

Jordan Hall



neighbourhood or dot, dot, dot, you can sort of do that. And there's almost two moves in association with any one of those problems. Sometimes there's a way to truly respond to the problem. At let's call it at the tactical level or at the level that it is at. So to echo Jordan Peterson if your room is not clean, then clean your room. And sometimes it is as simple as that, we can also echo Admiral McRaven, which is if your bed is not made then make your bed, and it's more of the same sentiment. In the confines of your own house, where you perhaps have the capacity to respond to the entropy of life, you can keep a tidy house, keep a nice garden, right, this is the sort of thing people familiar with. But sometimes the nature of the problem is deeper or broader than what appears to be ready at hand. So a simple example is the problem of say, being, interfacing with the TSA, see, you may be standing there in line noticing about 15 things that would make everything better. But where you are, the scale that you are at, now, you are not empowered to be able to respond to the problems at hand. And in fact, what you notice if you contemplate it, is that the process whereby you would be able to respond is in fact, very complicated. Imagine what it would take to be able to shift the way that even your local TSA at the airport that is in your town behaves? Honestly, I have the High Noon with Andrew Stanton. I have a book by the name of 'The 48 Laws of Power' that might look like. What do you write a letter to your congressman, is there some kind of website you can send complaints to? It seems rather obscure, actually. So that the level of response, particularly, in this case, obviously in the human domain, can oftentimes take the response out of your hands. And so you have to be thinking about responding at a larger level, in this case, invoke some level of system, whether it's a regulatory system, or some kind of bureaucratic structure, or as I think you and I will probably talk about some sort of governance system. This is now beyond the scope of that individual. And, of course, we can find these also nested so there's a neighbourhood scale, or home owners scale, or even an apartment scale, and then it goes up bigger village scale, town scale, city scale, nation state scale, global scale. And each one, of course, is further away from the agency of the individual. But we don't have to be strictly at the human level, we could also do this with the level of natural systems. So if I notice that my lawn is dry, I can moderate. And that's fine. And I can solve that problem for a moment. But if my lawn is dry, because climate change is causing rainfall to be low, then I might find myself in a circumstance where my local agency is inadequate. The local aquifer or source of water might, in fact, be drying up. So I've got two different things going on. The ability to use the human system of pipe water is vulnerable to the complex natural context that it finds itself in. So the problem I'm seeing right in front of me is actually connected to something that is vastly larger. So this is maybe the simple frame to be able to notice that you can have problems that are different levels of scale that require capacities to respond to themselves at different levels of scale.





**Tom Pegram** 17:40

**Jordan Hall** 19:59

Yeah, so here this is just like, be precise, which by the way, I would say is one of the ways that academia can be helpful. So let's be precise. The distinction I was making between complicated and complex was ontological in character, we can then expand that with an epistemological dimension. And here we can talk about degrees of complexity. So that there's a, and we can actually if we'd like to measure it in terms of bits of factual information. So a, what are those things called? The May Fly? What are they called [inaudible] May Fly? Anyway.

**Tom Pegram** 20:37

May Fly? Okay, yeah.





**Tom Pegram** 25:52

Okay. So not just my ignorance. Yeah.

**Jordan Hall** 25:55

And the third, I'm just going to flag as the, as a sort of Heisenberg uncertainty problem. There's, I don't know that anybody has stated this well. By the way, they probably have. It's just I'm not familiar with it. But we'll get there last.

**Tom Pegram** 26:09

Okay.

**Jordan Hall** 26:10

So in in the Tainter boundary, what we, we might observe is a very, very specific set of relationships between the underlying complex reality of nature and the dynamics of complicatedness as it responds to complex nature in time. And I don't want to go into a whole lot of detail there just yet, because it's a bit of a long story. And I've spoken about it a couple of different times.

**Tom Pegram** 26:11

I think what you're saying, what y22 11.04 Tf1/2 0 612 792 rekom Pegs iho fl.ot eitruke dics o fl.So1 0 0 1 54.024 505





