

Welcome to *Entanglements*, the new podcast from the Jesus College Intellectual Forum. I'm so excited for you to join me, Noah, as we unpack and explore the human-nature relationship.

In the previous episode, I spoke to Philip Lymbery, Global CEO of the charity Compassion in World Farming. We spoke about the unsustainability of intensive factory farming and agriculture and recognised it as a symptom of our society's wider disconnect with nature. I finished by reflecting upon the tension between recognising ourselves as selfish consumers or as more interconnected citizens within our societies and the wider web of life.

This is a theme I continue to explore in this, the final episode of the podcast. I spoke with Dr Sam Gandy, a self-described nature lover and academic who is now working in the field of nature recovery. He also works as an independent researcher, particularly on nature connectedness and often on the capacity of psychedelic substances to affect people's relationship with nature.

And so I start by asking Sam, what is nature connectedness? Are there any metrics to measure it?

Dr Sam Gandy: So there are many different metrics and scales for assessing people's psychological relationship with nature, which is essentially what nature connectedness or nature relatedness is. It's a measure of someone's subjective and personal relationship with nature. In particular, it's hinging on the awareness an individual has of their interrelatedness with nature, their experiential sense of oneness with nature and being part of a wider interconnected web that makes up the natural world. But it also encompasses other things as well as that sense of oneness and being part of something bigger. It encompasses the value you place on having contact with nature. It also links to what we would term pro-nature conservation attitudes, awareness, behaviours. So actions or awareness people have or undertake that are in some way on nature's behalf.

Noah Rouse: So it's so much more than simply being in nature.

Dr Gandy: Yeah, very much so. It's an important thing to emphasize actually, because it gets sometimes lumped with nature contact or nature immersion, you know, which is kind of going out into nature and, you know, that's great obviously. There's a lot of research to demonstrate that that has a variety of positive effects on physical and mental health.

But nature connectedness is something else. It's not that afterglow you might feel from having had a nice walk in the woods. It's something deeper and more sustained than that. And it's totally possible to be outside in nature and not be connecting to it in any way. For instance, passive superficial time in nature or contact with nature is not associated with nature connectedness. It's much more about direct, active engagement and appreciation and those feelings of wonder and awe and fascination and gratitude that arise from those interactions with nature. So it's primarily an emotional and experiential thing.

Noah: We've talked in previous episodes about this idea of the sublime, which sounds very similar to what you're saying there, but I really want to just hammer home that this idea of nature connectedness is definitely felt on top of the mountains, but it's something which one brings with oneself. And obviously making natural spaces accessible to people in different areas is quite problematic in some cases, but it's not just the woods and the trees and the fields. It's maybe this is my house plant, or this is the tree near me, or this even is the weeds or the birds in the sky.

Dr Gandy: Oh yeah, totally. It's an interesting point regarding urban environments and cities, which obviously tend to contain less nature. It doesn't mean you can't get great nature in cities, in parks and other areas within cities. For instance, [in Berlin](#), loads of the parks are teeming with nightingales at certain times of the year, a bird that has become very rare here in the UK.

That's part of the relationship one has with nature, if they're quite high in nature connectedness, is it's the appreciation for forms of life that don't directly materially benefit you in any way. You appreciate their existence for their existence's own sake, without sort of needing anything from it. You can just appreciate the sense of wonder or awe or appreciation of the aesthetics of something. So people who rate higher in nature connectedness are probably going to be more plugged in and aware of what plants and other animals are around them in an urban environment. Yeah, good point you make in the sense that you take your nature connectedness with you wherever you go, you know. So even if you're somewhere that maybe contains less nature, you're still more likely, if you're already quite nature connected, to probably pick up on it and be aware of it. Because that's the core foundation, really, of nature connectedness, is awareness. It's where you're choosing to put your awareness and your attention.

That really is the first foundational stone of nature connectedness, because it's quite a complex and multi-dimensional construct, if you will. It's aspects of personality, of cognition, of emotions, of direct experience, all meld together to form your relationship with or connection to nature.

