



83. Uncertainty

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Future Sense is a podcast edited from the radio show of the same name, broadcast on BayFM in Byron Bay, Australia, at www.bayfm.org. Hosted by Nyck Jeanes and well-known international futurist, Steve McDonald, Future Sense provides a fresh, deep analysis of global trends and emerging technologies. How can we identify the layers of growth personally, socially and globally? What are the signs missed; the truths being denied? Political science, history, politics, psychology, ancient civilisations, alien contact, the new psychedelic revolution, cryptocurrency and other disruptive and distributed technologies, and much more.

This is Future Sense.

Nyck: Thanks for joining us here now on *Future Sense* with myself, Nyck Jeanes; and Steve McDonald is in the house. Good morning, Steve.

Steve: Here I am. Good morning, Nyck.

Nyck: Well, I wasn't totally certain about that.

Steve: I mostly here, as much as I can be.

Nyck: Well, certainty is a thing in short supply these days, it would seem. I don't know how many people actually feel certain about that much out there. That's a question you can ask yourself this morning. We're going to be talking to some degree about uncertainty generally in these times.

Steve: Exactly. Interesting times, lots going on. We'll look at some current affairs, some cosmic weather reports and various other things, and talk about the general feeling of uncertainty around what's going to happen and the need for patience at this time.

Nyck: Yes, we like to look often at the psychological results of the current times that we're living in—how it impacts your psychology, your emotionality, how you respond to each

other, and how you respond to the various very difficult topics that flood our news reports, flood our social media every day, and angles all over the place.

There's an acronym which we've used quite often here before called VUCA, used originally by the American military, of course. It stands for Volatile, Uncertain, Complex and Ambiguous. It was the response of the US Army War College to the collapse of the USSR in the early 1990s. The United States War College then adopted that terminology following the 9/11 terrorist attacks in 2001, as military planners were worried about the radically different and unfamiliar international security environment that had emerged, so they used VUCA to describe it. But of course, VUCA extends way beyond military use. We're in a stage of life on Earth, arguably, that is volatile, that is uncertain, complex and certainly ambiguous.

Nyck: And we're talking today loosely, but strongly, about uncertainty and its various manifestations, starting, I guess, right out in the cosmos. Let's begin there.

Steve: Yes, let's have a look at space weather. In a recent space weather update, there is a report that cosmic ray impact is very high at the moment. This is a result of the solar minimum phase that we're going through. The Sun's activity has quietened right down; almost no sunspots on the Sun at the moment, and the implications for the Earth are that the solar wind, which is normally emitted by the Sun and blows over the Earth, has a protective effect on the Earth in terms of shielding us from cosmic ray impact—and we're talking there about interstellar radiation that comes from deep space. When the solar wind dies back then there's less magnetic protection around the Earth, and it has a whole bunch of implications, including for weather and our health and seismic activity, volcanic activity, and other sorts of things.

There's a study going on at the moment on airline transport aircraft where they're measuring cosmic rays' impact up in altitude. There are some videos getting around on the Web where people have got test tubes full of water on the flight, and when they're up at altitude, if a cosmic ray impacts the test tube, you actually see a trail of bubbles running through the test tube. You can imagine that happening inside your body as well, because we're mostly water, right? It's something that's not really on the radar in terms of general health so much. There have been some studies done on the impact of cosmic radiation on pacemakers, and there is certainly an increase in health issues for people who have pacemakers, but this is an interesting thing to contemplate at the moment because it has potentially very wide implications for us, and like I said, it's not on the radar of mainstream news or health, really.

In terms of weather and climate change, there is a great study which we've mentioned on the show before by a Danish scientist called Svensmark into the impact of increased cosmic radiation on cloud cover. Effectively, what he found was that it increases cloud cover on the planet which increases global cooling. That is something that is probably already happening and we should expect to see more of that as we move further into this Grand Solar Minimum

period. We're in the quiet phase of a normal, roughly 11-year solar cycle right now, which is why we're seeing increased cosmic ray impact, but we're also entering into a much larger cycle called Grand Solar Minimum, which happens every 3 to 400 years. These cycles are not always consistent, so their duration does vary—that's why I'm being a little bit vague about it—but the Grand Solar Minimum period is forecast to last from 2020 through until about 2055 and ought to have a net cooling effect on the planet.

