42. Pattern recognition, Part 1

Recorded on 15th July, 2019 in Byron Bay, Australia.

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: Welcome to *Future Sense* here on *BayFM* 99.9. Great pleasure to welcome my co-host here on *Future Sense*, Steve McDonald. Good morning, Steve.

Steve: Good morning, Nyck. Great pleasure to be here once again. I'll tell you, it was a little chilly in my neck of the woods out there this morning on my way to work. I think it was 7 degrees Celsius my car was telling me.

Nyck: Well, you're certainly rugged up there. You're looking ready for the Arctic; the ice age.

Steve: I know. It's coming, I tell you.

Nyck: Now, today's show is brought to you by bifurcation, and most of you intelligent people know what that word means, I think—the splitting of one into two and onwards; forking, you could say—the bifurcation of something. In a sense, it's the beginning of complexity, and in a sense, it's the beginning of how we recognise patterns in things, and today we are going to be talking about pattern recognition.

Steve: That's right. Patterns in nature, patterns in human nature, and how our capacity for pattern recognition changes as we grow and as we evolve as a species, and how we

might use pattern recognition, basic pattern recognition, even just the binary, bifurcation kind of thing, to help make sense of our rapidly changing world.

Nyck: Yes, and of course, there's much to this and you can always text in and join the conversation here on 0437 341119.

I came across a word I didn't know and that's the word ‘apophenia’, which is kind of like false pattern recognition—when you see the man in the moon, for example, or particular patterns in clouds. However, it's kind of contestable because your subjective meaning-making, your pattern recognition is, I guess, peculiarly yours too, but also acculturated—it's part of your culture, your society, your layer of consciousness, you could say, at this point in time.

Steve: That's right. And there might really be a man in the moon.

Nyck: There might really well be. There's going to be a man on Mars soon—his name is Jeff Bezos—or will it be the other bloke?

Nyck: You are here on *Future Sense*. We're talking this morning about pattern recognition.

Steve: We are, and it's fundamental to the organisation of our sensory input and our perception of what we describe as reality. Many leading-edge scientists today say that we can't know ultimate reality simply because we're limited to what's being detected by our various senses, and that really does challenge the idea of what is real. It comes down, I guess, to sensory input interpreted by our brain, and it reminds me of that famous scene from *The Matrix* movie:

> *Neo:* Right now, we're inside a computer programme?
>
> *Morpheus:* Is it really so hard to believe? Your clothes are different, the plugs in your arms and head are gone. Your hair has changed. Your appearance now is what we call residual self-image. It is the mental projection of your digital self.
>
> *Neo:* This ... this isn't real?
>
> *Morpheus:* What is real? How do you define real? If you're talking about what you can feel, what you can smell, if you can taste and see then real is simply electrical signals interpreted by your brain.

Nyck: Oh, yes, it brings back memories.

Steve: It certainly does, and I think it's a very scary concept for a lot of people, that idea of actually not knowing what is real. Certainly it's a big fear that comes up in altered state work, as many people would know—it's very common. Of course, science has shown us that different organisms perceive different aspects of reality, and there are some really simple examples. A cat, for example, has better night vision than we do so they can see in the dark in places where we can't, and of course, a lot of animals have a different perception of the electromagnetic spectrum, which allows them to navigate naturally. I think some of the leading edge science is suggesting that, for example, birds actually see those patterns—the electromagnetic patterns.

Nyck: Exactly, yes, or feel or sense them in some way that we don't quite understand just yet; and get a notion of spatial positioning in the environment with those abilities. Bats, of course, don't use vision, they use sonar.

Steve: Exactly, very interesting. So let's look at patterns in nature first. Perhaps one of the most fundamental patterns is the binary pattern where things bifurcate or divide into two, and of course, in the earliest stages of life, we find that pattern where a single cell divides into two; interestingly, in the case of fertilisation, resulting from the combination of two into one.

Nyck: Yes, right, but then, of course, once it becomes one, it immediately starts to bifurcate and becomes the many.

Steve: It does, too, and then doubling and doubling and doubling, and often these patterns are fractal also—fractal meaning that the patterns are similar at different scales and the little sets of patterns repeat as the scale increases. An example of that is a river, where you get the tiny little rivulets in the mud that look like little bifurcating lines and then if you pan out and look at a large river delta, you see the same patterns in the delta.

Nyck: Exactly. I love it when you see that happening on the beach—those natural bifurcations of the water in the sand, and sometimes, as you draw out, you can literally see canyons and tributaries emerging from this small microcosm of what happens, as you said, in the Grand Canyon or the great Nile Delta or the like. It's fantastic.

Steve: Of course, and as kids, we sit down and we look at those tiny little patterns and we play at a smaller scale, don't we? We pretend that our toy cars are driving up canyons in those tiny little things.