Noah: So when we talk about nature connectedness, it's very easy to leap onto words like awe or the sublime or the wondrous stuff. And I think there's a whole other conversation to be had about this, about immediately wanting to qualify and quantify the benefits of something, the benefits of this connectedness, as if it's some sort of material relationship, which obviously, like you're saying earlier, the appreciation doesn't necessarily have to be beneficial. However, that being said, how does someone with deep nature connectedness, how do they act and react to the world around them?

Dr Gandy: Yeah, so you know, one of the things that fascinates me about nature connectedness is that it's obviously an immaterial thing. It's not a tangible material thing and yet it's so important and enriching for human beings. I feel like that's a point worth thinking about because we live in a materialistic, a fiercely materialistic, society. We're materialistic, we're individualistic and we're anthropocentric in our societal value structure.

And so immaterial things or immaterial aspects of our being, of our humanity, have, I feel, somewhat been forgotten about and kind of left in the dust. And that's part of the reason we've got a global mental health crisis right now, is because we've kind of forgotten or overlooked the immaterial aspects of our being. Among them is connectedness, not just to nature, but connectedness more broadly, connectedness to self, connectedness to others, connectedness to world, nature, universe. But what's quite interesting about nature-connectedness is that it has a really strong association with well-being, and in fact both forms of well-being. So particularly one form of well-being called eudaimonic well-being, and this form of well-being encompasses finding meaning in life, living a meaningful life, self-actualization, vitality.

There are a number of studies that show this really strong relationship between nature connectedness and this form of well-being. In fact, one study looked at a variety of different aspects of people's kind of relationships with nature or contact with nature. So time spent in green spaces, proximity, living next to green spaces, nature documentary viewing, nature connectedness obviously, and then it looked at other things like socio-demographic factors as well. And what was interesting in this study is that it found an association, so that nature connectedness had an association with eudaimonic well-being that was four times stronger than socio-economic status, which is usually a fairly reliable predictor of various well-being metrics. But nature-connectedness left that in the dust.

Separate research looked at the association with nature-connectedness and hedonic well-being. So hedonic well-being is more about seeking and finding pleasure and feeling good happiness. And this particular study again looked at socio-economic factors including income and education. And what was interesting in that bit of research is it found that nature connectedness had a similar effect size to education and income. So again, usually fairly reliable predictors of various kind of well-being metrics.

So it can be safely said that there's a strong body of evidence to show that people who rate high in nature connectedness feel like they generally live happier, more meaningful lives. And it's been broadly associated as well with general good mental and physical health.

And so we're only now talking about the implications for the individual, but nature connectedness is also a strong, if not the strongest psychological predictor of pro-nature behaviours, attitudes and awareness. So through that, there's potential wider ecological environmental benefits, because people who are more connected to nature tend to do more for nature in terms of protecting or restoring. And it's worth noting as well that the inverse also applies. So people who don't feel they have much of a connection to nature are very unlikely to do anything to protect it or restore it or conserve it in any way, because why would you? Why would you care about something that you don't feel intrinsically connected to?

Noah: So interesting to just point out that eudaimonic happiness is what Aristotle was after. Some would argue that basically it's the start of ethics, in that ethics is what makes us reach this eudaimonic state. And also on the other side of him, hedonic is utilitarianism and this is

all about happiness, and that was seen as an alternative to virtue theory and ethics. And yet here we are saying that there's something which covers everything, covers like, and both sides of the equation. I think it's really interesting.

And just on that holistic covering of everything which nature connectedness does achieve, if I'm right it's quite powerful community values, if that's what you want to call them, or connection with other people and more social welfare on the other side, is that correct?

