lying is. This is also what projection is. Right? This classic move which is like when you are guilty about something, the way that you protect yourself from that guilt is you make other people guilty of that thing so that they're guilty. It can't be you.

Right? It is a kind of defense. It is a kind of lie, right? To defend yourself from the lie, you make it true of others. I'm currently rereading my crime and punishment, which is again one of these unbelievably books like probably the best book ever written about projection, right? And you all know the plot probably, right? guy kills someone

and then over the course of the book he just becomes completely tortured and destroyed by the consequences of projecting all the guilt and all the lie onto people until it catches up to him.

Right? And you may know this famous line, right? Your worst sin is that you have destroyed and betrayed yourself for nothing. The irony of that line is that that is not spoken to him. That is spoken by him to someone else. It is projection. Right? This is him trying to defend himself from something that he knows is true, which poor guy, right? Bad magic nonetheless is a helpful way to understand good magic, right? Because bad magic is, you know, to make something false in the world, you say something false about yourself. But good magic, which is the opposite of this, is again to make something true in the world, you do it by saying something true about yourself.

Anybody know this word? If you do, it means that you either speak Hebrew or you have read um uh East of Eden, right, by John Steinbeck, right? This is a wonderful book, one of the great novels. And this book tells the story of the book of Genesis. Not Adam and Eve though, but Cain and Abel, right? The story of Cain and Abel. Abel was the favorite. Cain is mad. Cain kills him. God says, "All right, man.

Well, you now have to live with the consequences. That is too bad. But fortunately, I'm going to put this mark on you." The mark of Cain, if you've ever heard of the mark of Cain, which says, "All right, you can now means exactly." And a big pivotal plot point of that book has to do with debate between different translations of versions of the Bible as to whether it means you can overcome sin and death versus you will overcome sin and death which have very different meanings it turns out. And then they go back to the Hebrew version.

They have it translated and they find that the word is actually this word called timshell which says you may overcome sin and death implying there is choice right you have to choose as to whether you are going to go down the good path or the bad path. There are many magic words that are useful in situations like this where you can decide which path that you're on and try to take different paths, right? Depending on whether you were doing the good kind of magic or the bad kind of magic in your life. Anyway, so this is the church we go to. It's Anglican Church, St. Barnabas on the Danforth.

It's a wonderful church that I started going back to a couple years ago after, you know, a few several years of not doing that. Partially it has to do with my kids coming to an age where it started to really matter. But I also thought I'd bring it up here because the other day I had a friend visiting from out of town and he was sort of curious. He's like, "What do you get out of church?" Like, "Why do you go to this?"

And he was expecting an answer that's like, "Oh, it's spiritual or something." The answer is not that, right? The answer is because it is help. Church is help, right? It's like help with what? It's like basically it's help with self-determination versus selfdeception, right? It's helping you choose the right one. I'm telling you this because I'm assuming that this is probably not a particularly church-going group, but there is a really interesting way to present what church is that I find resonates with people alike like this.

And it comes from Hegel. Hegel had this idea. He wasn't completely convinced of this, but he says, "What if God

actually was self-determination itself, the process of this that's embedded into everything in the universe?" Kind of interesting actually. He's like, "Look, if God actually exists, he's probably not going to be some form that's easy for us to understand. It's probably something that's barely at the edge of our comprehension." And you know, if you think about this, it's like, all right, well, if you think about church as basically this exercise where there was a person who initiates a kind of self-determination that people practice all the time, then you can maybe wrap your head or at least around what people think they're getting out of it. Because again, church is a place where you all go in and you go into an observer effect dynamic, right? Where there are going to be a whole bunch of people and the role of the observer is very appreciated and acknowledged in helping everybody say a bunch of words together to try to get them onto a better version of magic as opposed to the bad version of magic.

Right? So we go to church and you say approximately one hour a verse of magic words, right? Where you talking about the creation of a kind of possibility, right? Where remember like what eternal life means here. It doesn't mean life in the biological sense. There's a delta of impossibility which is we can't we're all sinners. That is too bad. That is the situation. And then you have to resolve the gap with this idea that Jesus died for our sins, right? And that is actually a way that you overcome this through a whole bunch of important magic words that are basically doing the equivalent of a very very very ancient high lever form of 20 questions passing a lot of things into the future.

Now a lot of people I think I have heard people say things like oh my weekly running club is like church for me and I used to get mad when people said this but I've actually mellowed out about it. I think it's actually perfectly fine for you to say this. If something is helping you find self-determination in the good sense then that is completely great and okay. You can find self-determination there too. However, I will point out that magic mostly works at the edges of things. They do not work in the place that you naturally already want to go to. That is not how magic works. And it is not found in oh like well my running club is what I I already wanted to be doing. I will go find some magic there.

