SDS PODCAST

EPISODE 873:

BECOME YOUR BEST SELF THROUGH AI AUGMENTATION

FEAT. NATALIE MONBIOT

Jon Krohn: 00:00:00 This is episode number 873 with Natalie Monbiot, founder of the Virtual Human Economy. This episode is brought to you by the Dell AI Factory with NVIDIA, by Trainium2, the latest AI chip from AWS and by ODSC, the Open Data Science Conference.

00:00:23 Welcome to the SuperDataScience Podcast, the most listened to podcast in the data science industry. Each week we bring you fun and inspiring people and ideas, exploring the cutting edge of machine learning, AI, and related technologies that are transforming our world for the better. I'm your host, Jon Krohn. Thanks for joining me today. And now, let's make the complex simple.

00:00:57 Welcome back to the SuperDataScience Podcast. Today, the deep thinking, forward-thinking, and highly articulate, Natalie Monbiot returns to the show for another can't miss episode with her. For a bit of background on Natalie, in case you missed her preceding episode on the show through her consultancy called The Virtual Human Economy, she advises on virtual humans and AI clones including to startups like Wisely and investment firms like Blue Tulip Ventures.

00:01:22 She was previously head of strategy at Hour One, a leading virtual human video generation startup. She regularly speaks at the world's largest conferences, including Web Summit and South by Southwest. She holds a master's in modern languages and literature from the University of Oxford. Today's fascinating episode will be of great interest to all listeners. In it, Natalie details how AI is making us dumber and what we can do about it, why the virtual human economy could be the next evolution of human civilization. She talks about the two

states of being that humans are seeking and how AI could help us achieve them, and why focusing on merely 10X-ing our capabilities. This is the much bigger opportunity of AI. All right, you ready for this extraordinary episode? Let's go. Natalie, welcome back to the Super Data Science Podcast. It's great to have you on. Where are you calling in from today?

Natalie Monbiot: 00:02:16 I'm calling in from New York City, Union Square.

Jon Krohn: 00:02:18 New York City. Last time that we recorded an episode, the only time other than this that we've recorded an episode, we did it together in person in a beautiful professional podcast studio at NeueHouse near Madison Square Park. That was nice. And if people want to listen to that, it's episode number 823. It came out on October 1st. Time flies. I thought it was just a couple of months and now this is being published six months later.

Natalie Monbiot: 00:02:43 Yeah. Amazing.

Jon Krohn: 00:02:45 And in the meantime, you have been up to quite a bit. So at that time that we recorded you were still at Hour One.

Natalie Monbiot: 00:02:54 This is true. Yes. So since then, so time flies yet a lot happens. I have moved on from Hour One and now I am an independent advisor and collaborator still in the virtual human space. I'm going all in on the virtual human economy, which is a thesis I have about a future or a near future or even a present where we can each have an AI twin that we can put to work on our behalf to enhance our capabilities and ultimately live a better lives. So I'm doing a bunch of things under the umbrella. I'm advising a very cool startup, which maybe we'll have time to talk about later in the episode. And I'm building some cool AI twin custom applications as well and also doing some more thinking and writing in the space.

Jon Krohn:	00:03:48	I would love to talk about the cool startup later. You've intrigued me, but I want to get into your writing right off the bat because that was the impetus for me asking you to come back on the show so quickly. Bringing a guest on inside of a year, bringing a guest back inside of a year, I almost never do that. It's rare. It's happened... I could count on one hand the number of times that's happened in over 800 episodes on this podcast. And the reason why we had to do that is because like you say, you've been doing writing and I've been reading that writing, it's outstanding.
	00:04:19	So I'm going to have a link to The Augmented Human, which is your blog. And so if you just Google that today, a number of different things come up. So you'll have to follow my link in the show notes, but it's at the-augmented-human.beehiiv.com and so it's fantastic writing. I have been changed. My perspective on what humans are doing with AI has been changed through your writing over the past couple of months. So much so that it has changed in ways that I really don't need to talk about in this podcast episode, your podcast episode. But it's changed my own trajectory professionally, which is really exciting. Maybe we'll get into that later in the episode as well.
Natalie Monbiot:	00:05:05	I definitely want to hear about that. And first of all, thank you very much. I feel extremely flattered on a number of fronts and thank you for being such an enthusiastic reader and supporter. It's great.
Jon Krohn:	00:05:14	It makes it easy. I feel like after most of them that I read, I text you right away. I'm like, wow.
Natalie Monbiot:	00:05:21	I know. I was like, that was worth the blood, sweat and tears to get that out.

Jon Krohn:	00:05:26	And I think that's what makes it's interesting to talk a little bit about process. You mentioned to me that you do tons of editing, you spend tons of time editing and that seems to be the key. I think a lot of people, especially in this generative AI era, it's so easy to have any kind of drivel spit out by a machine and you just copy paste it, worst case, or you use something very directly from something that a machine has spit out or you're just spitting something out, a stream of consciousness from your mind without taking much time to reflect or edit. And your posts, they're short, but it ties into that. I tried to look up the attribution of that. There's a saying, "Sorry that I didn't have time to write you a short letter. You're getting a long one." You know that saying?
Natalie Monbiot:	00:06:16	Yes.
Jon Krohn:	00:06:18	And it's like the last time I looked into it, if I remember correctly, it's impossible to figure out who originally said that, but that couldn't be more true in your case where you've taken a lot of time to edit each of these blog posts. They end up being short, so they're easy to read, but they're packed with substance, historical references, fascinating to read and mind-expanding. And I was blown away myself to then learn, just before we started recording, that part of what set you down your recent journey of blog posts was your last appearance on the show. And at the very end, so my penultimate question to all guests is, do you have a book recommendation for us? And you had a book recommendation that set you down these past months of exploration and deep research, deep human research and deep writing.
Natalie Monbiot:	00:07:09	Yeah, absolutely. So I was just recalling as we were prepping for this conversation, it's like, oh wait a minute. The thing that set me off on this journey was your penultimate question on the podcast, which was so what book are you reading or what book do you recommend?