Dr Gandy: It's interesting to find in some of the work that I've been a part of or colleagues have and other work as well outside of the psychedelic realm, nature-connectedness is strongly correlated with social-connectedness. And in a study I've been involved in with Imperial College looking at the effect of psilocybin on nature-connectedness, an important mediator underlying shifts in nature-connectedness post-psilocybin was this general shift or increase in connectedness more broadly. So nature connectedness shouldn't really be considered as a kind of isolated, separate, divided form of connection. It's woven from the same or similar fabric to connectedness more broadly, connectedness to self, connectedness to others. So they correlate with each other and also interventions such as, for example, mindfulness interventions will sometimes produce increases in both social and nature connectedness. Even if you're only targeting one of them, you'll see reciprocal benefits in the other dimension of connectedness.

And it also seems as well that nature or contact with nature can sort of buffer powerfully against social isolation as well. And whether that's because people feel they're part of a larger community, even if there's not humans that are immediately part of that, it can potentially buffer against feelings of loneliness and isolation, which are obviously a big part of the mental health crisis we're going through in the Western world.

Noah: I think something really interesting is a really tragic epidemic of loneliness. If we look back at the Covid-19 pandemic, it's really interesting the sort of public response to nature connecting us during that time. You'd think that when everyone was forced to stay at home during lockdown, the social isolation and loneliness would rise. And I think there are examples of that. However, it's really interesting to note that during that time, nature connectedness seems to have increased massively. I'm just looking at the YouGov poll here and about 50% of people are saying wildlife and nature are more important than ever to their wellbeing.

I was just wondering what you think about that and how you think that nature connectedness has changed over recent history.

Dr Gandy: So I've read some other research that kind of questions the longevity of those shifts in nature connectedness post-Covid. Once we went back to normal, it seems, at least according to some bits of research, that the nature connectedness levels or the amount of contact with nature people were having receded fairly sharply, which is a shame. So hopefully some people have still positive imprints in their mind of their time out in nature during the Covid restrictions. I certainly noticed a lot more people out during that time. And

I think the first Covid lockdown was particularly lovely weather at the time, so it was extra nice to get outside. So it was nice because usually I'm quite happy not to see people when I'm out in nature, but then it was like nice to actually see people getting out into it.

And I think there is generally, Covid aside, even before Covid hit, there's been a growth of interest and awareness in so-called green prescriptions and the potential value of having contact with nature for mental health. So I think the kind of medical establishment is increasingly aware of its importance. And I think there's a general growth of interest and awareness in the public. I mean it's interesting, my mum is big time nature nut as well, she really loves her birds, she's a keen bird watcher. But she said when she was young, nature was very much kind of this fringe, geeky, niche topic. And she's amazed at how much of a mainstream interest it has become in the kind of intervening years. So that's kind of encouraging in some sense, because having an interest in nature or having a relationship with it shouldn't be a fringe, niche, geeky topic that's shunned and rejected, because that's a real loss to the individual and their health and well-being in addition to nature more widely itself.

Noah: And ultimately a loss to society, communities and the world itself, like you were saying.

So we're thinking there about this increasing almost pop culture interest in nature and documentaries and such. The benefits are exceedingly obvious, but how can people actually move towards that connection?

Dr Gandy: Yeah sure, so obviously yes, so my work is involved with psychedelics, but that's fairly niche, highly illegal in this country at least, and comes with its own kind of caveats and stuff as well. But you certainly don't need psychedelics to connect with nature, like nature's all around us in all forms, even in the cities.

So as I touched on before, building a relationship with nature or bolstering that relationship all comes down to awareness and where you choose to put your awareness and attention. So all that you really need to do in your day-to-day life is start to notice nature, to take time to notice nature. Now this doesn't take time out of your day. So there's one interesting study that looked at sort of time spent in nature, having contact with nature and nature connectedness. It analyzed the data in various different ways, but intriguingly it didn't find any association between time spent in nature and people's nature connectedness. It was much more about meaningful moments in nature.