Here's the thing. Magic usually does not show up where it is convenient. You know, if you think about the idea of people really seeing biblical visions or having experiences that really change their lives, they're usually in some wasteland somewhere. They're not at, you know, the the Good Life Running Club on Thursday nights. You know, I really love this tweet from my friend Will saying, "Look, if you talk to any serious hiker, they are like, "Yes, demons are real.

Make sure you don't walk along a stream for too long. Sometimes a witch trails will be for miles. Avoid wearing bright colors and so on. The ancient is very much alive around the edges." I think this is actually very important. If you want to experience this, you can quickly hop into the ravine system in Toronto and you can go walk around and you can see that this is really not something that you would experience in the city.

Some aspects of it don't make sense. It's very real. Why is this ramp here? It's actually because of the mountain bikers. But sometimes you see things like this and you're a little bit on edge. It's a different place. This is a map of the trail system. You can go all over. There's over 100 km of trails. It's wonderful. There's a reason why you

don't have these kind of profound experiences in the city, but you do have them in all of these places way out.

It's called domain coherence, which basically means does the world completely make sense? If you're in the city, you are surrounded by domain coherence, right? The city is full of reasons why things are the way they are, and they are just overwhelmingly appearance are kind of at odds. If you are making the reason why you are the way you are, it is actually not necessarily going to be helped by there being an answer for everything around you all the time.

But I will point out that selfdeception and domain coherence are mutually facilitator. There's a reason why in all the stories, right, the town mouse and the country mouse, right, the town mouse is always the idiot. If you go look at this is the Sigra Familia, which is almost done being constructed in Barcelona. It's like there's a reason why they build these things to be overpowering with detail. You cannot focus on any one thing at once. It is designed to overwhelm you, right? Part of why this is is because it is not supposed to be domain coherent, right?

It is supposed to make you a bit humbled, right? And a bit stressed out in the same way that the ocean humbles you and stresses you out or the desert does. Similarly, I ask this question sometimes. Have you ever seen a goth downtown? Maybe, but not really as much as when you're out in the countryside or in the suburbs or at the mall or something. Goths do not really hang out downtown. Why not? Because goths are a good proxy for people who are like genuinely just doing their own thing, right? And in the city, you don't really see goths that much. That's not where they are. It's not where they show up. They're at the mall, right? In the suburbs, somewhere far away. Your favorite band is not from the city. They are from the suburbs. And I know this is a lecture series about the city and why it's so great, but I would like to point this out that the city has too much domain coherence for spiritual experiences and for you to actually find your own sound. That is not what the city is good for. This is my favorite example of an album from back when we were touring. All the bands that we played with, you know, if you could take all of them, they kind of sounded the same. But this band did not sound the same. They sounded completely different and like nobody else. And to this day, years later, it has stuck with me as something that I go to when I wanted to listen to something completely original. These guys are from New Market of all places. God. Anyway, great music comes from the suburbs, right? A lot of great things come from places with less domain coherence.

Similarly, you know, the idea of like new ideas need old buildings. It's like old buildings does not mean expensively renovated old buildings. It's not what that means, right? It means they have to be cheap and awful buildings. If you make them nice, that really destroys the point. Again, when Jesus goes to confront the devil and actually find out who he is and decides whether he's going to be Jesus, he does not go to the temple in the middle of Jerusalem. He goes to the desert, right? That is where you actually have these things. That's where you actually find anything.

Anyway, I want to wrap all this up by going back to the beginning, which is like everybody's kind of stressed out about the same thing right now, which is like, okay, we're going into this future of AI or technology or whatever where there's going to be more non-human thinking and imagination going on everywhere, and this is a bit stressy. Do we think this is going to mean more domain coherence or less domain coherence? I think probably

less, right?

The world is probably going to make less sense, but maybe that means the world is going to get more spiritual again and there will be more magic in the world again. and your ability to remember some of this is actually going to work. So if we combine a bunch of these concepts, right, we say all right, magic can do the work of making things what they are. They can imbue self-determination into an idea or a group or a spirit of something. It works because it is communication, right? It resolves uncertainty of some kind that contributes something that was missing.

The secret of magic is to transform the magician. It is not you are not talking about the subject. You are talking about you. To make something what it is, you need to make yourself who you are. You are the missing piece. Remember that the opposite of self-determination is self-deception. That is what bad magic is. It is helpful for remembering what good magic is. There is help out there for choosing good magic versus bad magic. Bad magic should be there.