A lot of the science around cosmic radiation and solar activity is yet to be incorporated in climate science, so the kind of climate modelling that we see put out by the IPCC—part of the United Nations—doesn't account for these additional solar factors. The only solar information that they put into those climate models is pure heat radiation, which has a very small impact on our climate and weather generally, but there are other aspects such as this cosmic radiation and cloud seeding, and also magnetic field influence from the sun which is just not factored into those climate models, and we need to update our science fairly urgently, really, given the all of the concern about climate change that's going on right now.

Nyck: Yes, it's fascinating with that, the complexity of the model we've talked about—chaos theory and Lorenz's work, using weather patterns and climate to come up with the notion of fractals and so forth—the complexity now is such that it's complex. We know that, but not bringing in some of these other factors, to me, is indicative of why we're not making decisions about what to do on the planet. We've just seen the latest round in Madrid of climate change talks, which seems to have got pretty well nowhere, and for me personally, it's an indication somewhere that something isn't right anyway, and we kind of know that. We're waiting for other pieces of information before we take action, somehow.

Steve: I agree. There's a tremendous amount of uncertainty and of course, there's a lot of competing interests from people who are either very, very fearful about the impact of climate change, particularly with the generally accepted global warming scenario, and then you've got people who are representative of industry or who are being influenced by industry, such as politicians, who are trying to defend their interests, which run counter to some of the demands that have been made by other lobbies. So a lot of disagreement, but also a lot of uncertainty.

And I agree with what you say. I think, even at a subconscious level, there's a general feeling out there that we don't have all the information. Something's not quite right; it doesn't seem to gel. Certainly, one of the scientific factors is space weather, generally, and how it influences the planet, and the fact that this is just not included in climate modelling—and that's without even going down the road of hidden agendas by the United Nations with their climate modelling as well—certainly there's a lot more that needs to be done. It's no surprise then, that the recent climate gathering—25, I think they called it—has run two days over schedule and has failed to reach any of the agreements that they were hoping to reach.

Nyck: As soon as you hear that they're now talking about next November—which of course is the time of the next US elections, coincidentally—in Scotland, they meet again. So a year

goes by before any further decisions are made anyway, really, that have any impact, any relevance to change. So, again, we're in the same sort of situation and many people would be pretty freaked by that.

Steve: I think so, too, and in times of uncertainty, it's not good to act out of fear or panic. Some of the potential 'solutions' (in inverted commas) to the climate challenges that are being put forward at the moment are pretty crazy, like the scheme to block out the sun, for example, which I read in the media that Bill Gates was looking at funding. At the end of the day, we really don't know what we're doing with those sort of things. I mean, we don't fully understand the climate to start with. If we did, then all of these predictions that have been made for the last 15 to 20 years would all be coming true, but they're radically different from what's actually happening out there. What we're really seeing in the real world is climate volatility. We're seeing both extremes of heat and drought, and cold, and none of the climate models are accurately predicting what's actually going on.

Nyck: And then, of course, you factor in, as we're talking about cosmic rays, the causal effect also on the biopsychosocial being of a human being. This is fairly early days for this kind of research, no doubt, but the notion that there is increased depression, disorientation, anxiety, and 'depression turning inward into rage', and we're seeing this. Not only is there the physical interaction between these cosmic rays and the complex weather patterns of the Earth and everything else going on on the planet in a physical way, but literally, our psychology has been impacted. So our response, therefore, to the physical manifestations we're seeing because of all these factors tends to be very confusing for most people—very disorienting—and we've seen that manifesting in many different ways.

Steve: Yes, and, you know, it's hard to determine exactly what the causes are of many of the strange things that are going on in society at the moment, but I think everyone would agree that there's a lot of anxiety out there at the moment; a lot of fringe behaviours seem to be coming to the surface. I've got a quote here from a *HeartMath Institute* research study which looked at the impact of cosmic radiation on human behaviour—and cosmic radiation also has an effect on geomagnetic fields—so when we go through these periods of solar minimum and there's increased cosmic radiation, it weakens the geomagnetic fields and often gives rise to geomagnetic excursions, which we're seeing happen right now with the North Pole wandering around.

Nyck: The North Pole is lost, if you can help it find its way home.

Steve: It is, and no-one's mentioned the impact on Santa and his navigation systems either.

Nyck: The elves have got it all under control. The elves know. They're plugged into a deeper cosmic truth, I think. Santa's just a frontman. He's just like most leaders in the world currently—he's just the frontman.