And I knew which book it was, but I couldn't muster up the why. I was just so overwhelmed by the insights in and I needed to make sense of it. The book was God, Human, Animal, Machine, and I just couldn't put my finger on what about it specifically was so important, but that it was extremely important. So anyway, I had already been, my impetus for reading that book in the first place was to try and make sense of who we are as human beings in this era of AI. And I think there is so much trouble, as you say, and not a lot of meaning.

00:07:57 And it's like, well, what are we doing here? I feel like we're lemmings. We're like human beings as a human race, like lemmings running off the edge of a cliff as we make this all powerful AI that's going to put us out of business and set us towards extinction. It feels like that is a narrative that people just broadly speaking, if I look at my LinkedIn feed or other social feeds, people just seem content with. And I was like, wait a minute, there's something up here. So anyway, the end of that podcast episode encouraged me to dig deeper into the book and just think, what was it that was really meaningful? And I ended up writing an op-ed for a Polish, the Polish New Yorker, his name I still cannot pronounce and I'm not going to try, but you are.

Jon Krohn: 00:08:44 I spent time before the episode listening to YouTube pronunciations of this. I think it's something like Przekroj. Przekroj.

Natalie Monbiot: 00:08:50 Sounds very, very convincing.

Jon Krohn: 00:08:56 There's a lot of consonants. P-R-Zed-E-K-R-O-J. Przekroj. Oh man, I know I'm butchering it, but all of our Polish listeners are probably enjoying my efforts.

Natalie Monbiot: 00:09:09 Yes, I imagine.

Jon Krohn: 00:09:10 Or never listening to the podcast again.

Natalie Monbiot: 00:09:12 One or the other. Or feeling sympathy and wanting to educate you. Maybe you'll get some of that in the comments. But in any case, they published a piece entitled, Are We Ceding Humanity to Machines? The Battle for Meaning as AI Outthinks Us. And the culmination of that for me was even though we're building these PhD level AIs, and that was at the time, that was about, I don't know, five, six months ago at this point, and we continue to build these AIs that beat us, are designed to beat us on all these levels. And it's like, okay, wait a minute, that's great that that exists. We can't afford to not build next level AI, but what are we building it for and how do we as human beings benefit from that? And what's our role in all of this? And so God, Human, Animal, Machine, it's a very interesting title because actually it implies the traditional hierarchy that we have been living with up until this point in time. God, Humans, Animals, Machines.

00:10:19 And we're creating machines that challenge our position as humans in the world and potentially where God sits. So why are we doing that? What are the implications of this? What should we do about it? How should we think about this and where do we really sit as humans? And anyway, at that point, that's five, six months ago I was like, well, we're the meaning makers. At the end of the day, we've created this huge opportunity and this mess and human beings are really good at sorting out and cooperating around fixing messes. That's what we do best. And so here we are. We are facing an extremely challenging time and a technology that's more powerful than any other, and it's up to us to coordinate and cooperate in order to harness it for our benefit and not our detriment, which could be extremely dire.

00:11:17 So anyway, that was the first one of the earliest posts that I then republished to my blog. And I've been really exploring in general, well, okay, so I have this strong

feeling that we are the meaning makers and that we should collaborate with AI. And AI can be a great thing for human beings in the human race, but how do we engage with it? How should we help people think about it and what should we build with AI and how do we use AI to actually empower ourselves? And anyway, a recent guest on your podcast, and actually we all know each other in a funny way. So I actually met him, Varun, because I'd written something and he read my blog and he got in touch with me. It was about embodied intelligence and the importance of embodied intelligence in an era of AI because how we feel and how the fact that we're in the world, we are these beings in the world and we have intuition and we have form, we are fundamentally different from AI.

00:12:24 Anyway, so he was reading this and then he got in touch with me and then he told me about the work of John Vervaeke and he's been an amazing thought partner to me in this exploration of AI and human coexistence. And anyway, so I got into John Vervaeke's 50-hour course that's on YouTube called The Meaning Crisis. And through engaging with that lecture series, I learned just so many fundamental things about cognitive science, about history that has informed an insight that I had, which is that AI is actually part of our cognitive evolution. So we've created lots of psycho technologies through the evolution of humankind and language is a great example. So through the creation of language, human beings were then able to self-reflect. So without language, you won't actually be able to reflect on yourself or even reflect on what had happened, what could happen. So language, a creation of humans helped to inform the cognitive evolution of humans.

Jon Krohn: 00:13:44 Sorry, sorry to interrupt, but it's quite an interesting phenomenon that language happened to come about and it's interesting to me, you might know a lot more about

this given you background. You have a master's in literature from the University of Oxford, and so I'm sure a lot more about language than I do, but we started using language only tens of thousands of years ago in the sophisticated way that we do today. Maybe we had a dog-like or dolphin-like utterances for hundreds of thousands of years. But we have genetically, as far as I know, and don't quote me on this listener, double check this fact before I say it, but I'm pretty sure that genetically, homo sapiens have been pretty much the same for millions of years. And so it's interesting that with this same genetically brains capable of language and math and computer science and creating AI, but it was only, it wasn't until tens of thousands of years ago that we started using language in the advanced way that we do today.

Natalie Monbiot: 00:14:51 And language has evolved and there've been breakthroughs in languages, in language, that actually only retrospectively can we see as having been a massive breakthrough. Even though language had existed and emerged in different parts of the ancient world, it was the ancient Greeks that added vowels to language. And this seeming optimization to language actually had a huge impact on the development of civilization. So in John Vervaeke's work, he explores how the introduction of vowels actually led to the birth of democracy. And a couple of reasons given are that vowels enable people to express themselves and communicate with more fluidity. And so language spread in a more effective way.

Jon Krohn: 00:15:41 Wow.

Natalie Monbiot: 00:15:42 And so if we think about language as something that we created and then it shaped us and it continues to shape us, even today, it's very difficult to predict what language could have done for the human race. So I mean, I think a lot of us are asking this question, well, what will AI do for

the human race? I think the answer does not exist yet. It's probably going to be huge. But that's an example of how exponential the difference on the impact could be.