Self-determinism comes more easily when there's less domain coherence. This is something that you can explore on your own, but I suspect it's true. Domain coherence is probably going down. So maybe think about that and enjoy some of the opportunities that it provides. I think there's no better lesson than wrapping all this by looking at these are my three girls, right? As they figure out the world as they go figure out how to become self-determinate in their own right. They are becoming little people that have their own thinking, their own feelings and values.

And I have to be a large input into that, right? I have to think about what kind of magic words I say on a daily basis that are going to have profound trajectory shaping influence over the course of their lives. And a lot of the things words that you say are going to actually have magical properties. if you think about it. So enjoy that power that you have. Use these magic words well. They actually will make a world of difference into everyone around you and they will help you think about your place in the world too. Contributing your piece. Thank you.

>> Thank you, Alex. Okay, we're going to move to uh Q& A >> uh self-determination. Um there's a buzzword going around in SF called agency. What is the difference between those two and what are your thoughts on agency and its critiques? >> Any critiques on agency? >> Great question. Okay, so agency I think started out as this very useful word which is differentiating between high agency people and everybody else which is like hey you know at least that's kind of how I started experiencing that word being thrown around which is you know the you can just do things philosophy of stuff. I think the difference between self-determiny and agency is that it is entirely possible to do things that have no purpose and that have no identity. You know like just because you're doing things doesn't necessarily mean that it is actually forming to an identity but I think they're related. I will absolutely tell you that if you're not doing anything, you are probably not being self-determinant, right? I think being low agency is probably quite compatible with being not particularly self-determinant. Um, I think also being low agency is fairly compatible with being fairly self-deceptive. I think you see a lot of people who are not high agency, but who will lie to themselves about it. So, in that sense, I think I'd see a lot of that. Um, I don't know if that answers your question, but I think they're they're related, certainly.

>> Hey, thanks. That was great. I was really curious about like the connection between um tech scenes and music scenes. It's something I'm all really curious about. And one of the things that I always think about when I think about cities is that in lots of areas in Denver, there's a sort of winner take all positive feedback loop. Like if you wanted to make a movie in North America, you go to Hollywood. You're not going to go anywhere else. And for AI and tech, you go to San Francisco.

Music scenes feel like this different thing where like for some reason >> music scenes are this place where like suddenly for like three years Seattle can become the most important place and is and I guess what I'm curious about is like why is that special to music scenes but even more so is there way to capture some of that in other scenes. >> Okay, this is a great question. Let me see if I can take these one at a time.

First of all, okay, so the the degree to which they are similar is that there are tech scenes in other cities than San Francisco. And I would say that those local tech scenes resemble a music scene even more, right? It is the New York scene or the Toronto scene or the anywhere the Austin scene, whatever. Those will especially have local dynamics. We talked about this on the podcast, right? About how you have um in a local scene there are going to be constant hierarchies of like the people who made it big and then went out and came back, right? that are now like helping everybody up and then there's the up and coming people who have reached the mid-tier amount of cool and then you have the lower level people who are like not cool at all but trying to make it or whatever in San Francisco it's so big that it's just the entire environment it's probably like what Nashville is like Nashville is not a music scene because the whole thing is music right it's not a scene anymore maybe it's like that ways in which it's similar I think again what's very important about these scenes is that there has to be some amount of obscurity as to who's really doing well it cannot be too transparent exactly who is how much good. If you did, then the cool people would immediately stop hanging out with the people that were any ounce less cool and you would lose what makes the dynamics of the scene work, which is people actually hanging out with each other.

Um, I remember what like I don't know if you guys have any anecdotes here, but like when we were coming up, there was a group of bands that were maybe one generation older than us and there were two in particular called the Kingpins and the Planet Smashers. And Lo, the singer of the Kingpins was our land lady. She was one of the sort of like the grand dam of the scene and there would be people who were all kind of like basically flocking to be cool and relevant to her. Our bass player had sex with her once. Um but there oh you have all these people who are trying to basically come up and sort of jockey into the position of being recognized and like getting into stuff.

But if you actually knew if you could actually rank how good each band was, it would stop working. And this is very similar with startups, right? With startups, there's always a fog of war around how quickly actually is everybody growing and that breeding out the best of possibility, right? There's the most amount of plausible potential is kind of getting maximized so that you can bring everybody up along with you. And I think a lot of music scenes work the same way.