So yes, starting to notice nature and taking the time and having the inclination to do so will start to kind of reward you and you'll start to pick up on more stuff the more attention you give it. For instance, one very simple practice if you actually want to try a scientifically documented practice, is this "three things in nature" practice. All that one does is if you encounter something in nature in your day-to-day life that evokes an emotional response from you, be that wonder or awe or fascination or gratitude, whatever it is, you simply make a note of that in a journal or something, just a sentence about what that is and how it moved

you. So the original study called for people to record three things in this way across five days. And they demonstrated a kind of robust and sustained boost in people's nature connectedness levels two months later after this very accessible practice that doesn't really take particularly any time. It's literally a minute or two a day. And even from that small amount of time invested, it seemed to shift people's relationships with nature. And it seems that seeing stuff, noticing stuff is obviously a big part of it. But then committing what you're seeing or feeling to writing, I think you're kind of getting different parts of your brain engaged and on board, you're sending a message to your subconscious, this is important to me, this is interesting to me. And so I think once you start that practice, you will start to tune in more and more to what's going on. It's kind of like a positive feedback loop. And obviously the original study called for the three things for five days, but in a normal situation, it's totally up to you how and when you might be noticing nature and then want to sort of just record just in a little phrase or sentence what it was you encountered or perceived and how that made you feel. So that's one quite easy, accessible, non-threatening practice that's been scientifically validated that can easily recommend to people.

Noah: And that's fascinating. That's the first time I've heard about this exercise. And it's quite strange for me because during winter I started at the end of every day as part of meditation practice and just opening up space and winding down, I started writing down things, moments that I had savored, moments that I had felt powerful in the day. And then I got to a point where I started looking back at these. I noticed that without fail pretty much every single day, at least one of them, and normally two or even three of them was, oh, that feeling of the sun on my face, or listening to birds, or moving that worm out of the road. And it's interesting that it feels like nature connectedness is unironically a natural thing. It's something I feel like our daily rhythms when we're in sync with what's working for us. And maybe this is a positive cycle, but our daily rhythms we fall into naturally. And I think that there's a problem in how we live our lives where we constantly get distracted and we can't hold attention. So there's the positive side of focusing on nature connectedness and focusing on almost meaning-making moments rather than simply meaning moments or taking moments.

I'm just wondering, how do you foster communities and interactions around this nature connectedness, or do you think that comes naturally? This individual change in way of thinking starts to spread throughout people when it has positive impacts.

Dr Gandy: Nature connection itself is highly personal and subjective, firstly, so it's going to play out differently across different individuals, even though there seems to be commonalities in how people might experience it. And in terms of moving it to the next level, there's sort of a variety of potential fronts now. So there's this growing interest in One Health or planetary health, and this is trying to shift the focus of health and well-being beyond the individual. As mentioned, we have a highly individualized society and this very much extends to our healthcare system as well where it's about treating the individual. But an individual doesn't exist in isolation, they're part of a larger interconnected whole. You can't really guarantee individual health unless you've got environmental ecological health

as well. And it seems to me that this must be partly built on a foundation of nature connectedness, because at its core, that's the kind of awareness that nature connectedness gives rise to, is being part of a larger interconnected whole, and the importance of that to health and well-being.

But in terms of like integrating it more societally, so I've read an interesting book recently by Professor Miles Richardson, who heads the Nature Connectedness Research Group at the University of Derby. He is like a big kahuna in the field.

Noah: Just to jump in there, his blog is great, if anyone is interested.

Dr Gandy: Yes, he does have a good blog that breaks down and makes more accessible some of the published literature and papers and stuff. And what I found interesting in his recent book, because it's something that I've also thought about, and it was interesting to see someone else give it some thought, was essentially psychology has been weaponized for marketing and consumerism. And some of Freud's ideas were kind of co-opted to try and turn people on to consuming material things. And obviously facts and evidence aren't good ways of changing behavior. Emotions are a much more powerful lever if you want to change awareness and behavior. And that's obviously relevant to nature connectedness as well because the work that's been done has shown a scientific understanding of nature is not a reliable or strong hotline to nature connectedness. It's much more about your emotions and direct experience than it is about knowledge. So potentially those fairly malevolent tools of psychological marketing or using psychology that's been kind of weaponized to turn us into contented consumers, that could maybe be slightly reframed and used in a benevolent way to kind of nudge us back towards a more holistic relationship with nature.