Steve: Are you trying to tell me he's got a hidden agenda?

Nyck: He's got a hidden something. It's a big suit.

Steve: Back to the science.

Nyck: It's Christmas time, folks, so we're having a loose time here around Christmas, as you'll find on BayFM, generally speaking, at this time of year, and good on us, too.

Steve: This quote is from one of the research studies out of the *HeartMath Institute* (<https://www.heartmath.org/articles-of-the-heart/effects-geomagnetic-solar-factors-humans/>): "Human regulatory systems are designed to adapt to daily and seasonal climactic and geomagnetic variations; however, sharp changes in solar and geomagnetic activity and geomagnetic storms can stress these regulatory systems, resulting in alterations in melatonin/serotonin balance, blood pressure, immune system, reproductive, cardiac and neurological processes." Because this is not really on the mainstream radar, who knows to what degree that some of the strange activity and human behaviours that we're seeing in the world at the moment are being impacted by the increased rate of cosmic rays that we're subject to?

I will Tweet a link to the space weather report on this (<https://spaceweatherarchive.com/2019/12/13/the-ironic-behavior-of-cosmic-rays/>). It's basically got a graph of cosmic ray impact—stratospheric radiation, they're calling it, because they measure it up on these aeroplanes or with balloons—and from 2015 through to December, 2019, you can see that the radiation impact is increasing, and as I said, it's reached a high. In fact, in this recent article, it says that it's been "increasing almost non-stop since the monitoring programme began, with recent flights registering the highest levels of all."

Nyck: It's about 22% higher over the last four years. That's a very significant increase.

Steve: It is quite significant, yes. There are also implications on seismic and volcanic activity—and, of course, we had that recent tragic eruption on White Island in New Zealand. So, there isn't much it doesn't impact really. It's really making a big difference in our life conditions generally, and I'm sure it's part of this massive global shift that we're going through. As we've said before on the show, what we're seeing in terms of human values

shifting and human behaviour shifting, is part of a change that really encompasses at least our entire solar system as we are transiting from one part of the galaxy into another and crossing over, out of what they call the Local Cloud into another area of our galaxy called the G-Cloud. That is changing the cosmic weather that we're being exposed to and having an impact on our sun and all the planets in our solar system.

Nyck: With these kind of ideas, you've got to wonder—and it's a rhetorical question really—why this sort of information is not in the public sphere. For the average—if such a thing exists—the average human being, to start to think about our position, travelling as a planet around a sun, through a galaxy, and all of that embedded in these incredibly complex, very long-term geometrical structures, pretty well most people are just going to go, 'huh?'

Steve: Yes, exactly.

Nyck: Not interested in defining ourselves.

Steve: Yes, and it comes back to our local life conditions and what value system we have adapted to in order to cope with our life conditions. It's true, as a general rule, as you move through these value systems from simple to more complex, that the perspective you take on life and reality expands, and so in the more simple value systems—and I'm talking about the early stage value systems that we developed when we were hunter-gatherers in early tribal civilisations and those sorts of things—primary attention is focused on immediate life conditions. That's not to discount some of the cosmic information that older cultures had, but you've got to ask yourself where that came from, and it may well have come from sources that are not clear in our historical records at the moment.

But anyway, as we evolve and our perspective expands, we get the capacity to take in more information, consider more things, consider more complexity, and cope with more complex problems, and as you've just indicated, most people on the planet are not thinking about the solar system and where it's headed right now. But these things are having an impact on us, even at the lowest and most personal level.

Nyck: Indeed.

A couple of texts have come in and thanks for texting. Referring to blocking out the sun: "The scheme to block out the sun? Is Bill Gates really Mr. Burns?" I guess that that refers to *The Simpsons*. I don't know that episode, but I think maybe Mr. Burns tried to block out the sun.

Steve: Maybe he did. It wouldn't surprise me at all.

Nyck: Well, *The Simpsons* turns out to be rather ...

Steve: It's quite predictive.

Nyck: It's quite predictive. Quite amazing.

Steve: Scarily so, actually.

Nyck: It predicted Trump as President, like, years ago.

Steve: I know, it's pretty scary.

Nyck: Extraordinary.

Another text has come in, too: "There's also the rotational aspect of the sun's position on the gravity barycenter of the solar system." I don't know anything about that, do you?