The difference though is that the economics are worse. I think a lot of it just boils down to the fact that like one's more profitable than the other, right? So therefore, you're going to get a lot of um it's less hard to actually make

it just sort of like generally have a lot of people who can like waste all their time there and have and also be able to pay bills, right? That being said, it doesn't slow down any good music scene because people are just doing it because they want to and they get jobs, you know, at the bar or whatever because of all the flexibility and the hours. Um, but I don't know, I don't know if this is going in any particular direction or this is what you were looking for, but thank you. Not >> they are similar. Yeah.

>> Great. Go ahead. >> Hi. Uh, thank you. That was great. Um, at some point in the talk you mentioned how you can speak magic words and that reduces the amount of possibilities and it constrains your choices which leads to better outcomes. And I don't know if you connected it to entropy but I know you know lower entropy is good and so you're creating order but I was wondering like what are your thoughts on there's some times where people could speak words make a decision and they have less choices now they've constrained their possibilities but uh there's worse options for them you know.

>> Sure. I mean so I don't want to necessarily use the words better and worse right but you you are right to use the term constraint right it's like imagine that you are a living cell and you iterate towards a particular protein that does some useful job and it has to pass forward you know in DNA and through epigenetic means or however you're passing it forward right where it's like it's very important that this thing stays the way they are like that's good it has some function it could also be a thing that gives you cancer right that's not good necessarily good or bad right but what it is is a self-reinforcing low lower entropy state, right, that is going to propagate forward for some reason, right? So again, like not all things that propagate are good in there magic, right? There's, you know, I don't want to get too metaphysical here, but like there absolutely is biological versions of bad magic, >> right? I don't know if that answers your question, but um >> yeah, like lower again, it's not just strictly speaking about lower entropy per se, because in absolute sense, entropy is always increasing, right?

locally lower entropy that is self-reinforcing because the rocks are always finding ways to kick themselves back up the hill in a very particular pattern that expends energy somewhere else, right? Something is getting warmed up somewhere, but what matters is that this local thing is getting more and more crystallized. >> Thank you. >> So, yep. >> All right. I think I was with you right up until the end. I knew it. Um so with with Hegel uh things that are more than what they are or more self-determining with the AI piece AI cannot I mean maybe right now maybe this will change but it can't be more than what it is and there's a fair amount of selfdeception there. So how will AI lead to less domain coherence?

>> Okay so there's there I think there are a couple of questions in here. One is can AI be self-determinate? Maybe that's what you're asking and I do not know the answer to that question. Like that is a hard one. Um what I do think is happening though is that >> people's experiences are starting to make less sense. >> Right? It's like there are suddenly there's a a lot of chaotic high agency stuff is getting injected into the world right now. Right? That's the important part. Whereas like our everyday experience 5 years ago is going to make a whole lot more sense to everybody than our everyday experience in three years.

Right? Right? And that is what I think creates the opening for hm like maybe there are not established answers

to everything around me at all times. Right? Maybe there's room for me to like create some sort of self-determinism that actually emerges in the space. That is what I think is going to happen. It's not that AI is going to become self-determinate. Therefore, we are it's somewhat closer to the opposite. But also like I don't know what AI is going to do. Like all I know is that what like we can do, right? So that's how people respond to this interesting new situation is going to be what matters.

Hence why my argument to you is that like if you want to be well equipped for this world you should figure out right how to be using magic to do things that are useful right like for example start communities start ideas start dinners start doing whatever just become agent become self-determinant is going to be very useful because that's how you will stay sane first of all and it's also how you will just go do good things with your life >> hi Alex great talk um my question is about cloud shannon and shannon entropy so in information theory different languages have different shannon entropy which means different information density. Yep.

>> Um and you used uh the Hebrew word um Tim >> Timelle >> Timshell as I don't speak Hebrew so don't ask me pronounce it. >> I was just curious like in your research and in your writing and your studies did you ever come across languages that have more magic than others? >> Oh god what a good question. Um I only speak English and French. Um I speak French pretty well but like I'm not by any means a polyglot so I don't have very good comparative language assessment. I will absolutely tell you that like there are some things that French is better for in terms of invoking things. Um the other day I'll give you an example. Um Alex Karp was giving a talk that I had to deal with and he need he needed to use the word uh MIT which if anyone knows it kind of means job. It kind of means craft. It kind of means purpose. It kind of means professional pride. It means a whole bunch of different things in order to try to get somebody to see a situation differently. Slightly magical, right?

Where it was like it was the French word was far more readily available to do that purpose. So, sure, absolutely. In terms of actual comparative things between different languages, I am not the right person to ask, but it's a great question. >> Thank you. >> Hi, Alex. Thanks for the talk. Um, >> thanks. I was a bit curious on how you arrived at AI bringing about less domain coherence instead of more. >> Okay. If if the major models that are being used across the economy are trained and developed by a very small subset of the human population >> and if the cost of original human thinking and creativity becomes too high for the market to bear, >> how do we end up in a society where we aren't just intellectually in some big city as opposed to off into the rural uh regions?