**Jordan Hall 35:38**

Yeah, yeah, we're definitely we're definitely in the zone where a sort of a five to 15 year time frame for some set of cascade effects is entirely possible. I mean we, if we take a look back at 2008, and witness how the global financial system went through a massive convulsion that took truly heroic efforts on the part of effectively everybody on the planet, and push and push risk, almost everywhere they could stick it just barely held on by its fingernails. That's a good example. You know starting not too long ago, we entered into a point where the fragility of the total complicated system of the post-World War Two order was reaching points of fragility, and the sort of, every day that fragility just continues to grow for, for whatever reasons, all right, but then you got the next problem. And this will not seem unfamiliar to you at all. This is the Arc-Hideysmith problem. And so here we have is we have the human factor. So in the Tainter area, we're talking about more or less the direct relationship between complicated and complex and nature. In the Arc-Hideysmith what we're going to deal with is humans, and what we notice is that any complicated system that we put in place becomes a niche, for exploitation by some subset of the human beings that are contained by the complicated system. So this becomes, if you're familiar with evolutionary theory, this becomes an actual example of what's called group selection. Group selection is somewhat controversial in sort of, standard order, biological evolution. But here we're talking about group selection as something happening within human society. So what happens is, we have a complicated system, and that complicated system is finite and bounded, which means that there are going to be gaps. In fact, there's going to be gaps all over the place. And this creates a niche for defection. So within the archives with model growth, more or less dealing with the problem of game theory, it's a game. And in the context of game theory, what we begin to see is that anytime a prisoner's dilemma style defection scenario shows up, or any kind of tragedy of Commons style defection scenario shows up with a multipolar dilemma. Game Theory begins to apply, and that there will be a niche for some group to figure out how to take advantage of the gap between the complicated and the complex, to achieve local selective advantage in the context of the larger complicated system. Of course, this gives rise to things like policing. So you know to use just a very simple example, if the basic problem is there's a group of 10 of us. And we're trying to carry a heavy log from point A to point B. And so all 10 of us carry the log, and we just sort of put it on our shoulders and we even arrange by height, so it's actually relatively convenient. There's a possibility that one of us could slack off right? We have a multipolar problem. And if there's a reward for doing that, if there's something about maintaining energy, to the advantage here, it gives you a local selected advantage over everybody else. Like let's say the way the game works is, we carry the logs from point A to point B. And then at point B, we engage in some kind of endurance test and whoever wins, wins the big prize, right? Well immediately we see how the games can play out, right, there's going to be a, everyone's going to endeavour to slack off as much as they can get away with, such that the primary tasks, the global task happens, the logs carried from point A to point B, but they get local selected advantage for their smaller group in this case, one in the second task. Broadly speaking, what happens is, this again, is a general characteristic of complicatedness that the complexity of a human being an actual discrete human. And by the way, I should say, up to Dunbar limit human groups, has a capacity to find the niche. He can't help it. Actually there's an evolutionary mandate, that if there is a niche, that niche will be exploited, it'll be found, it will be utilised. Because if I don't, then you will. And this begins the process that the Arc-Hideysmith model moves from what they call the wild, to the domestic, to the feral to again collapse. And the basic story here is that in the wild, there's a very Dunbar complexity based, a human relationship to other humans, we come with a very strong relationship to nature.

**Tom Pegrum** 40:37

**Tom Pegram** 43:58

I mean, what we're talking about also, I suppose is ethics. And are we talking about sort of virtue ethics and sort of strong social norms?

**Jordan Hall** 44:10

We're yes, we're talking about the relationship between the niche of society and the durability of virtue ethics in time. So this is the story of history right, the story of Ned Stark exhibiting virtue and virtue of showing up as successful humans in Winterfell, but when Ned Stark moves to King's Landing his virtues become naïveté, and he gets his head chopped off, by the way, by an executioner and not by the King. Rules in King's Landing are now moving into the feral space, where complex humans now begin to prey on each other. Because the niche is society, no longer nature and the virtues of wild, the

**Tom Pegram** 48:20

Connecting back to the Tainter principle, I suppose. Also, if we continue to play a game A, ultimately you're going to extinguish the playing field.

**Jordan Hall** 48:33

Yes, that's right. So, so again, you can actually kind of, you can see the Tainter principle as having its own characteristics, and the Arc-Hideysmith model as having their own characteristics. But of course, they're both happening simultaneously. So you've got now if I use Heathrow as my example, I have the difficulty of the increasing complicatedness of the global transportation network. I have the difficulty of the increasing complicated missive would have this managing a more and more complicated system that starts having more places for entropy to show up. And then I have the difficulty of the fact that bureaucrats are paid bureaucrats, and there's very little possibility of policing them. And the mechanisms for police just add another layer of petty bureaucrats who eventually need to be policed, which creates more area for exploitation and/or for entropy to show up. And so this is the problem. And then we have the final problem. This is what I've been thinking, referring to as kind of the Heisenberg uncertainty problems. So just to make the reference point of Heisenberg uncertainty in physics is that at certain levels of scale, you cannot decouple the consequences of the observer from the system. So physics in particular, but broadly speaking, science is premised on the capacity to separate the observer from the system. So I can look at the system and my impact on the system should be zero. What Heisenberg notices is that in physics, at least, when you get down to the very, very small, the capacity to observe the capacity to perceive information from the system at all, must actually have a, not only nonzero but oftentimes fundamental impact on the dynamics of the system. So if I try to measure the momentum of a quantum phenomenon, I cannot measure its location. And, and vice versa. So if I measured the momentum with high precision, actually move my uncertainty of its location almost completely and vice versa. Well, that's the Heisenberg uncertainty principle. Yes, the Heisenberg uncertainty principle.

environment, which makes the environment harder to manage, which becomes a positive feedback loop in the direction of collapse. Does that make sense?