Nyck: And by doing that, we're learning; we're affirming those particular patterns which we are then more capable of seeing on other scales.

Steve: That's right. Another example from nature is a set of tree roots where, again, you've got that bifurcation pattern spreading out under the ground, and then, of course, if you look above the ground, you see the same pattern in the tree branches.

Nyck: And the same is true of the branch of the tracheal tubes in our lungs and so forth, that move out in the same kind of branching or rooting way that you're talking about in trees.

Steve: Absolutely, yes, and it's interesting to consider how patterns change where you've got a shift in the environment. With the tree example, you've got the underground environment versus the above ground environment, and you've got the bifurcation and the coming together into one stem or trunk, and then bifurcating again after it enters the new environment. A river delta is the same kind of thing, really, even with a tributary of the river where you've got the little small creeks coming into a single long river and then the river spreading out again as it approaches the ocean.

Nyck: Coming back into the one in the ocean, you could say.

Steve: Yes, exactly. It seems that where there's more momentum in a system, more momentum for change, the fragmentation and the dissipation process is compressed in space and time, so if a system has a lot of momentum for change, there's less need for it to bifurcate and fragment. And of course, to flip that, when things are compressed in space and time, they tend to become denser and speed up, like the example of a ballerina spinning. When the arms are extended and spread out in space and time, the spin is slower, and if the arms are tucked in, it becomes faster and of course the object becomes denser—the ballerina becomes compressed into space.

Nyck: If you want to lose weight, just spin. That's the answer. Forget diet—spin! We were talking about spinning the week before last with the widdershins and the whole Sufi dancing thing, which are great examples of exactly that. Beautiful.

Steve: We were; it's all connected. If we represent that concept mathematically as a curve on a graph, then the steeper the graph, the more rapid and intense the change is, and this, of course, impacts what's obvious to us as humans—what we notice, what we feel, what we experience.

Nyck: And of course, we have many examples, you could say, of that sort of bifurcation; of the fractals in nature and our reality in such things as the way the stock market works. That, itself, can be compounded into fractals and in fact, is often worked with by people who are playing the market or working with the market to try and find those kind of fractal patterns within the market, to try to predict what's going to happen—to some degree with success for some people—and other people struggling, as they do, with going into a casino and trying to read the cards.

Steve: Yes, absolutely, and of course, there are big financial rewards if you get it right.

Nyck: Yes, awesome.

Steve: So let's just have a quick talk about the change dynamic. Again, we see this fundamental binary design within the change dynamic where you've got order versus chaos, stable versus unstable, constructive versus deconstructive, and these basic trends can inform our position within the change process. Simply by looking at the current state in a trend, whether it's trending towards order or chaos, we can work out where in the change dynamic something is or somebody is. It's something that's often overlooked in life in general and in the healing modalities also, is to actually stop and assess where somebody is in the change process and whether that change is in a constructive phase or deconstructive phase. Once you can work that out, it informs what the next logical part of the process or the next step is for the individual.

Nyck: You are on *BayFM* 99.9. You can check all the tracks that are played on this and every radio programme on the *BayFM* on the website, www.BayFM.org. Just go to the programme page of the particular show and you can see the list of the songs that are played each day, and you can also replay the whole show down the bottom there.

We're talking today about patterns and pattern recognition and the evolution of that.

Steve: We are. We've started out simply, with a binary pattern—just a basic two-option or bifurcation kind of pattern—and we're going to just expand on that idea now and look at how complexity is created from that very, very simple pattern. When you think

about it, every computer works on a binary pattern, and it's basically a collection of ones and zeroes, ons and offs, and when we combine choices upon choices upon choices upon choices between these two options, we get very, very complex patterns. There are some great little computer patterns now that actually demonstrate that. They call them Turing patterns where you can set up a very simple programme, which is just a series of yes-or no, on-or-off kind of choices, but you can get patterns that look like flocks of birds flying across the page and all sorts of things. Quite remarkable.

Nyck: Interesting that all that can emerge from a simple binary, which is why you're beginning there, because it's still that simple binary—the on/off, the black/white, the yes/no—that's the foundation of our culture, essentially up to now.

Steve: Well, it's the foundation of our reality, actually.

Nyck: It's the foundation of our reality.

Steve: We seem to live in a duality where everything is made up of these two things, whatever those two things are, and the two things can come together and make a third thing, which is where we get the complexity emerging—a more complex pattern—and as the patterns are layered over each other and become more complex, they become more challenging to comprehend. It depends on where we are in terms of our development and the development of our consciousness and our evolution as a species as to how much we can comprehend within that complexity, and determining layers is a difficult thing.