And what do you think? >> Um, it's actually the opposite of that. It's that by going into the countryside, you get to use magic. But I like the direction your question is going though. >> Um, yeah. I guess my question is, do you see a reality where the opposite happens? And if not, why? >> Okay. Okay. Okay. This is a super good question. Um, and if I if I can if I can attempt to restate the question, it's like you have four models, three, four, depending on how you count, croc. Um, you have four models, they're all going to be everybody's going to live in the same four cities. Why is this not more domain coherency and all, you know, variance crushing? Um, I don't think people are going to accept that, right?

Like I don't think that's I ju I just don't think that's the direction things are going to go. I absolutely appreciate the point of like this is going to suck things down into being very homogeneized. I suspect that you know the history of all of this stuff is that like too much um just incoherent out from this direction is going to result right people aren't going to all use it in the same way right everybody is doing their own thing right and the result is going to be I would guess more total incoherence than coherence but you know you've articulated the question well I don't know which one it's going to go if it turns out that you're right then you don't need this talk you can go home but No, it's a smart way to think about it though.

>> Thank you. >> Yeah. >> Hi. Uh, great talk. Um, I'm wondering when you deal with like entropic situations, you are taking on an element of chaos, element of risk. >> There was a word I like that wasn't used like luck and being lucky or like increasing >> your luck surface. Do you have any thoughts on how can someone be more lucky or do you identify any traits in people who are lucky quote unquote and that have situations work out for them?

>> Um, I love this question. Um, I would have to think better than I could think on the spot right now about the relationship between luck and resolution of uncertainty. Um, there is probably some good answer, but I would need to get back to you on it. On the topic of who are lucky people, right, and how do you become a lucky person? That's a great question. Like I feel like I'm a very lucky person, right? Like it's a bunch of like really lucky things have happened to me in my life, right? That's wonderful. Um I wish there was a formula for it. I think you just have to be really um open to the notion that a lot of like the really really really promising self-determinate paths start from tiny little cracks of opportunity that have massive things behind them and that if you realize this there's actually tons of luck in the world out there. Um I think some people are just like you know when the student is ready the teacher appears kind of thing. I think when you're ready to be lucky, the luck appears.

>> Probably a frustrating answer. I don't know. This is a good question. I don't have a good answer for you, but I'll try to come up with something. >> Appreciate it. >> Yeah. >> Thank you, Alex, for the talk. This was, I think, my favorite so far. Um, I I'm coming here uh for advice, actually. >> Okay. >> Um, so, >> go to church. >> That's good wisdom. >> Um, that's a question. >> I by trade am an investigator and I do civil investigations. Uh, so I deal with a lot of bad magic.

>> Okay. >> Um, you brought up Crime and Punishment earlier and it's also my favorite work. And I deal with a lot of Rishkolnikov like characters who are betraying themselves and engaging in a lot of self-deception. >> Okay. >> Um, I'm wondering if there are any magic words that I should know that can help people avoid bad magic and stop engaging in self-deception. >> What a good question. I need to think about this, too. Um, >> I can email you.

>> It's You should. Uh, is it bad that I am immediately thinking about my kids >> and like strategies that we employ? Um, okay. Okay. Okay. I I actually I have an answer for you. I have an answer for you that has sort of worked for us. When our kids, specifically the older one, is employing Rascalov style behavior and strife in the household. I think there is a movement these days uh that is mostly the main the main the main cause of this in

this in my household in my household is my wife um that says you need to have consistent reasons for everything and those reasons have to appeal to u actual purpose and actual logic right you can't be disruptive at the dinner table because your sister is trying to eat you can't do this because some reason and you try to be consistent and loving and enforcing those my school of thought is this is you can't do this because it is disrespectful and I say so is a different kind of appeal and a different kind of consistency but is an app but is a different you can you can argue with this and saying like that's not an answer like because I said so isn't an answer it's like all parents learn at some point that because I said so is an answer I think the because I said so may be useful here in the sense that it doesn't reason it doesn't try to use it doesn't try to offer a offramp to this person that they that like appeals to their better nature because that's not what they're going to do, right?