Jon Krohn: 00:16:21 This episode of SuperDataScience is brought to you by the Dell AI Factory with NVIDIA, two trusted technology leaders united to deliver a comprehensive and secure AI solution. Dell Technologies and NVIDIA can help you leverage AI to drive innovation and achieve your business goals. The Dell AI Factory with NVIDIA is the industry's first and only end-to-end enterprise AI solution, designed to speed AI adoption by delivering integrated Dell and NVIDIA capabilities to accelerate your AI-powered use cases, integrate your data and workflows, and enable you to design your own AI journey for repeatable, scalable outcomes. Learn more at www.Dell.com/superdatascience. That's Dell.com/superdatascience

00:17:09 Because it's happening so much more rapidly now. It's wild. These same frameworks, consonants I guess first and then vowels, and then being able to record things on clay tablets and then having the printing press and recording things on paper and being able to disseminate information that way. And then magnetic storage and computer circuits and the internet. And we're spreading information more and more rapidly. And now just in the past couple of years, since you could say the ChatGPT moment, we have this uncanny ability of machines to be able to replicate our way of using language in compelling ways. And then as you said at the last time that we were recording our episode was around the time that o1 from OpenAI came out, which was the first and now a series of reasoning models that "think over time", reflect on what they've already output, text that they've already output, improve on it, fact check it, make sure that assumptions are being covered correctly. And that leads to what you were talking about PhD level intelligence.

	00:18:31	And so then all of a sudden you have a few months ago machines that are able to be able to, it is interesting, just it was a week or two before your episode came out that o1 release was, and that was absolutely huge for me because the kinds of problems then being tackled, and yes, it is still relatively narrow in scope because it's problems that we can break down and evaluate step-by-step. So computer science problems, chemistry problems, math problems, you can break them down step-by-step. But it seems like we're seeing evidence in recent months of synthetic data becoming more and more useful for training models. And so that could broaden the scope to allowing us to have this same step-by-step thinking across a huge range of big questions. And then we get into a scenario in the not too distant future. It could be a matter of years before you could have a million Nobel Prize winning level intelligent machines all humming along in one data center.
Natalie Monbiot:	00:19:42	Yes. So I don't think that is what's going to lead human beings to the next evolution of the human race. So while all of these developments and powerful AI could help us potentially solve some very big previously unsolvable issues-
Jon Krohn:	00:20:02	And that's exactly to... So for listeners who I was just referring to, you just said powerful AI. And that might sound to listeners like you said it with a lowercase P, but uppercase P Powerful AI is what I was just talking about. And all of that comes from a really popular blog post by the CEO of Anthropic, which while you're next speaking, I'll look up a link to it.
Natalie Monbiot:	00:20:27	Amadeus essay. Yes, absolutely.
Jon Krohn:	00:20:30	Exactly. Yeah. And so yeah, sorry.

Natalie Monbiot: 00:20:33 Yes. So I think for me, that's great, that can exist, but how does it align with human beings? And there's a lot to be said about AI alignment. I'm not going to go into all of that right now, and there is a lot on that and a lot of experts focused on AI alignment. But I'm focused on how can this type of powerful AI make us as human beings more powerful ourselves? How can it augment our own intelligence, our own intentions and our own agency? So there's some worrying studies that have come out which are not at all surprising, but it's just puts it pretty starkly, which is that when we use LLMs and we rely on LLMs, large language models to do a lot of the cognitive work for us, the cognitive capabilities of human beings using those large language models actually declines.

00:21:38 So what that means in real terms is when we use and rely on LLMs, we become dumber. And that is not a hopeful trajectory for human beings in the era of AI, which is becoming ever more powerful. So my concern is that this could lead to the great intelligence divide where certain people and certain companies are building AIs that are ever more powerful and the everyday person that's using these tools is becoming dumber. But I think it's not all doom and gloom. There are examples, and I'm making it my mission to identify these examples and really flesh out what it looks like when humans collaborate with AI in the right way to increase human agency. So more recently I've been digging into how actually when used right, AI makes, puts more pressure and expects more of humans. So let's think about the research. So Ethan Mollick and others have done some analyses and shown on average when white collar workers use AI on average their performance increases by about 15%. It's like, oh, humans plus AI equals 15%, but actually that's really not very compelling.

00:23:21 So I was recently really interested in a blog post by Andrew Ng, which talks about the familiar concept, I

believe a familiar concept of the 10X engineer. And he very clearly lays out how the 10X engineer isn't an engineer that's working 10 times faster because of AI. It's an exponentially more effective engineer because their time and mental capacity is freed to unlock human ingenuity. And Andrew Ng goes on to describe how this can and will apply to different sectors such as marketing, such as human resources, lots of different areas can take these principles of 10X. And it's not about outsourcing the work to AI, it's about getting AI to do work so that we can exercise our own human ingenuity in larger ways. And I was also at the Fortune Brainstorm AI towards the end of last year. It was fantastic to hear from Elias Torres who is the former co-founder and CEO of the Unicorn Drift, and who announced his new startup called agency, which is a customer success startup, and it's being built with AI and AI agents at its core. And he was describing how he's building this company.

00:24:52 So after the essential engineers, his first hire was a lawyer, and that lawyer also oversees HR. So basically more is expected of the people that are involved. So human beings need to be more flexible, they need to think laterally. These are things that we are inherently actually good for, but our education, our systems don't optimize for that or haven't needed to optimize for that. And I think they will do. And also human beings are going to need to adopt the right mindset for this new reality and in some cases are going to need to get over themselves like, oh, I never wanted to be an HR leader, or that's beneath me, or I can't do that.

00:25:45 And actually, Varun shared a tweet with me a while ago, and it was something like, it's a race between engineers who can let go of their egos and non-technical people who can basically learn to be technical, but in both cases it requires a mindset shift. So for the technical people, it's like, okay, so now what I do has been democratized, so

what am I going to do about that rather than feeling egotistical and protective over it. And for the non-technical people saying I'm not a coder is no longer a valid barrier because you could be. And so actually personally, I fall into that camp. And so I talk about this and I'm trying to walk the walk, so I'm trying to build some stuff and that's the camp I want to be in because you've got an idea more than ever, you can make it happen.