Steve: I'm not sure about that terminology, but it is true that in some of the most recent studies in astrophysics—and I'm thinking of Dr Valentina Zharkova's study (<https://www.tandfonline.com/doi/full/10.1080/23328940.2020.1796243>)—she has documented an anomaly in the Sun's rotation, so in the same way that the Earth has this wobble on its axis which causes the procession of the equinoxes, the Sun also has a wobble, and so it's not always an equal distance from the Earth and the other planets. It moves; it has a little wobble in its spiralling motion as it's spiralling through the galaxy. Also, it has cycles of activity on its surface and below its surface as well, which impact the way that it acts on the planets in the solar system, and so the influence of the sun is not consistent and it does go through its own cycles; and there are varying cycles which cause overlapping impacts. Sometimes they'll cancel each other out, sometimes they'll add together and make for stronger impact on the Earth.

Nyck: The barycenter is actually the centre of mass of two or more bodies that orbit one another.

Steve: Yes. I think it's probably talking about that orbital anomaly.

Nyck: Exactly. Very interesting stuff, all these factors. To me, it's so exciting to consider ourselves on this little planet becoming aware of ourselves as a global community to the

degree that we are, and at the same time starting to become aware of our position in the solar system and how that works, and then our position within the solar system moving through the galaxy and the different fields that exist out there. It's an exciting field and as Steve is saying, it's something that is emerging as we start to emerge into more complex ways of being able to see and adopt and take in this information. So it's great. To see it positively is really good, and let's hope that some of this other science is adopted into the various models of our interaction with the cosmos and with the weather and so forth.

Steve: Yes. For example, the cosmic ray impact is something that should be thought about by our mainstream health systems. When people present to the doctor with issues, it's one of the potential influences in play.

Nyck: Very good.

You're tuned to *Future Sense*. If you're listening locally, then hello to you and stay cool today and stay present with BayFM; and if you're listening somewhere else out there in the world or to our edited podcast, g'day to you and thanks for joining us here, wherever you are in the world, on this globe, where we are all on the same ship, so to speak.

Nyck: We're talking today about uncertainty from various directions; and complexities as we approach 2020, the amazing year—just the name of this year coming up next year is quite extraordinary, I think—hindsight is 20/20 vision. We can't afford hindsight, we need forward thinking, that's for sure, and trying to make sense of the uncertainty.

Steve: Exactly. From the big picture point of view, we're talking about the global paradigm shift and our transit through that whole change dynamic. At the moment, we are heading downhill, I guess, and downhill in the sense that our Scientific-Industrial era values, and all of the behaviours which result from those, are clearly not working so well anymore, and that has caused us—humanity in general—to go into a regressive values search. Whether you're conscious of this going on or unconscious of it, you'll tend to be looking to the past and thinking fondly of a time in the past when things worked much better than they do today. The regressive values search essentially is going back and trying on old values. We see this in the general regression in politics and society where people are moving towards more rigid values sets, going back to more religious kind of values sets, and looking for clarity—trying to find some clear black-and-white kind of situation where they can be really clear on what's right and what's not right. That's proving more and more difficult, of course, at the moment.

Nyck: Of course, in Australia, what we're seeing happen in 2020 is the pushing forward of the Religious Freedoms Act by this Coalition government here, which speaks to that regressive search to religion, and the freedom, supposedly, of religion, to be as it is and in

some ways not answer to the value systems of other people who might be living at the same time; to kind of somewhat impose, in my view, the value system of the great religions—and in the case of Australia, a more fundamentalist, if you will, Christianity—upon us in the way that this bill is seemingly configured.

Steve: Yes, very interesting and quite representative of this regressive values search. In Clare Graves's model, the fourth layer of human values—we had Hunter-Gatherer, and then Traditional-Tribal, and then Egocentric or Warlike, and then the fourth layer, the Agricultural era, emerged after that—and during that Agricultural era, which lasted for thousands of years, we saw the rise of all our major structured religions that are common around the world at the moment. One of the characteristics of that particular value set is you always defer to a higher authority to make your decisions, so rather than taking a scientific approach and gathering the evidence and making your own decisions, you're looking to someone else's—a higher authority's—opinion on how things should be done, how life should be lived, and what rules should be followed. The advantage of doing that is it makes things very clear. If everybody is referencing one rule set, then it makes for a much easier and simpler society. The only downside is that you can't solve complex problems with simple rule sets like that. You need to start to look at the shades of grey in between.