It reminds me of a story from when I was a kid. My grandfather on my mum's side of the family, Bob, he lived up in Papua New Guinea for a couple of years in the early 1960s when it was even wilder than it is today, way up in the Highlands. I remember him telling me a story about some of the locals up there teaching him how to see birds in the forest. He lived on and managed a coffee plantation and they had an amazing collection of birds of paradise, and people used to travel from all over the world to see these beautiful birds of paradise. Anyway, the locals pointed out to him that for people who aren't trained, when you look into a tree, you normally see what your eyes fall upon in the first instance.

Nyck: You have a bias of some sort or other.

Steve: So the leaves, for example—whatever's most obvious—you see that and you see the pattern in it, and it takes some awareness and training to actually be able to look

through layers. They pointed out to him that when you look at a tree, don't look at the tree, look through the tree, and that was a really interesting little story which sat in my mind; and of course, later when I grew up and I started to work, I became a reconnaissance helicopter pilot, so looking at and seeing things was a very important part of my job, and I remembered that. It came in quite handy, particularly when you're close up to things. As you look further into the distance, it becomes more difficult to look through things, of course, but when you're closer up to that tree, for example, with a little bit of training, it's easy to train yourself to look through the initial pattern and see patterns behind.

Nyck: That's fascinating. I was thinking of a few things there, one of them being that it reminds me a little bit, for those familiar with the Carlos Castañeda books years ago, the don Juan books, of the adventures of a supposed mystic in the deserts of the West of America and an acolyte, Castañeda, who found this master don—it's all sort of been pooh-poohed a bit, the actual historical truth of all of this, but clearly it had a strong influence on, I guess, the psychedelic revolution and much more in the way we perceive. I guess what you're saying, exactly that, is that you can perceive directly what you're biased to see and what you're taught to see and what is appropriate to see, but then seeing through that is a different ability and a quality that I guess needs to be developed, in fact. It doesn't just appear, although sometimes I guess it does. Sometimes you just see something that you didn't see before.

Steve: Yes, when you're going through the process, of course, as things develop, you have those sudden realisations. Clearly there was something to the Castañeda stories because there's a lot of very solid information in those books, so even though he may have been a shyster at some level, he was obviously basing it all on some sound information, for sure. I think this concept of being able to see through layers of patterns is very important, particularly at this time in history as we come to the end of this Scientific-Industrial era, and we know that, let's call it a marketing mindset or poker playing mindset of the Scientific-Industrial worldview, is very prone to twisting the truth or presenting the truth in a way that best suits the person who's presenting it rather than making things obvious.

Nyck: And as we were talking about this morning on this topic before we came in, it's clear, really, in this era that we're in that, for example, the marketing of everything that really has created a whole zeitgeist—that's not the right word—but a whole quantum of ways of seeing through marketing, through advertising is what I'm getting to, through television, through popular culture, in a way that has channelled people's perception into a certain way of seeing the world, you could argue.

Steve: Absolutely, yes, and that's usually the way that Layer 5 works. It will decide what's best for 'me', the self, and then present the information to try and channel people towards that best option for me rather than for them.

Nyck: And when we talk about Layer 5, we're referring to Clare W. Graves's work, which we refer to all the time here on this show, and for those who listen regularly, you know what we mean. Layer 5 has been, and is still, the dominant paradigm on the planet. You could ascribe the corporatism, capitalism, competition to this, amongst many other qualities, and in the light of that, as Steve is saying of course, the adaption or appropriation of ways of seeing is very useful in the ability to control and to sell to the masses of people and make them customers to whatever you may have.

Steve: That's right, and it's very much in the news the last few years with people questioning the truth in news and the truth of election outcomes and all those sorts of things. It's just becoming more and more difficult to actually know what the truth is or what the patterns are that might be behind these things, which, of course, has given rise to conspiracy theories and people constructing conspiracy theories to engineer thinking.

Nyck: And using AI and machine learning to be able to construct literally fake videos of Barack Obama and others saying and doing things that they didn't say or do. So really, it's confusing the ability to actually recognise what is truth in the patterns that are presented.

Steve: Absolutely it is, and so we need to evolve our capacity for pattern recognition and start to look for things that we haven't looked for before. The most obvious is, as we approach this huge shift in consciousness, which is just in its early stages of unfolding at a global level, we are moving into a new capacity to be able to recognise layers of consciousness, and that's not something that has been a mainstream capacity in the past. Normally, as we grow through these different layers of consciousness, we are absolutely immersed in them and not necessarily aware of them as a phenomena. We bump into the differences between people who are operating from different layers of consciousness, of course, and we interpret that as differences and often make moral judgements around it, saying, ‘okay, my way is right, your way is wrong’, but it's simply the fact that people are thinking from a different set of patterns. You can think of the layers of consciousness as a frequency, each one being a discrete frequency, and of course, frequency is nothing more than a pattern in transmitting information. It's also useful to think of them as computer operating systems, like people are running different software which has different patterns in it and shapes them to look for different patterns, see different patterns in their environment and life in general.