Jon Krohn: 00:26:54 And you have been walking the walk because in early December I hosted an AI agents conference in the O'Reilly platform and I think only one or two of the sessions that day had hands-on coding elements, but you were right on top of it same day asking for access to the GitHub repos and experimenting with those AI agent implementations. And so you're very much on that way, and you're absolutely right, it is now more accessible than ever because you can be using these same large language model tools that are allowing a lot of the linguistic capabilities that we're describing in this episode in order to be able to get information on what lines of code are doing on just generating code. And you could competently with the assistance augmented by AI as an augmented human like you are, Natalie, you're able to take these tools and be coding and just as well in many ways as people who have lots of experience at the space.

Natalie Monbiot: 00:27:57 It's actually very interesting. I feel like that is a narrative which I've just communicated myself, that anybody with an idea can now make that idea happen themselves because they can instantly code. There is, in my personal experience, still a learning curve. I actually am a linguist, so I actually have studied, I got a master's in languages and literature, French and Spanish languages and literature. So I have learned languages before and I was like, Python, it is a language, I guess it's an easy language. A lot of the characters are very familiar. But

actually, I did a halfway through a Python course and then got impatient and I was like, okay, well, let me just start building. Then it was like, okay, well this isn't really working out that well, so I need to go back and actually learn it a bit more. So it's interesting to see to what extent that narrative is actually true, yet maybe we will get there, but it's not actually that easy yet, I will say.

Jon Krohn: 00:28:57 But still, I mean, it's probably assisted by your British. Monty Python is British. It's the namesake of Python. That probably makes it easier.

Natalie Monbiot: 00:29:06 I'm halfway there.

Jon Krohn: 00:29:09 No, it will for sure get easier and easier. And I think that what you described there, I think I've always thought is the optimal way to learn anything is by having something that you'd like to accomplish. And so there's going to be some amount, okay, this thing that I want to accomplish, this AI agent that I want to build is in the Python programming language. I better start reading a Python programming language book to at least have some of the basics. And then you set out on that mission and you're like, wow, a lot of this seems tangentially related to what I want to be doing. It seems to be holding me back from my objective of doing the goal. So let me try tackling the goal. And there's some meeting in the middle and where that middle is will be different for every individual based on what they've already learned in the past and the experiences they have. But I think having that idea of some specific thing that you're trying to accomplish, something new that is yours, I think is the best way to be learning.

Natalie Monbiot: 00:30:06 Yeah, no, it's fantastic, actually. And I was like, okay, I actually asked Claude one day a few months ago, so this is my thesis, the virtual human economy, what could I build with you? And so it knew a lot about, I was building

my website with it and all the content, it knew a lot about me and it gave me some great ideas and I was like, oh, wow, I can actually do that. And then I refined and I was like, no, I want it to be like this. And so I've got some things which are, despite the derailments and stuff, it's like I know what it is I'm trying to do and going to have to use my human ingenuity to figure out the best way to get there.

Jon Krohn: 00:30:44 Curious about Trainium2, the latest AI chip purpose-built by AWS for large-scale training and inference? Each Trainium2 instance packs a punch with 20.8 petaflops of compute power, but here's where things get really exciting: the new Trainium2 UltraServers combine 64 chips to deliver a massive 83 petaflops in a single node. These Trainium2 instances deliver 30-40% better price performance relative to GPU alternatives. Major players in AI like Anthropic and Databricks, along with innovative startups like Poolside, have teamed up with AWS to power their next-gen AI projects on Trainium2. Want to see what Trainium2 can do for your AI workloads? Check out the links in the show notes. All right, now back to our show.

00:31:34 I'm increasingly ending. So you may not know this about the show, Natalie, but I released two episodes a week. So this is a Tuesday episode, a Friday episode. Long guest episodes likw this are always on Tuesdays. Fridays, I have more leeway with, so sometimes they are another interview though I would typically have it be maybe a little bit tangentially related to data science and AI. So have an economist come on and talk about why people are unhappy or I might not have a guest, I might create an episode on my own. And sometimes those are directly related to AI. Sometimes they're a little bit more tangential. But more and more recently, something that I've been hammering home is this idea of, wow, look at this crazy innovation. You've never had more opportunity to be making an impact as an individual on the world.

And guess what? If you don't immediately have an idea for how you could be making an impact, talk to Claude about it just like you do.

Natalie Monbiot: 00:32:32 Yeah, exactly. And I'm still figuring out the best way to collaborate. Because I think just in terms of output, being able to write a blog and do all the other things, you have to use a Claude or a ChatGPT to help. But I do actually feel like, and this is I guess the difference it's trained on, it basically takes you to the mean. It will always make you drift. The more you use it, the more iterations you do, it will take you to the mean, because that is basically what it is. That's what it's trained to do. And I would say that I struggle... My process, I start with my draft, which is actually the best part. It's just the aha moments.

00:33:22 I'm like, okay, so help me build this out into a narrative and just start with the bullet points because I don't want your fluff. I don't want anything. And I'm still trying to figure out the best way to work with it because I feel like I then get to a point where I have to go back and just reinsert the aha moments that seem to get averaged out as the process goes on. So I don't know how much time it saves me, but I guess I believe it's going to save me time, which basically makes me do it. You know what I mean? It lowers the barrier to actually doing it, even though in the end, I'm not sure that the outcome is actually not just beneficial all in all.

00:34:12 But that also reminds me it's a good thing because what I'm trying to do is express my insights, and that's what human beings are great at. We have these insights. Ultimately, we strive. I feel like there's two things that we strive for, at least for me to be in our flow and to be in the flow state, which is basically just a shower of insights, insight, insight, insight, insight. Just feel so great when that happens. And the other one is just feel really peaceful. And so how can we use and collaborate with AI

to optimize for those two states? And I think that in all this talk and barrage of AI and all this stuff, we lose sight of what it is that we actually want from all of this. And how do we optimize AI to give us more of that?

Jon Krohn: 00:35:08 I love it. That is so well articulated. The two states that all of us are probably optimizing for most of the time for most of our day would be to be in a flow state or in a peaceful state. I think that that's spot on. It certainly is for me.

Natalie Monbiot: 00:35:22 Is that for you? Yeah, it's very personal. It's a personal... It's just something that I've.... An insight that has been returning to me and I'm like, I think those are the two states that I strive for. And other states are like you're just, it's very easy to lose touch of that though. You say, we are optimizing for that. It's like I think that we don't, but we should. That's what happiness and contentment is.