Nyck: Mate, the quiet Australians, they don't want to solve complex problems. They want simple problems: jobs and growth.

Steve: The good thing about the quiet Australians is you don't hear from them, so you never really know what they're saying, except for what the Prime Minister says they're saying.

Nyck: Except they do vote. That's clear.

Steve: Yes, and we're seeing so much of this in politics at the moment. There are people trying to solve very, very complex problems with very simplistic thinking. Of course, the evolutionary strategy behind that—if we look at the process of evolution itself—the reason that we reach back to these older values, is actually to speed up the process of change, because by going back to simpler rule sets that are even less effective than contemporary rule sets or values, it means that it becomes very, very evident very, very quickly that something needs to change radically in order to solve our emerging complex problems.

Nyck: It's exciting to look at things that way. I just wonder about the curious twist of fate that we go backwards; that we find ourselves restricting and becoming tighter in our approach to life—many of us—in order to actually accelerate growth, not knowing that that's what we're doing, of course, by definition.

Steve: That's right. Exactly. It's just like that elastic band on the slingshot. You've got to pull it in the opposite direction and then you've got to get that tightness and the tension on the elastic band in order to get the forward momentum happening, and that's exactly what's going on. Very interesting indeed.

And it's playing out in many other ways. We just had the UK election result come through, of course, and no signs of progress there. Still the regressive values search going on.

Nyck: Yes, and as we were talking about at breakfast this morning, I think it's very interesting with the Left in politics—the progressive, greener Left region of politics in our countries, in our supposedly developed and modern democracies in the US, in Australia and in Britain—because the Left is definitely in disarray. It's the largest defeat by the British Labour Party since the 1930s—that's very significant—and I think it's interesting, as I said to you at breakfast, that the Left, in some sense, is collapsing around the world. Perhaps that's exactly the same sort of figure—is that collapse, that trying to go back to these old socialist ideas, even if, for many of us they actually make a lot of sense because they resonate with our value systems more perhaps, certainly in the case of myself. And yet it's not working. They're not getting electoral success, there's not certainty there, there's not leadership, there's not sort of thinking outside of the box going on; they've sort of painted themselves into a corner and become an easy target. I think this is true of the Left around the world, but perhaps it's a good thing. Perhaps it's exactly as you're saying, that this is the regressive search that is going to compel us, impel us, to move forward much faster at some point.

Steve: That's what it is, and with the shifting values, the use of that simplistic 'Left' and 'Right' terminology is becoming more and more inappropriate and more confusing, actually. You've got, more recently, the Left generally referred to as progressive postmodern, but going back a little further in history, of course, the Left was old school communism, which was reflective of Layer 4 values rather than Layer 6 values, which is the more progressive kind of humanistic way of doing things.

I think Jeremy Corbyn is definitely leaning towards the Layer 6 emergent values. The problem he faces, though, is that he's operating within a social system which has been designed by the old paradigm, and so trying to win with progressive values through an old system that was designed for an older set of values is completely problematic. Say we've been working with flat-tipped screwdrivers and screws forever, and someone invents the Phillips head screw and you're trying to work it with a flat-tipped screwdriver. It kind of works a bit, but it doesn't work very well.

Nyck: You've got to make adjustments.

Steve: You've got to make adjustments, and we actually need to adjust our entire political system to cater for and support the new value set. Because the new value is essentially about decentralisation, trying to implement it through a centralised old paradigm system such as

our current political system is really, really ineffective and it's probably not going to work very well at all. I mean, having said that, some countries like New Zealand, for example ...

Nyck: And Finland—awesome.

Steve: And Finland and others where they are having some success, but in order for it to roll out through an old school system, you need, of course, a majority of voters to be displaying these progressive values.

Nyck: And there are a couple of things there that occur to me, because it's been pointed out that the success of New Zealand, and I guess it applies to Finland, too, can be argued partly as a success of a smaller country with a smaller population—much easier to manage a coherent set of strategies towards policy.

Steve: Less complexity.

Nyck: So I think that's the point there. And the other point about Britain that you raised there, about the construction of the system that everybody is living in, I saw some amazing figures about the gerrymander that literally exists in Britain because of the first-past-the-post voting system. The number of votes it took to gain the seats that were got—for example, the conservatives who won 480-something seats or whatever number they won—they required only 30-odd thousand votes per seat to win those seats. The Labour Party, for the number that they won, required about 50,000 to win each of the seats that they won. The Greens, for example, had 850,000 people voting just to get one seat up.