They're going to use it to keep digging, right? You have to, you know, just maybe appeal to because I said so and that might actually get you some positive results. I don't know. >> I'll give it a try. >> Yeah. Let me know if it works out for you. >> Thank you. >> What's up? >> Um, thank you for the wonderful talk. Um, >> I found the really interesting strategy you used to convey some of your ideas was to essentially um take multiple schools of thought or different domains um and kind of prove or or convince us uh of something that is true. Uh for example, I think it I might be getting this wrong but it was like Shannon's um information theory and um thermodynamics kind of >> say the same thing. Um, so I would really love to hear and I maybe the audience as well of like other um convergences of completely desperate like schools of thought that come together for something really interesting.

>> Um, so basically you're asking for other examples of like these two completely different things are actually the same thing. >> Yeah. >> I will have to think about this. Um, I'm sure there are lots that I just can't spring up on recall right now. I do think, let me answer, let me non-answer your question. I think the reason why it works is not, and maybe this is helpful in finding some of these examples, is not because it necessarily proves anything. I think the term proof is probably going to be counterproductive here. Um where it does work is if you think about if you think about statistical reasoning whether you're doing this in a frequentist or in a basian manner either way will get you to the same conclusion is like look if I can produce two completely independent ways of reaching a similar conclusion then odds are quite a bit higher that this didn't happen by chance. Um the the really morbid version of this for people who are learning sort of like Beijian prior is like when the first plane hit the World Trade Center, how confident were you that it was a terrorist attack? And you're like somewhere between zero and one, but it could have been other things. And then when the second one hit, you're like now you know, right? It's like it is a second independent thing from now a much higher prior that something is the way it is is going to get you to something that's very close to one. Similarly, if you look at if you study thermodynamics in school and you're like, I don't really like this, but okay, I guess I accept it. And then later you discover Shannon and information theory and you find that they reach the same thing now, you're going to be more likely to buy the first one. So, I'm sorry I didn't come up with any good examples for you, but I will think about this and if you find me afterwards, I will hopefully get you some.

>> Thank you. >> Thanks for the talk. How come the magic words require an audience? But some of the most magical experiences happen alone in the wilderness. >> Do magic words require an audience? Let me see if I agree with that. Um, I mean, many of them do because they rely on people's understandings of something, but like I suppose you could have a conver you could have a conversation with yourself that has a magical effect. I

suppose. Um, I think the difference is this. When you're alone in the woods and you're having these experiences, what matters is not you saying magic words that change is another thing. It's you getting more practice at self-determination given more space to do so, right? And being good at the latter is what's going to allow you to do the former more successfully. So, I think if you spend more time in the woods having these kinds of experiences where you get to be self-determinate, you will probably be better when you go back to the city and you have to use magic to get what you want.

>> Thank you. >> Hi, Alex. Um, love the talk. I was a little disappointed though. Okay. >> Um, >> terrible expectations on my end, but I thought that magic words and how to use them. this was going to be a lecture on how to tell stories or how to be uh good at uh storytelling. Okay. >> So perhaps my um >> you know uh question I had in mind coming in was different but at the very end I was um I thought that I got kind of the an answer to your to that question. uh you seem to to make your um lecture more interesting to come up with random things in from time to time and then kind of surprise listeners um and then resolve it for them on how this ties in together. Um is that the I thought that was fascinating. Is that the way you usually do storytelling? Is that a good way of doing story? is explicitly my strategy.

>> Disorient the audience and then let them resolve it. So yes, I will give you one thing by the way since you came about storytelling. I will tell you one magic word that I use in writing that works every time. Um this is one weird one word that if you use it your writing will become better and that word is meanwhile. Here is why most people when they tell stories or when they write any kind of explanation that's trying to advance a narrative will use a lot of this then that but this therefore that. And even though there are a lot of buts and therefors and things like that, it's still one serial track going down.

Whereas as soon as you use the word meanwhile, you tell the audience, hold that thought. Wait, >> new thing is now going to introduced and now you create the possibility for tension and reconciliation or collision or conflict. Right? If you don't use parallel abilities, you're very limited in terms of how much actual conflict you can um you can create. By the way, I'm going to I'm going to keep answering your question. One of the best versions of how to use meanwhile in terms of this parallel conflict. If we go back to Hegel again, Hegel had an amazing definition of tragedy. If anybody knows what a Hegelian tragedy is, he said that like a tragedy is not good versus evil.

It's like a tragedy is basically a collision between two coherent value systems from which only one can remain alive, >> right? Like that's tragey or tragedy. Um and again in order to establish that kind of thing uh you need to have parallelism in what you're doing. And again some of again so to go back to your earlier point some amount of disorientation is going to naturally happen because people are like what what are you talking about? I was just over here but you know if you can bring it together at the end it does work sometimes.