Jon Krohn: 00:35:48 It's so easy to be dragged away from it. I want to go back to, in a moment, I should go back to the dragging away from the mean that you were talking about earlier, but quickly before we get there. It's so easy to get dragged away from flow and from peace because so many of the kinds of things that I suppose were conditioned to historically need or maybe at different points in our life, we really do need. I mean, so something, for example, you and I enjoy the privilege of being able to spend time exploring a flow state, whereas there are a lot of people in the world who probably don't have that luxury because it's like, "Well, I need to find a way to get food on the table for my family today. And I can't spend time creatively thinking about how to do that. It is desperate."

00:36:50 And we talk about our genetics being millions of years old, that drive would've been a reality for all of us until very recently. And so for whatever reason, maybe because

of genetics or because of times in the past where we felt like, "Okay, I need to continue to find chestnuts and hide them. I need to just to keep busy with that." And so I end up constantly, I am in a constant battle against myself where somebody like Kirill Eremenko, the founder of the Super Data Science podcast, comes to me and says, "I'd like you to take over hosting this show. There's only 104 episodes a year." And it's like, how can I say no to that on the one hand? But on the other hand, there's an endless number kinds of opportunities like that that come up and you raise, somebody asks you, it feels like a great privilege, or there's some immediate financial reward or some potentially larger downstream financial reward to all these opportunities that are thrown at us in emails and LinkedIn messages and text messages.

00:38:04 And so you're constantly getting opportunity, opportunity, opportunity. And it's very hard to not, or I find at least, and maybe you get into this scenario as well, there are so many different things that I'm excited about and that I'm like, I cannot let this opportunity drop. And that's what I end up falling into optimizing when I had pride much more in joy, probably being able to sit with Ethan Mollick's Co-Intelligence book and slowly take notes and come up with my own ideas on that. But instead, it's like this, holy crap. Look at all these things that need to be done today.

Natalie Monbiot: 00:38:44 Yes. And not being mindful. It's chasing stuff or being reactive to stuff. And I think we're very good at deluding ourselves. That's part of the human condition and not being, chasing things that aren't necessarily good for us. And also, I think social media and just-

Jon Krohn: 00:39:11 Totally.

Natalie Monbiot: 00:39:13 ... consumption and algorithms that drag us away from being mindful or the opportunity to be mindful. We have

to be so intentional in order to come back to ourselves and what it is that actually does make us feel good because our behavior doesn't reflect our needs necessarily because we get dragged into these other behaviors. And it's not just the algorithms, it's part of human nature, but the algorithms don't help. And I think what is potentially hopeful about AI is that maybe we can get away from our devices and get away from the feeds a bit more and have the work done for us, a lot of the legwork done for us so that we can be very intentional about what it is that we want and what our purpose is. And by the way, this is really hard stuff. It's not necessarily what most people want to do, I mean, and someone that wants to do it, and it's exhausting.

00:40:16 So it's just easier just to doom scroll. It's exhausting to actually tune in to yourself and tune into who you are as a human. It's much easier to be distracted. So it's not to say that what humans truly want always is to tune into themselves and think about what truly gives them that feeling of peace or thriving. It's complex, but I think that the greatest opportunity is to free ourselves for more of that. I think there's a lot of the narrative is, which I also take issue with. It's like, oh, and here are the AIs and humans are going to be out of jobs. And just like a foregone conclusion. It's like, again, humans are the lemmings. Humans just run off a cliff. And then it's like, oh, what are humans going to do? UBI and whatever. It just sounds like pretty dystopian.

00:41:12 And when I did my 10X talk, some people commented, "Not everybody wants to be freed to focus on their purpose. For a lot of people, that purpose or what makes them happy or feel secure is just going to work every day. And if you take away their work, as AI is doing it, what are they going to do?" But I actually believe as long as they've got enough money to live, I think there's a lot of opportunity to actually refocus attention and to just what

makes you just happy. It doesn't have to be some grandiose vision or mission. It can just be spending time with your family or reading a book or some of life's simple pleasures.

Jon Krohn: 00:41:56 Excited to announce, my friends, that the 10th annual ODSC East, the one conference you don't want to miss in 2025, is returning to Boston from May 13-15! And I'll be there leading a four-hour, hands-on workshop on designing and deploying AI Agents in Python. ODSC East is three days packed with hands-on sessions and deep dives into cutting-edge AI topics, all taught by world-class AI experts. Plus, there are many great networking opportunities. ODSC East is seriously my favorite conference in the world. No matter your skill level, ODSC East will help you gain the AI expertise to take your career to the next level. Don’t miss - Online Special Discount ends soon! Learn more at odsc.com/boston

00:42:43 100%. I mean, this is exactly where I wanted to go next with the conversation. So from me talking about, I didn't say this so explicitly, but I was describing the kinds of messages that come to me from other humans that end up pulling me away from my yearning to either being in a flow state or a peaceful state. Instead, I'm in a frenetic state most of the day, getting to-do list items done or my mind worrying away on, oh goodness, we've got to follow up on that and do this other thing. But yes, of course, in addition, exactly as you say, the other big distractor, the other big causer of confusion is AI models that are fine-tuned to do just that, that are designed to keep us engaged into a platform to see a larger number of ads. That is the objective of a lot of the time when we have our screen open. A lot of the platforms that we go into, especially if it's a free platform, I think it's an interesting thing. I mean, and this is a free podcast, and so I'm even, it's supported.

Natalie Monbiot: 00:43:47 There are no algorithms though. You're transparently ad-supported.

Jon Krohn: 00:43:51 That's true so far. It wouldn't be surprising if sometime in the future somehow we did have more targeted ads based on people's interests. But there's some amount of on the show we have to be ad-supported to some extent. Otherwise, you could have to charge, I don't want to put that barrier up. Okay, so we have, Tuesdays, we have an ad about every 15 minutes for the first 45 minutes. Hopefully people find that to be-

Natalie Monbiot: 00:44:15 Aligned.