I think there's a place for that because it seems that if you look at like media content, be it books or films, we talk about nature less. There's less nature-based words and contents. There's much more of the word "I". We're much more individually focused and self-absorbed than we used to be in preceding decades and I think that's partly what's making us ill. I think it's good to have awareness and concern and interest beyond the self and the external world. I feel like that in itself can be therapeutic, that more external involvement, rather than being wrapped up in your own stuff too much anyway.

Noah: I think it's fascinating, this almost anti-Edward Bernays movement of reclaiming.

And it's really interesting, we're drawing here a lot in our conversation on previous themes which have come up in quite a few instances of this tension between being a citizen and being a consumer and this way we think about ourselves. And I think that's at the core of nature connectedness. From personal experience, even spending two, three days thinking, okay, I am someone who's trying to be in contact with nature or even more fundamentally, I'm someone who's embedded within, who is part of nature, does almost radically shift, it is this massive, really, really powerful thing.

And I think it's really interesting because obviously the mindfulness movement and stuff has done great things, but it has in quite a few areas been monopolized and I'm interested,

do you think it's good that nature connectedness can't be marketed? Obviously you've got people marketing house plants, you've got people going to parks and stuff, but nature connectedness in itself, nature isn't a consumerist thing. It doesn't naturally function in the consumer market. I wonder what you think about that?

Dr Gandy: I think that is a positive thing. I mean, give the marketing forces time and I'm sure they'll find some ways to capitalize on it, but because it's not a material thing that can't be used and packaged and sold, it's accessible.

Yes, there is inequality in the UK and other parts of the world in terms of who can access nature. People of lower socioeconomic status tend to have fewer opportunities to explore nature on their doorstep. That's a real shame because being of low socioeconomic status tends to quite reliably translate to being of poor health status. Research has shown that having contact with nature acts as what has been termed an equigenic environment. So while it doesn't solve the root cause of that inequality and the health inequalities associated with it, it does buffer that conversion process of the lower socioeconomic status into poorer health outcomes. So unfortunately, the people in society who can particularly benefit from having more contact with nature tend to have less opportunities to have contact with it, unfortunately.

Noah: The question I've been asking people, and I've got quite interesting responses from people is, just looking back in the young Sam, how do you think your work and your life experiences, how do you think that's affected how you think about nature and connected with nature, or has it just developed a theme which has always been there?

Dr Gandy: I've always been fascinated by life generally, so things that are alive and all the massive variation in form and structure and colour and all these things and all the interactions of those things as well. So I was poking around the garden looking for things before I could walk or talk, it just always was there before I was conscious of that really.

So I guess I've always appreciated nature, I've always been aware of nature and paid attention to what's going on around me. And from a very young age, for much of my life, I've had the opportunity of living in contact with quality nature. So it's always been there as a source of fascination, wonder, joy, intellectual stimulation, peace. I feel quite lucky to have that relationship or connection because I really feel like it's enriched my life by multiple metrics.

When I kind of, I guess, started to delve more into the research in nature connectedness. Because some people go, well, duh, of course nature's good for you. Well, yeah, obviously, because we evolved to natural environments, but like, how is it good for you is the kind of slightly more nuanced, interesting question. But as I became more familiar with the research, I guess I came to sort of understand that that relationship, that connection has probably been quite a support just for my mental health and well-being over my lifespan, actually.

So, if anything, it's made me more wanting to keep that as part of my life moving forward. So, I think when I kind of started to find out more about nature-connectedness, it really resonated with me because aspects of it very much are part of my life and important to me.