>> That's great. Thank you very much. >> Hi um great talk. Um not to harp on the same skept skepticism that a couple people in this line have already brought up. I do have a question about domain coherence and AI. >> Yep. >> Specifically in the context of convenience culture. Okay. >> And that cities are very convenient. Um living out in the middle of nowhere is less so. >> Um and it seems that AI is extremely convenient. It makes

things more intelligible to us. Um, if we spend more time in an AI environment, our environment seems to be more coherent, more intelligible, easier barrier, lower barrier to entry to things. And it seems like self-determination usually comes from a place where you have barriers that you're up against.

Um, like the Goths in the mall in the suburbs. >> Okay. >> Um, it's a very hopeful premise. Um, so first of all, like this is the part of the talk that I'm least confident about. So, it's perfectly fine for everybody to be like, I don't know about this because I don't know either. But, okay. So, I I think you're describing something that is great and I hope happens, right? Which is they're all there going to be all kinds of good ways that people are able to get more from their surroundings and are able to lower friction to doing things and are able to make life come to them more. I don't think that's necessarily the same thing as um I think that it's going to produce a lot of domain coher like I think that's going to produce how do I put this you're going to get a lot of domain coherence in some situations right that make you comfortable and make you available to do things and things like that and to that respect that's great for all the stuff you're trying to do it might not necessarily lead to you being bored in your basement and making good music I do though separately think that like in aggregate there's going to be a lot of conflicting stuff going on, right? This is really, this is not a there will be less versus there will be more. It's more of a there will be things in many different directions going on. And it's not just be AI, by the way. It's also like the state of the rest of the world is also changing a lot too, right? You open the news and you're like, "Oh, all the things I thought were stable objects are not stable objects anymore." That's not just an AI story, right? That's just like, you know, we're whether whether you want to you like uh who's the guy who did the fourth turning? Can't remember. Um, you know, pick your favorite used to be a conspiracy theory and is now something that, you know, has people on YouTube being like, see, um, so I don't know. I like your version of things. I think it's very hopeful. I think that like there are all kinds of like nice things to think about it. So, in that sense, I hope you're right. Thank you.

>> Hi, thanks so much for the talk. I have a question kind of separate from the content. I'm curious about you and how you produce a talk like this. Do you start with the idea of magic words? Do you start with the different concepts that you want to string together? Is it emergent? Does it come from a thesis? How do you go about it? >> How I produce this? Okay. How I produced this talk was Ben asked me to do the talk about nine months ago and I said yes and then yesterday I started writing it.

So it's very stream of conscious e. Um hopefully it came together. Um how you produce. Okay. So, in my day job, right, I'm an editor for people mostly, right? And so, my job is helping people with this kind of thing. Um, which is like if you're starting with some sort of blank piece of paper type of situation, you're like, "Oh my god, it's in my head. How do I get it into a talk that's coherent?" Um, I'll tell you one technique that works for me that is sort of answering your question here. Something that I will do is I will take, okay, I have this thought that I'm trying to express that's complicated. I will force myself to make the talk purely in the form of memes.

>> Right? Go to your favorite meme template website, make the memes that you feel like in total will tell 80% of your talk or something. Stick them in a Google doc and then explain them in words. And what you'll find is that this gets you unstuck from writer Brock because you're like, "Oh god, I can't believe I have to explain this shit." Like, how do you not know that this is what this guy is thinking in that thing? And then before you know it, it's

like you've gotten yourself unstuck and now you have a structure of something that works. And then you can delete the memes or you can keep them. I kept a couple of them. Um, I find that works, right? It's like start with the hardest part that is the thing that is just like not working for you to express out. Find some way to get it, then get everything else around it, and then you can clean it up.

>> Cool. Thank you. >> Um, I was curious about how what inspired you to think about this topic. >> Um, what inspired me to think about this topic? Part of it, part of it is definitely being a parent. Uh part of it is definitely having, you know, these little self-determinant little things of which you are, you know, to some degree the cause of and that are responsible for that you have to think very carefully about what you're actually shaping trajectory wise. Mhm.

>> Um, and the more you think about that, I think the more that you realize that's sort of like magic and a lot of these concepts have far more useful or explanatory power than a lot of the more literal-minded parenting books. Um, like it works. Um, it's like, you know, it works because it happened. >> Um, that's a definitely a big part of it. I think another big part is that like I've always been very interested in how social situations work to produce outcomes. I think that's just been a perennial topic of interest of mine if you've read my blog. Like most of it's about that kind of thing, right? Which is like, hey, you have this very very interesting collection of people and it's producing a result that is not something that is that is emergent, right? That it's not just a strict sum of the people, but is actually both super valuable like and also like self-re repeating. Anything like that is something that I'd like to spend time on. I think if you spend any time on that any of these sort of like concept of like oh well like somebody just incanted the right magic words to get this thing to happen right is like gonna show up in your life at some point right so it's just a convenient way to think about it >> thank you >> you have this amazing essay about why the Canadian tech scene doesn't work >> you don't like it go ahead what's your question >> um uh one way you could frame it is that in the uh Canadian tech scene uh nobody knows how to speak magic words >> perhaps Perhaps perhaps um and uh I wonder what is the uniquely Canadian or the uniquely Toronto problem uh for why self-determination is so hard?