Jon Krohn: 00:44:15 ... an acceptable amount of distraction. Yeah. And also, you're hearing as you might not hear anywhere else. But platforms, huge tech companies, many of the biggest tech companies in the world, their business model is based on serving you ads, your attention, staying glued to those platforms. And their goal, the corporate goal is to be constantly increasing revenue, constantly increasing profitability, which means better targeting, better ads, keeping you in the platform better. And so the algorithms that people designing them end up coming up with ways of keeping you in the platform more. And that includes things like showing you fearful, content that makes you fearful.

00:44:58 And it isn't to the advantage of a news organization or of a social media platform to be showing you peaceful images because then you're just going to feel peace. You might put your phone down and just enjoy the sky, the sunset. Instead, it needs to be like, "Oh, it's another, it's crazy things happening. Look at this political thing. Look at this horrible thing that happened. Look at this violent thing that happened." So I guess I would be, a general message that I'm trying to get to with this is, I guess be wary of free platforms particularly likely to keep you out of your

flow state, out of your peace state in this frenetic distracted state. But I've been talking way too much for your episode.

00:45:46 I just want to quickly go back to, there's a few, you have said so many fantastic points based on a number of articles that you've written, and so people can dig into more of a lot of the thoughts that you had in today's episode. So I will be linking to, for example, you started off by talking about the Przekroj article you had, Are We Ceding Humanity to Machines? So that was the one based on the God, Human, Animal, Machine thoughts that you had on this podcast recently. And so I'll link to that Przekroj article as well as your blog post of that same title. And then you have this evolution through the science of meaning John Vervaeke's work. So I'll have a link to your science of meaning post to your stop obsessing over AI agents post, which relates to the kinds of things that you were talking about with inspiration from Varun who was on this episode just a couple of weeks ago at the time of publication.

00:46:44 And so his episode was number 869, which people can check out and get more of Varun's thoughts on this building wise AI agents. It ties into a lot of these kinds of things of augmenting humans and allowing us to be the best that we want to be. And finally, I'll link to from incremental to exponential post, which talks a lot about the kinds of things that you were describing in this episode around 15% improvements, Andrew Ng's 10X engineers, and how all of us can be more 10X, maybe a hundred X or a thousand X people, the lawyer, not just having a human resources department under them, but eventually us being CEOs, each of us maybe with an army of a thousand agents that are doing various tasks for us and other people, and hopefully aligned with us in such a way that it allows us humans to be on top of that whole system as individuals, maybe finding a flow state or

a P state or whatever it is that you as a person really do enjoy.

Natalie Monbiot: 00:47:49 Excellent. Sounds great.

Jon Krohn: 00:47:54 And I guess in terms of notes, there's one other link that I need to be sure to mention that came up, which is you were talking about Powerful AI with a capital P.

Natalie Monbiot: 00:48:07 Yeah.

Jon Krohn: 00:48:08 And I felt how I am probably becoming dumber through reliance on AI and just being in the hamster wheel of... Yeah.

Natalie Monbiot: 00:48:20 So a lot of people will have commented, a few people have commented on this post that I wrote on how AI is actually making us dumber, and if we succumb to AI for it outs and outsource our cognitive work to AI, that basically puts us on this slippery slope towards becoming dumber. And someone commented, well, this is what people said at the beginning of Google. Like, "Oh my goodness, because you've got Google at your fingertips, you're not going to remember anything." And maybe that's true to an extent. You don't feel like you need to remember the names of things. Even in this conversation, we're able to look things up and it's like, why occupy our brains with focusing on things that we don't... Let's be efficient.

00:49:06 But the difference I believe, between Google and LLMs is the facts and references that you can look up on Google contribute to the recipe of your cognitive process. It isn't the entire cognitive process, which is potentially how you can use LLMs. It's very tempting to basically get the LLM to basically do it all for you. As you said at the beginning of this, you could have it just write some drivel, answer something in its own way, and just be done with it and not even review it or challenge it or care. I think it's very

challenging not to do that. It is worrying, and I do think that it's going to impact how we educate our children and how we educate and rescale and upscale ourselves in order not to succumb to that trajectory.

Jon Krohn: 00:50:08 It's a really interesting place that we're in. And when I was saying that I felt dumber, it was because I talked about, oh, Powerful AI and the CEO of Anthropic, and I knew that if I could probably get Dario Amodei's name to pop out of my head quickly, and it's the thing that I feel like I should just know. It's like, well, you probably expect me as the host of this podcast to just know Dario Amodei's name. And I feel like I should. And I'm like-

Natalie Monbiot: 00:50:31 Which you do. It's just not in the habit of just drawing it up instantly because you've got a lot else going on, and that is something that you can reference. It's something that you can get. It doesn't... The point that you are making is in your head, and so the ingredient was the name, but everything else was there and that comes from you. But to of get all of that from an LLM is I think where things get dicey.

Jon Krohn: 00:51:02 And so I'll very quickly say that if people want more on this Powerful AI idea of Dario Amodei's can refer back to episode 832, which is interesting because it's so similar to your previous episode, which is 823. And something that I was thinking about as you were talking about this evolution in terms of the cognitive involvement from a Google search to using an LLM to output something, and how with the Google search, you're at least still actively looking up information. You're maybe comparing a few different resources and saying, "Okay, four out of the five top results all say the same thing. So that's probably reliable." And so you're doing some more critical thinking yourself there. It set my mind off on this, I just did this thought experiment about, I was thinking about, I had this visual of myself as a kid growing up before the

internet, and I, in order to look things up, I was dependent upon the dictionary, the thesaurus, the encyclopedia that were in my family home.

00:52:04 And it seems like if the LLM is taking away a lot of cognitive ability, Google is on a spectrum. It's in between the LLM and me manually looking something up in these physical books because there's all kinds of interesting things that happen when you physically look something up in a book like that where you are being exposed to other rich information. So unlike when you do the Google search, the other kinds of things that are showing up on your screen, the things that are showing up top of the fold, the things that are most geared in terms of what humans have been designing, as well as algorithms to capture your attention on those page are ads. But when I'm opening up a dictionary, all of that is information rich. And oh, that's an interesting illustration of some tree in Asia, and you just end up reading about that. And in ways that you don't even do on purpose, that experience of discovering this other random piece of knowledge about an Asian tree makes it easier to remember and have this sophisticated web of connections on whatever it was you really were looking at.