Noah: Beautiful. And really, this intentional space where we move forward, I definitely experience it. It does give you a sense of the wider picture. You sense, okay, I'm going through this, but I'm part of something more, I'm part of this beautiful symphony.

Dr Gandy: Yeah, I think it's good. I think that's similar to the experience of awe as well, which is strongly related to nature connectedness. But that expansion of the sense of self, when you're made to feel quite small in relation to something much greater than you, be that nature or the universe, I feel like that expansion of boundaries and awareness can be a cathartic thing in itself because it puts you in some kind of cosmic or earth-like perspective.

So however big your problems and issues might seem, scaled up to planetary or cosmic levels, they're really, really tiny. I feel like that can be a good thing to be reminded of and that awareness is more accessible when you are more aware and sort of connected to what's going on beyond the self, whereas potentially if you're more wrapping up in yourself, if you're ruminating, you're more kind of inwardly focused and that can potentially work against you.

Noah: Yeah definitely. I think it's great that we connect with this. We put our problems in perspective. I was out two nights ago, I was on top of this hill and there was a thunderstorm. And just lying out there next to a tree, watching the stars for half an hour, does put the entire world in perspective and does put, okay, I'm stressed about doing this and stressed about doing this, so I've got admin to do it or an email to send. Doesn't matter, does it?

But at the same time, it's that sense of awe that overpowers the nihilistic sense, which comes with connection with the stars and seeing yourself as such a small cog in the universe. I think in my own experience and in talking to other people for this, it's not "I am nothing", it's that "oh isn't this great, I'm such a small part of something". And I think that's like the really really powerful thing about this.

Dr Gandy: Just wrapping on your stellar observations there, which I like, I feel like that's an interesting capacity of being a human is you can look out at the stars, at the Milky Way, and the universe, and know how insignificant you or we are in the grand cosmic scheme of things. But that recognition, that awareness itself is significant. That recognition of insignificance is itself a significant thing and quite special.

Noah: Yeah, I think it's fascinating. Having had a few quite interesting, quite deep conversations with people, this phrase, "the watcher becomes the watched", comes up a lot, where suddenly you turn the magnifying glass on yourself. And I think obviously we are subjective beings and I think we are bound by subjectivity and can't experience true objectivity. However, I do think that this deep awe, this deep wonder, the sublime nature connectedness is at once a sort of coming as close as possible to breaking free of our

subjectivity, to experience almost objectivity, but also in fully embracing our subjectivity, and embracing that this is my perspective on this amazing ecosystem.

Noah: I got a lot from speaking with Sam, and I felt that the themes of our conversation drew on and drew out a lot of thoughts and feelings that I've had during the creation of this podcast and my wider life. Primary among these is the recognition that we have the daily choice of how we choose to interact with the world around us and see our place within it.

I hope that the different conversations I've had during this series have caused you to pause and consider or reconsider how we interact with the world around us. I do think that making the choice to try and be more connected with nature, making the choice to step away from a self-centered and excessively consumerist way of thinking, is what is needed to respond to the current ecological crises. However, I also think that it is beneficial to orient ourselves not only in relation to these planetary stressors, but also in excited recognition of the planetary, personal and communal benefits of this change in thinking. It seems to me that one of our most powerful human capacities is our ability to make choices about ourselves that have the potential to radically alter our way of living and being in the world.

Thank you so much for listening to this episode and wider series. I've been Noah, and I hope that you can make the time and space for yourself to think about the ways in which we should exist in relation to the world and how we, our societies, and the health of our planet might radically change when we recognise that we are entangled within nature and the wider web of life around us.

Credits: Written, produced, presented and edited by me, Noah Rouse, on behalf of the Jesus College Intellectual Forum. Original music by Xanthe Evans.

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And last but not least, I'd like to thank Xanthe for the fantastic theme tune and all the other things she's done and been there for. And thank you for listening. I've been Noah and this has been *Entanglements*.