>> I mean, we're all here. Something's working, right? Like I think, you know, well, put the straightforward answer is because everybody goes to SF because they can, right? Right? I'm not going to sugarcoat that some other thing is the answer. Like that's the answer. Right? It's because if you are a really smart and capable and motivated person, the logical thing is for you to go right now. Where does that leave us here? Um I was on the other stuff a couple months ago. It was a really fun time. And we talked about this idea which is like what is the most true and valuable gift that people here could give as an expression of what we're about? And I think some that you could explore is this idea of like maybe something that we should be giving is something to everybody out there, right, to remind them of back home that makes them think about back home, right? That's actually something really valuable because it's like again there are so many people out there who really really think about how they're from here, right? They all know who each other are. They have really deep ties here and they might come back someday, right? And when they do, they should have something to come back to that has given them, you know, gifts that they will remember and be thankful for, right? So, I'm gonna answer your question not about what we're doing wrong, but about what we can be doing, right? Because, you know, that's what the spirit of this is about, right?

>> Okay. Last question. >> Oh, thank you, Alex, and thank you, Ben. Uh, my question is about church. >> Okay. >> Um, so as a pastor's kid, I've been growing up going to church like every week. >> What denomination? >> Pentecostal. >> Okay. Oo, cool. >> Yeah. And what I'm curious about is you said, you know, church is this place where like second order observer effects can happen, where it helps us to become less selfdeceived. >> Um, but I'm also wondering like church is also a place where self-deception can happen on like a systemic level.

>> Yeah. >> And I just was wondering if you have any thoughts on how to differentiate systems that, you know, propagate self-determination. How how would I identify if I'm inside the system? >> How would I know? And similar to a previous question, are there any quotequote magic words that I as an individual could do to help shift a self-deceived system into a more self-determining one? >> It's a heavy question uh to end on, but it's a good one. I mean, so look, like I grew up I grew up Catholic in Vermont, and the Vermont Catholic Church had its share of problems, too, let me tell you.

Um, so I I I I appreciate the fact that you can have an unbelievable amount of bad magic in these very magical places, right? there's, you know, there's the the dark arts are a real thing. Um, I wish there were one magic thing that you can say, right? I think that it's especially hard when you are starting on the inside of a system like that and there are both good and bad things about it. Um, I think that, you know, you have the I really like the CS Lewis line about it, which is that like as long as there is one good person, it's worth going to or it's worth doing or it's worth keeping on to because like that's all you need for something to really like keep taking root again. um like the the bad stuff is there like absolutely um I think the f thing to focus is around making the stuff that's good work um and that's that's certainly how I would rather spend my time on all kinds of things but no thank you for the question >> thank you >> yeah we nailed it Perfect. Uh uh okay, that is the end of our program.

Uh pizza drinks uh await outside. Uh uh I have a couple uh asks of various kinds. First, um a very tactical ask. Uh when you are outside and you are eating the pizza and you you're drinking the drinks, please clean up after yourselves. Uh I think you know just pay attention to the space keep it in good order uh we will all benefit from it and uh in will be uh you know happy to partner with us again uh second tactical ask uh if you took any photos tonight uh or if you're just a you know posting on the internet kind of person let people know about us um you know let uh post the photos post comments um it is actually extremely helpful for trying to attract the kind of people who would be interested in this the fact that uh you're here means that your networks are the kind of people who would be interested in this. I believe uh and then uh the last thing is more of a uh a strategic ask that the the hope with this series uh and with the work that the Toronto Society does is to create uh the best intellectual community in the world. Uh you know that everyone here uh has watched the same lecture. Uh they probably have thoughts about it. uh this is an opportunity to meet those people to talk to them. Try to have the best conversation you've had all week. Push each other uh hold each other to a high standard. Uh consider uh you know what the other person might be thinking and try to understand something new from their perspective. Uh this is a wonderful opportunity for that and uh I hope that you will take it. Uh that is the end of season 3 of the vioaduct. Uh there will be a season 4. It is in the works. Uh and uh we hope to be back soon.