Steve: Wow.

Nyck: So there's a huge imbalance there. In fact, the same article says that the Liberal Democrats would have, I think, nearly doubled the number of seats that they took if there had been a preferential voting system, so there's a great unfair nature to these systems which are being constructed under the current regime; under the old paradigm.

Steve: That's right and the Scientific-Industrial mindset is one to tweak things to its own advantage, and we've seen that through this sort of gerrymandering of electoral districts and those sort of things.

Nyck: Yes, exactly. In America, the Republicans have done an even better job than the Democrats at doing that there, so you've got the same sort of weighted system; and to some degree, we have that here in this country, too, for sure.

Steve: We do, too. In general, it's very hard for the for the public to have any immediate impact on politics. We really have to wait until the term elections come around in order to vote, and even then, you get to vote for whichever one of two bad choices you wish to vote for. So it is problematic and radical change is needed and radical change is coming. We're seeing the evidence of that through the regressive values shift. So even though, when I say it's not progress, it really is in a way, because when we see things going backwards like this, it's an indicator that we're getting closer to the big leap forward.

Nyck: The hardest thing, of course, is when it impacts on you personally, which is what we're also talking about today—the psychological and emotional effects of these things. I think that's where it's difficult for many people to take that broader, that bigger view, is when you feel constricted and when you feel like you don't know what to do or how to do it, and that there's a lot of insecurity in the world.

Steve: That's right. We joke about tinfoil hats, but maybe we actually need to get some tinfoil hats to keep those cosmic rays off and keep our brains in good order.

Nyck: We'll be bringing them to you next year, the tinfoil hats. Only \$99.99. That's very cheap.

Steve: That's right. *Future Sense* hats.

Nyck: You are tuned to BayFM. Thanks for your texts. A couple have come in with regards to what we're talking about: "Great discussion guys. This Thursday, the 19th of December, the Sun has its annual alignment with the Galactic Centre." That's true, the Galactic Centre being at twenty 26 degrees or so Sagittarius. Jupiter, the largest planet in the solar system, of course, exactly aligned with the Galactic Centre on the 19th of November as part of Jupiter's 11 or 12 year cycle; and apparently the inter-cycle with the Sun is known to increase sunspots, volcanic activity, etc. when these two planets move through this area of Sagittarius at the centre of our galaxy at 26 degrees. So interesting times indeed, this time of year, always.

Steve: And there are relationships between the Central Sun in the galaxy and our own Sun—remote relationships that again aren't really understood by mainstream science just yet.

I just posted on our *Twitter* and *Facebook* accounts, a really, really spectacular phenomenon that was witnessed in Sweden just very recently. It's called a 22 degree halo. It's a photo taken at a ski resort, and basically it's a massive big halo around the sun, and it almost looks like there are multiple suns. It's very, very spectacular. If you want to check it out, take a look at our *Twitter* or *Facebook*. It's worth a look.

Nyck: Absolutely, it's very beautiful. And thanks also for the communications coming from here and there, and from afar, in fact. Thanks to our good friend Ross Hill, who is often a guest on the show when he's in town. He's texted in from somewhere else. He's got his iPad there with the BayFM page and he's listening to us in the Tesla. You're in the red Tesla, mate!

Steve: He's just taken delivery of his Model 3, and hopefully he hasn't got any speeding tickets yet.

Nyck: They're very fast, aren't they?

Steve: They are. Recently someone posted something on the Internet about, I think it was a quarter mile drag competition between a Lamborghini Huracan and a Tesla Model 3 and the Tesla won, which is pretty extraordinary.

Nyck: Yes. You see a few around here, of course, and they just glide by. It's certainly part of the future—well, it's here now as we often talk about, just not evenly distributed. I don't have one.

Steve: Me either. However, we might get a ride in Ross's.

Nyck: We're going to get a ride in Ross's, possibly out in the centre of Australia if you can make it out there, Rosso. Anyway, enough in-talk. Hello to all of our friends out there in radio land and also in podcastville.

Nyck: Ross is now saying: "Can confirm it's fast and drives itself fairly well." Goodness gracious me. You cutting edge people. So young and vital. I love it.