**Tom Pegram** 52:37

Yes, I mean, it's a positive feedback loop in the direction of chaos, potentially, I suppose.

**Jordan Hall** 52:41

Exactly.

**Tom Pegram** 52:42

Unintended consequences.

**Jordan Hall** 52:45

And, and cybernetics theory and control theory actually has lots and lots and lots of these kinds of things, you know, if you've got a, an aeroplane is trying to fly and the control stick, the movement that you create generates more effect than the state you're able to measure, then you'll get a very quick collapse, it'll actually come out of control. And we'll see this by the way, it shows up in control theory, more or less perfectly. And so (g)-8(e)13(,sh4)51E TQhrfe



**Tom Pegram** 55:01

Yeah, yeah. That makes a lot of sense.

**Jordan Hall** 55:05

You k

beyond the human scale won't work. So this is kind of like the Arthur Conan Doyle scenario. Okay, fair enough. Now, I'll bow back up in a bit and kind of examine that spot. But let's assume for the moment that you're able to look nod and say, "Okay, fair enough. We've eliminated all the things that can't possibly work. So we're left with something which, although very challenging, it's the place we have to focus our time and energy."

**Tom Pegram** 58:36

Yes.

**Jordan Hall** 58:39

So what I noticed when I've had this conversation, and by the way, I've noticed it changing. So I actually, more or less was beginning to have this conversation on the order of about what it is this 2019? Seven years ago.

**Tom Pegram** 58:54

Yes. I've seen some of your earlier videos on YouTube. Fascinating yeah, on governance design.

**Jordan Hall** 59:00

Yeah. So more or less everything that I'm saying to you was at least somewhat clear seven years ago. And what I found was that. Hmm, yeah, let me actually say there's three, three general responses. As you can imagine, the most common response was "I don't understand." And that's a very large amount of abstraction and conceptualization, necessary to be able to tell the story that I just told you and I don't know whether or not even yet it's particularly clearly presented, the people who are listening are actually able to grasp at a level that is, it feels quite real. Not just sort of intriguing, but quite real, in the sense of, you know, the law of gravity has a nice, quite realness to it and so that you're not likely to jump off a building. This is that sort of thing with the proposition is we have to actually dispense with literally everything we've ever used in the- since the dawn of civilization to solve our problems, then the argument needs to actually feel quite, quite, quite real to you. So the first problem is that very, very, very few people were receiving the argument and holding the complexity of the argument enough to be able to say, "Yep, that is, right, that is a good description of reality, and therefore, the conclusion follows." So most people just sort of said, some variation of "Eh maybe. And I'd actually rather not deal with this, I'm going to go do other stuff."

**Tom Pegram** 1:00:46

Okay.

**Jordan Hall** 1:00:47

And this is, of course, it's common in almost every circumstance. I mean if you're- the conservative response of do what more or less has worked in the past, it's a very good rule of thumb. And so when

**Tom Pegram** 1:01:12

Yes, but of course, at some point, I suppose the risk of business as usual, may actually outweigh the risk of radical transformative change.

**Jordan Hall** 1:01:23

And this is what I've noticed over the past seven years is that more and more people have noticed that the tools that they've been using aren't working. And if the tools that they look to use not only aren't working, but are in fact making things worse, and so their willingness to pursue, just the embodied sense of wisdom in it. Yeah, you know, what I've actually been able to feel myself how this Tainter thing has been showing up over the past seven years, or how this Arc-Hideysmith thing has been shown over the past seven years, that's, there's almost more of a concrete embodied development. So I'd say that, where maybe 1 person in 10,000, 7 years ago would nod their head. Now it's like 1 person in 100, are more or less nodding their head.

**Tom Pegram** 1:02:05

But I would imagine that anyone who's reading the headlines in The Guardian on, you know, biodiversity collapse, sixth mass extinction. I mean, this is now penetrating the mainstream, would you agree?