Natalie Monbiot: 00:53:15 And meaning. It's like, you're actually discovering things and all of those different inputs are creating an insight and meaning that stays with you. You've just understood something in a different way that was very personal to you and your experience in the world. So what I would say the equivalent of that in this new era where we're living with AI is I think we need to stay, use AI to our advantage, and we also need to remain competitive to AI. What is our unique human advantage and how do we double down on that? So even though earlier in this conversation I said that AI is part of our cognitive evolution, or at least that's something that I believe, it's

part of us in the same way that language is part of us, but it's not all of us.

00:54:01 We don't experience everything in the world through language. We're also these embodied creatures that were born to be human living in the world and having a lived experience and being able to notice things and engage with other people, be it, discover different places, make connections in the real world that inform our insight and our understanding of things. And so I think that example of you, the thesaurus, tough word, is actually something that is even more, I think in the age of Google, it was like, oh goodness. Well, Google totally replaces that behavior, but now we should be doubling down on those behaviors and those experiences because that is truly what makes us human and makes us competitive to AI.

00:54:51 Because AI, yes, AI is multimodal and can see and things, but it doesn't really, AI ultimately is not human, and it's not embodied and embedded in the world. And so what do we do in the age of AI? Yes, collaborate with it, free ourselves, solve big problems with it, and free ourselves to be more human. I think ultimately that is what I'm hopeful about and I feel is very true. We need to be more human because our future and our existence depends on it, and we need to tap into humanness in terms of human experience and into human ingenuity to be competitive with AI.

Jon Krohn: 00:55:36 We are aligned completely, probably because I'm so influenced by your writing. And it's interesting that you talk about the embodied piece there because something that I've been thinking about and is something that I've started to work on behind the scenes. And so people are going to get an idea of what I'm thinking about as a future product here, and it's not fully fleshed out. But so first of all, I am, and in part inspired by your writing. I am passionate about developing AI systems, products that

allow people to attain in the same way that for you and for me, and this isn't necessarily the same for everybody, but for you and for me, getting into a flow state or a peaceful state, that's something, those are two states that are important to us. And I would love to have an AI tool that helped me get into those states more often.

00:56:36 And so you talked about some of those ways, if we have an army of agents that is handling a lot of the minutiae of our life and doing it reliably, that helps. But I think also, we could have AI systems that are designed to bring us back on track and say, "That looks like you are reaching for Instagram there. Maybe try just a few more minutes, focus on the screen." It's a simple example. But there should be ways, there ought to be ways that AI can be allowing us to be the kind of person that we want to be. And it's interesting that you were talking about embodiments there briefly. So you're talking about a difference between human experiences of the world versus today or AI systems of experience of the world. Yes, exactly. As you said, there are multimodal systems today, but they aren't living in the world like we are today.

00:57:31 And there are people like Fei-Fei Li, who have startups that are aiming to begin to tackle that data gap and be able to have machines that are closer to having the multimodal embodied experience that we have. But so something that I'm excited about as something that maybe I'll have to spend my whole life pursuing, and maybe I'm going to end up being distracted by who knows what else. But today it seems to me like in order for one of these AI systems to work really well at allowing you to be your best self, being able to stay in a flow state or a P state, in your case in mind, it probably has to be an embodied AI system that is actually with me in some way and navigating the world with me and aware of what I'm doing, not just a phone in my pocket, for example.

Natalie Monbiot: 00:58:24 Well, Varun talked about a cognitive prosthetic that for him would compensate for his ADHD, which he's very open about. So is that a metaphor, the prosthetic, or is it literally in some way a prosthetic? And so yeah, it's interesting to think what form factor this takes.

Jon Krohn: 00:58:50 I like the idea of him with a second head on his shoulder, this prosthetic additional head that's with Varun everywhere.

Natalie Monbiot: 00:58:59 I think the point is he's trying to improve his communication skills. I'm not sure that will help.

Jon Krohn: 00:59:03 It turns and whispers things into his ear that you can't hear. Are you talking about me? Prosthetic head? That's a fun one. So yeah, so again, Varun's episode. So a lot of the things that Natalie and I have been talking about in this episode, Natalie and Varun have been talking about themselves. And so you might find Varun's episode 8 6 9, really interesting. I know I mentioned that earlier, but just mentioning it again, it seems like there's a lot of common ground there. So at the outset of the episode, Natalie, you mentioned that you're getting involved in a start-up. Do you want to talk about that briefly and bring us back to earth a little bit before we end the episode?

Natalie Monbiot: 00:59:38 Absolutely. So as I mentioned at the beginning, I've gone all in on what I call the virtual human economy in which we each have AI selves that we can put to work on our behalf to help us live better lives. And I actually happen to be talking about this vision on a different podcast and some of the use cases that I've built in the past through Hour One and some of the collaborations there. And a founder of a start-up got in touch with me on LinkedIn and said, "Oh, I listen to your podcast and that's what we're building." And so fast-forward, I'm now advising a start-up called Wizly, W-I-Z-L-Y, and it's literally AI twins for experts. So it's a selective process to join their

platform. If you're an expert and you meet their criteria and you get approved to join in their community, you can create an AI twin of yourself and train it on all of your knowledge with full control of what you teach it, and you can manage the data that your AI twin is trained on.

01:00:49 And then the platform allows you to manage your AI twin and also make it available, and also to enable you to manage your time and your actual human hours while collaborating with your AI twin that can go out into the world and get new business leads for you. And once it's trained nicely and you believe it can actually represent you in actual consulting calls, you can start to monetize your AI twin. And what I find really fascinating and so aligned with some of my favorite projects that I've worked on in this space is the fact that you can have an AI twin, which is now much more accessible than you, the expert in both availability and price point and your AI twin. It's not just about buying time, which I think is critically important. It is all about augmenting your skills, so your AI twin can now speak any language. And what does that mean?