We're talking about uncertainty and the complexity of life conditions on Earth at the moment in so many ways. There are so many indicators, and you've got a few other examples of some of the uncertainty that's clearly going on on the planet in terms of the old paradigm shaking, trembling.

Steve: I might just say, too, that what we're using to navigate the uncertainty is a deep understanding of human values and how human values are changing. By understanding the direction that human values are headed in—and the general themes that are changing, the general understanding of reality, and the general way that we adapt to cope with complex problems—by understanding those themes and any underlying patterns, then it makes it a little easier to cope with the uncertainty because we have a rough idea of where things are headed. We don't know exactly what's going to happen every day, but we do know in the long run, the direction that things are very, very likely to roll out.

If you've been listening to this show throughout the year, you'll know that we've been occasionally mentioning the indicators that have been pointing towards a major financial hiccup early in 2020, particularly around the middle of January—and whether it has immediate impact or whether it takes some time to roll out to the rest of the world, we don't know—but there are a number of different indicators, and from radically different sources as well, that are pointing towards some kind of 'economic hard landing', as it's been called, in January next year. I am starting to see the impact of that locally on some businesses that I interact with.

If you have been listening, I hope that you've been making some provisions for the possibility of that happening. One of the connected things that we have been talking about again recently is what seems to be the impending collapse of Deutsche Bank. That has massive implications because Deutsche Bank has its tentacles through a whole bunch of other banks around the world and is extremely influential in Europe, so if it does go down, it could quite possibly be the trigger for some kind of global financial crash. The word on the streets is that it's certainly looking like that's going to happen at this point, but in the midst of all of their woes, Deutsche Bank came out about a week ago and said that cryptocurrency could replace cash by 2030 as the fiat system; that the fiat currency system looks fragile, and they would know about the fragility. The quick take on this article is that crypto has the potential to replace cash in the next decade according to the World Bank research; the current fiat system looks fragile, particularly because of decades of low labour costs and inflation; and then crypto, however, needs to become legal in the eyes of governments and regulators to become widespread.

That article I'm quoting from was published on the 7th of December (<https://www.theblockcrypto.com/post/49621/deutsche-bank-says-crypto-could-replace-cash-by-2030-as-fiat-system-looks-fragile>), and then, lo and behold, who would have predicted it? But around the same time, Germany passed a law enabling banks to store cryptocurrencies. It makes me wonder what's going on behind the scenes there; whether Deutsche Bank's dumping all of its capital across into cryptocurrency or something—I don't know—or maybe looking to cryptocurrency as a way of saving itself, but that's a fairly ground breaking bill that they passed in Germany, allowing banks to store cryptocurrency. It's really providing legitimacy and legal operating capacity to banks in terms of cryptocurrency, which is a real game changer, so it'll be interesting to watch what happens around the world as a result of that German decision and whether other countries follow suit. I'm guessing that they will. It's just a matter of time—how long it takes to roll itself out.

Nyck: It's interesting. I have in front of me a little bit related here. I've just been looking at some relevant things. A website called www.policyuncertainty.com which configures a thing called the *Global Economic Policy Uncertainty Index* from 1997 to 2017, a couple of years ago. It's interesting with regard to cryptocurrency and these changes in the economic structures that are clearly moving forward in the marketplace out there. This *Economic Policy Uncertainty Index* in 1997 was sitting down here at 75 on this particular scale, and in recent years, particularly since the global financial crisis in 2008-9, it's risen up to between 175 and 225. So it's trebled or more in this last period of time. In the last year or so, with things like the European immigration crisis as it's seen, Brexit referendum, with the Trump election and the political turmoil in countries like Brazil, France, South Korea and as many others—now this is 2017 it's up to here—that index has gone up as high as nearly 325, so you're seeing an incredible uncertainty in economic policy around the world, and increasing all the time.

Steve: Yes, and it seems to be widespread. Almost all of the indicators are pointing in the same direction at the moment, and as with all complex systems, you get a volatility where often things will peak in the opposite direction before they actually crash.

Nyck: And in fact, the graph does that, of course. The amplitude is increasing overall as time goes on between the highs and lows.

Steve: And you'll get that change dynamic in all complex systems, including climate, where you'll get trends in the opposite direction—radical trends in the opposite direction—just before you get the big crunch happening. That's also why, in relation to climate, we ought to be patient and careful about what we choose to do at the moment in the midst of the uncertainty.

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