**Jordan Hall** 1:02:15

Yes, and let's get back to that in a second. Let me get through the other two, and then we'll get and that's a good place to go. And I think we may be able to actually move the state of the art of the mainstream meaningfully forward on this point. So then you've got the second, which was almost everybody else. So the people who actually were able to hold all the complexity of the story, which by the way, was very poorly told seven years ago. And it's relatively poorly told still now because it's a hard thing to do, they would then realise the magnitude of what we're facing as a human family. And their capacity to process grief became the gating item. So they would either literally just go offline, like, "Oh, shit, like this thing is not, there's no chance we have got no chance. I'm, you know, devastated and no longer capable of participating." For some people, like some people just went offline. Other people went into delusion, meaning, you could actually see it, I got quite good at noticing how it happens at a physiological level, like I could see the pupils dilate, when they got, when it really, like if they can understand what was happening, their body would actually go into a fight or flight response, and their prefrontal cortex would tell a soothing story that allowed them to move forward day to day. And this, by the way, is very commonplace among more or less anybody who's at the edge of one of the primary risk areas. So, you know, the, and I think this is actually becoming much more mainstream the story of if you truly, truly believe that we're on the precipice of catastrophic biosphere collapse. How exactly do you go to your job in the morning as an air traffic controller?

**Tom Pegram** 1:04:01

Absolutely.

**Jordan Hall** 1:04:02

Right. And of course, the problem is, Well, shit, what else are you going to do? What exactly can you do? So the only thing you can do is you go into denial, you don't actually fully live, the thing that you







**Tom Pegram 1:14:13**

And I think you've, you in a way have answered a question, which was in the back of my mind, which is, it seems as if there's a bit of a paradox here in the sense that we do need institutional apparatus, but we can't put our faith in transcendent institutions. We do need some kind of global response, some kind of infrastructure, but at the same time, you know, change has to come from the very local level. I mean, it almost reminds me of say, what Bertrand Russell said in the late 50s. That so much at stake and so much rests on the moral constitution of modern man. So it's about doing that in a work, which is required by each and every individual but how then to scale it up to a global response to what is a global existential risks situation?

**Jordan Hall 1:15:04**

Yeah, well, there's a couple of rules of thumb that have emerged in the work that we've been engaging in that are at least helpful. One is fluid is smooth, smooth is fast. And this has to do with the notion of let me think if I can put the metaphor well so its lands nicely, it's...

**Jordan Hall 1:15:30**

You, you can't give birth to a baby any faster than nine months. More or less, certainly not any faster than seven months. There's something about the thing that we're doing where it's really, really important to get the basic stuff a lot right. It's kind of like, if you're trying to put a spot on the moon with a laser, you have to be very precise with where the laser is here on earth. And if you try to put a spot on Mars, it's even more precise. Well, okay, that means in the beginning, the things that you're doing at the most basic level, have to be taken as slowly as they must be taken to make sure the right stuff is laid down well, solid foundations, if you're going to try to build something like what we're talking about, it has to be very precise, it has to be done with the level of care that. Do you remember the, have you ever seen the picture of the stones of Machu Picchu? It's like that. So yes, we are going to be moving 100 ton blocks, we're going to have to actually fit within a millimetre precision to be able to build the kinds of institutional structure that we're talking about. So. Slow is fast, slow is smooth, smooth is fast. And generally speaking, we find ourselves caught in an urgency trap, which is cutting corners, because we believe we're running out of time. We are running out of time. But if you, if you use the example of James Bond, trying to defuse the bomb, if you cut the wrong wire you've blown up. So even if you could, even if the clock is running out, you really do have to cut the right wire. And so this is important, super, super, super important, like, in the story that I've told there's conclusions that follow in terms of choices that can't work and choices that, the places where our choices must be. Many people will sort of rush past that and say, Well, we've got to solve the problem. And you are you familiar with the story





we could create a control structure, let's say like, for example, a mathematical model that we could use to measure the thing that we're doing from the outside. Does that makes sense? Like, a kind of a steely eyed new atheist would look at this and say, "Well, what we're going to do is we're going to need to be able to measure the system that we're designing and make sure that it's not making any errors." Well, I've got news for you bucko. You're part of the system that you're designing, and your control system is also part of the system, there's no outside observer available. So we're actually talking about something where the interior you have, you have to think about this as the way that a dancer dances, the way that a musician plays music, not the way that an engineer designs. And also, by the way, including the engineer, and the scientists, and the mathematician inside that dancer s, an integrated capacity, with the totality of all of our hard earned capabilities, as complicated designers are brought to bear, but they're brought to bear in a larger context that brings our capacity to be in integrity as individuals and as a group all the way up and down. That's a very poetic way of putting it. But until I have a better way of putting it a bit about, it's about as good as I could do right now.

**Tom Pegram**



**Tom Pegram** 1:28:59

Brilliant. Well, look, thank you so much. I really have enjoyed engaging with you in person, I've been