01:01:48 What's the 10X of that? The 10X of that is that your AI twin can now engage with customers in different parts of the world where English is not their native language at a price point that is accessible to them. And so you can be doing so much more business while creating so much more good around the world. So that's really exciting and really delighted to be supporting them. And then I'm also really excited about working on more custom enterprise projects. I'm currently working on an AI twin for a healthcare CEO, who wants to use his AI twin to be able to make himself available to employees across the globe, even to a new company that they recently required and to help communicate the company culture and also an AI twin of the CEO employees can consult with, understand

his values and his wisdom that he's acquired over many stints as a CEO over his lifetime.

01:03:01 So that's really fun. Creating an AI brain that is very focused with a very focused mission to up level the culture and wisdom of an organization, and then exploring what are the different modalities that make sense for this AI twin from the starting point of the brain. Initially, it'll be available in Slack where the company works. You can just add the CEO to your conversations. You can ask questions. You can also have it interject and jump in. You can actually get feedback on work from this AI twin, and then it can also be available by voice and other modalities. So by the time this comes out, hopefully I can share more on that. But those are the kinds of projects that I'm excited about.

Jon Krohn: 01:03:52 Very exciting. Indeed. Those are both great projects and they seem to be right in your sweet spot. I love the idea of having a Slack conversation with the AI twin of a CEO and then taking action based on that and blaming the CEO for that action that you took.

Natalie Monbiot: 01:04:10 There's all kinds of implications, which are very interesting to think through liability and all that. Anyway, that's a whole other topic, but it's fun stuff.

Jon Krohn: 01:04:21 For sure. So I'm actually, I'm going to reverse my final questions and I'm going to, because you were just talking about being able to announce maybe things related to this enterprise AI. I'll give you the ultimate question, ultimately, which is, so how should people follow you to get your latest? After this episode, obviously we'll have the augmented human blog in show notes for people to follow along with. Where else?

Natalie Monbiot: 01:04:45 You can connect with me on LinkedIn. That's always a good spot. And you can also check out my website, which is virtualhumaneconomy.com.

Jon Krohn: 01:04:57 Awesome. And then that brings us to the only remaining question, which is, do you have another book recommendation for... So we already have God, Human, Animal, Machine from your episode six months ago, which set you off on the journey that we've unpacked a little bit in this episode that has been so impactful on me personally, professionally, and I've really enjoyed you taking the time to explore it with us on the show today. If you got another book recommendation for us that maybe we'll have just as much philosophical meat on the bones?

Natalie Monbiot: 01:05:26 So I've got a recommendation that will definitely give you as much philosophical meat on the bones, but it's not actually a book. It is a lecture series, which I mentioned earlier, and it's John Vervaeke on YouTube and it's called The Meaning Crisis. It's a cool 50 hours worth.

Jon Krohn: 01:05:46 Excellent. Also in the show notes from Varun's episode.

Natalie Monbiot: 01:05:46 Oh, perfect.

Jon Krohn: 01:05:48 Yeah, exactly.

Natalie Monbiot: 01:05:48 A double wreck.

Jon Krohn: 01:05:50 He mentioned that as well. Definitely. So yeah, we'll have a link to The Meaning Crisis, something that I've got to check out too. It sounds absolutely fascinating. Last time I checked, about 200,000 people were subscribed to that lecture series on YouTube, so it's obviously impacting a lot of people. Natalie, as I just said, thank you so much for being on the show again today. I personally enjoyed it so much. And who knows? Maybe in six months again you'll have continued to shift my thinking and the

thinking of the world around you so much that we need to ask you on in the show again. And yeah, I almost forgot to mention that if people want to connect with both you and me in person in real life, coming up on April 24th, we will both be at an event called AI and Creativity run by a fantastic group called The Artist and the Machine. It's run by Dani Van de Sande, who is actually the way that you and I know each other. So you were hosting at an Artist and the Machine event in New York and that's where I first met you.

Natalie Monbiot: 01:06:54 Exactly. So we were co-hosting that salon on virtual beings because what else? And I'm now co-hosting Her Summit, The Summit. So it's been really fun curating content and speakers such as yourself, and we're really excited for it.

Jon Krohn: 01:07:10 And it's a day-long summit on April 24th and it's going to be in Williamsburg in Brooklyn, and so I'll have more information on that. Right now at the time of recording, at least we don't have a link to point you to. By the time of publication, we may. And I'll probably be, as I often do on my social media, of course I'll be making announcements about it. I'm sure Natalie will be as well. And I'll be mentioning it as people may have heard. If you listen to the end of Tuesday episodes like you are today, frequently, then you may hear me talking about upcoming live events that I'll be at, and so I'll be sure to mention it there as well. So yeah, hopefully catch you on April 24th at The Artist and the Machine events in Williamsburg.

Natalie Monbiot: 01:07:53 Excellent.

Jon Krohn: 01:07:59 Told you that'd be an episode not to miss, didn't I? In it, Natalie Monbiot covered how the Virtual Human Economy describes a future where each person has AI twins that work on their behalf to enhance capabilities and improve

quality of life. She talked about studies that show that over reliance on large language models can reduce human cognitive capabilities, potentially leading to an intelligence divide between AI developers and users. She talked about how while AI tools provide an average 15% productivity boost, the real opportunity is using AI to unlock human ingenuity in new ways, enabling people to run multiple experiments, think laterally and take on broader roles. She talked about how AI is part of humanity's cognitive evolution similar to how the development of language enhanced human capabilities for self-reflection and complex thought. Her and I both expressed how we feel that the two key human states to optimize for are a flow state where we experience continuous insights and creativity and a peace state where we feel present and content.

01:08:55 And you talked about how the most effective path forward is not to compete with AI, but to use it to augment uniquely human capabilities while doubling down on embodied experiences that make us distinctly human. As always, you can get all the show notes including the transcript for this episode, the video recording, any materials mentioned on the show, the URLs for Natalie's social media profiles, as well as my own at superdatascience.com/873. Thanks to everyone on the SuperDataScience podcast team, our podcast manager, Sonja Brajovic, media editor, Mario Pombo, partnerships manager, Natalie Ziajski, our researcher, Serg Masis, our writer, Dr. Zara Karschay, and of course our founder, Kirill Eremenko. Thanks to all of them for producing another extraordinary episode for us today for enabling that super team to create this free podcast for you. We are deeply grateful to our sponsors. You can support this show by going to the show notes and checking out our sponsors links.

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