Nyck: Indeed, yes. It's great that you mentioned music, of course, music being clearly something that virtually everybody on the planet has a relationship to, and for many people, of course, it's incredibly important to them. I think when looking at this notion of pattern recognition, that our connection to, our relationship to music for all time, from the rhythmic drumming and the understanding of the pattern of that, to simple music and singing—singing together—to the very complex music that's evolved in the last several hundred years on the planet, from classical music through to the modern era. In that is a very complex set of patterns, which to a very simple degree, you can understand immediately and we recognise them even without knowing anything about music. There's something in the patterns of your particular culture and even beyond your culture, that you can hear in other cultural music, too, to some degree, and recognise certain patterns which are common, and also recognise, for example, the styles of harmony or modes of melody that are different from what is common to you. Still, there's a relationship within all of that that is recognisable and as you get more complex within the life of music on the planet now, there's an incredible complexity, sort of reflective of our ability to, I think, receive a deeper understanding of complexity now emerging.

Steve: Absolutely, and isn't it interesting how different patterns in music can have such a huge impact on us and our experience in the moment—to evoke emotions or to direct our attention to certain things, even to generate different visions in the mind, particularly in altered states? It's quite fascinating, and in fact, there are some people now who are suggesting that a long, long time ago—and I guess this is accepting that there are anomalies in our history and the general mainstream idea that we've been fed for many, many years that we started out dumb and then got smarter; we started out simple and became more complex over time—but there are some really weird anomalies in history when we look back at things like the pyramids, for example, which are constructed in such a way that we probably couldn't even make them today if we tried because of the precision and the size of the blocks and the way they've been arranged and those sorts of things. So I think that's something that we always need to acknowledge now, and particularly on this show, is that there are these anomalies in history, and that even models like Clare Graves's, in that it's extremely useful to understand human nature and how it's developed, it still doesn't necessarily account for these anomalies that show up where there seem to be terribly advanced things way, way back in history.

I was going to say that some of the more recent leading-edge excursions around knowledge and those anomalies are suggesting that once upon a time, we operated on a base 12 numerical system, which is, of course, in line with the musical scale.

Nyck: Yes, and you mentioned the pyramids before and that was the basis of the pyramid inch, and in fact, the inch and the foot and the yard that was originally in full

use, of course, in the UK, but we've all gone 10 with the metric system and there's some loss with that. Certainly it's simpler to calculate in certain ways, but it's a loss.

Just quickly going back to music because I think it's relevant here, the piece I have about music pattern recognition which is talking about, as I said, the recognisable. I think this is interesting: "The excitement of following a familiar music pattern happens when the pattern breaks and becomes unpredictable. This following and breaking of a pattern creates a problem solving opportunity for the mind that forms the experience" (https://en.wikipedia.org/wiki/Pattern_recognition_(psychology)).

Steve: Very interesting, and I know that there's some computer software out there today which works on exactly that principle and is supposedly useful for the transformation of brain patterns and healing and those sorts of things, and it works by breaking patterns.

Nyck: Yes, and we were talking last night, actually, about a couple of *Beatles* songs: *Here comes the Sun* and *Yesterday*, and our friend Russell—hello Russ, if he's listening to us—talked about *Here Comes the Sun* and the rhythmic part, which I think is a 7/8 pattern, which you don't see, but somehow the mind knows it's not quite how it should be, how you expect, but it's a hook in itself.

Steve: It's quirky.

Nyck: It adds another dimension to the appreciation of the mind, musically, even though you may not know what's happening.

Steve: That's right. It creates a distinctive pattern, you might say, and we're drawn to distinctive patterns.

Nyck: Yes, and the same thing in the song, *Yesterday*, written by Paul McCartney, where it's not a timing thing, but the number of bars in the verses of *Yesterday*: "Yesterday, all my troubles seemed so far away" is a seven bar phrase rather than what was expected to be a four or eight bar phrase, or sixteen. That's common, that's normal—it's not written as a law, but it is how we've sort of structured things—but that's a seven bar phrase, those verses, and so the mind listens to this beautiful thing and suddenly it doesn't know what's happened, but some disjunct has occurred. It works, but allows an opportunity to appreciate on some other level that opens up a different pattern recognition, I think.

Steve: That's right, and that is the richness of life—diversity in things; things breaking from the normal.

Nyck: Yes, beautiful.

You've been listening to Future Sense, a podcast edited from the radio show of the same name broadcast on BayFM in Byron Bay, Australia, at www.bayfm.org. Future Sense is available on iTunes and SoundCloud.

The future is here now, it's just not evenly distributed.