Will AI Make the World Better or Worse?

https://mindmatters.ai/podcast/ep378

Announcer:

Greetings and welcome to Mind Matters News. This week, we're continuing our conversation with Dr. Donald Wunsch on his experiences with AI in his recent article in the IEEE Computational Intelligence Magazine about artificial general intelligence. This is the fourth part of our conversation with Dr. Wunsch, so if you've not listened to the earlier portions, I'd encourage you to do so. Now here's your host, Robert J. Marks.

Robert J. Marks:

Look, I wanted to change the topic. Well, let me just say it. If computers took over the world, would we even notice? Are we like the proverbial frog put in nice cool water and put on the stove and the water heats up gradually?

Donald Wunsch:

Yes, we are.

Robert J. Marks:

You make this provocative claim that computers could take over without being smarter than us. What do you mean by that?

Donald Wunsch:

Well, we all either know examples or believe we know examples of people who have taken over without being smarter than us, either at our local level or go up the chain. So people have these beliefs about people who have taken over. And of course, it's much easier for people to take over than computers to take over. But I would argue that computers have already taken over and we didn't even notice. So that relates to this nine of the top nine companies by market cap are AI companies. And several of these companies are inventing techniques to get people addicted to their products. And when people are addicted to their products, they buy more of those products, or they buy more of the computers that let them, say, play the games or whatever, or they buy more of the computers that will do the AI analysis that they need to solve their problems.

And so when they buy more of those computers, then they're creating a cycle. You can call it a virtuous cycle or a vicious cycle depending upon what your incentives are. But then they buy more of these products and then these companies have the resources to hire the best people, or they might later offload that work to a lot of algorithms to help them design better computers and better software and this cycle continues. And meanwhile, we get more excited about these products and these companies develop the power to influence policy, influence governments. And so nine of these top companies by market cap are AI companies but then remaining companies down the list, they're insuring these companies, they're doing the banking for these companies, they're providing the transportation for people to go and negotiate between the companies and market for the companies. So they're a major driver of the economy. And so it's arguable that the computers have already taken over. So I'm very much tongue in cheek, but I'm saying that this process can be self-perpetuating without any need for intelligent direction of the process.

Robert J. Marks:

I have a follow-up question. You write that we are dependent upon or addicted to computing infrastructure. Now, I'm old enough to remember the challenges of the initiation of television. Television in the 1950s was said to possibly ruin the future youth of America. MTV came on. MTV said they did all sorts of really interesting things, but parents says MTV is going to ruin our youth. And I think that gaming was that way also, that people said that our kids are just spending all their time on gaming. I will tell you that my nephews, my son's two boys are addicted to gaming and they're addicted to the internet and they have withdrawal symptoms. And I would like to point fingers and say, "Don't do that, but I've noticed that I have an addiction to the internet also." You take away my cell phone for a day or two, I suffer withdrawal symptoms. So is this different than things in the past when you say that we're dependent or addicted to computing infrastructure? Is this any different from some of these things that have happened in the past?

Donald Wunsch:

Yeah. I broke my cell phone in November and fortunately I broke it during the week of the Black Friday sales. So anyway, it was a Pixel 6 and I was holding out for next year for Pixel 11, but I got forced with my arms to get a Pixel 10, but I had to wait a week. It took me a couple of days to decide, and then I ordered it and I was close to my flight time, so I didn't have it shipped to Washington, D.C. where I was. I had shipped here. And so anyway, and I've still got apps that are not moved over yet and have to log in again and stuff like that. And so anyway, yeah, I get that and I agree with that. And I would say that I heard it attributed to Socrates. I don't know whether it was him or someone else, but there was somebody that was saying that writing was making us lazy and not memorizing things.

And it might've been Socrates because you might've seen my trope about Socrates. So Socrates was the founder of Western philosophy, the giant from whom the others came, absolutely brilliant, had observations that others didn't. He published nothing. They killed him. And then his best student was Plato. And I don't know where he did a lot himself, but he published everything he learned from Socrates. And so he became a household term and philosophy and even things named after him like Platonism, Platonics, stuff like that. And so he became really the founder of a school of thought as a result of him publishing well. Well, his best student was Aristotle, and Aristotle made Plato look like a piker by comparison. He published these massive tones with a lot of original contributions, very deep analysis of a lot of things, became the foundation of a lot of ideas in philosophy and theology and was eclipsed the things that went before him. And so then among his students was Anthony the Great who conquered the world.

Robert J. Marks:

Alexander.

Donald Wunsch:

Alexander the Great. Thanks for the correction. Yeah. Alexander the Great who conquered what was considered the known world of Western civilization at the time. And so I posted this on LinkedIn to follow my own advice, at least to record this idea for posterity. And I said, the moral of the story is publish or perish literally. And by the way, true or X is tautologically true. And so since we all will perish-

Robert J. Marks:

I don't understand what you mean true or X.

Donald Wunsch:

Okay. Just using binary logic, if you have a variable and you don't know where it's true or not and you have one, which is always true, and you have one or X, you'll always get one no matter the value of X. So publish or perish strictly using binary logic, it's guaranteed to be true because we will all perish. So a publish or perish is tautologically true. But of course when we use logic, we usually don't mean the binary sense of words. So we kind of mean don't publish implies perish is what we really mean. But still, anything implies true using just binary logic, that's true. So what we really mean is something very different. We mean some kind of modal logic. And I studied that. I got an A when I took the class. If I had to teach the class, I could get ready and by next summer I'd be ready to teach the class, but I won't pretend to pontificate about all the subtleties of the various types of logic that go beyond say propositional calculus.

They're out there, but we use something that is in some ways more subtle and in some ways more informal. So fuzzy logic, of course, very powerful contributor to that field, but there are other things, quantum logic, modal logic, all sorts of things that are out there. But anyway, that's another example. There's just deep dives that one can make in all these little narrow areas. And some of them are going to contribute to changes in the way that we use AI because the stuff that AI is built on, most of them are really pretty much a layup compared to the things that people have come up with that are out there. If you look at the proceedings of one of the main conferences, if you look at the journals, one of them that you helped create, one of the best ones that you helped create and so on.

And you look at the articles that are out there and the things that people have thought about and published about. And then you look at the tools that have been developed, there's a wealth of ideas that have not yet made their way into the practical tools and some of them deserve to be. And so there's enough work for you and me and our children and their children and their grandchildren to work on. And of course, the new ideas will be generated as well. So it's a very exciting time to work in AI. I don't think the field is going to be anywhere near milked out in the coming decades. I think that there are centuries of work ahead of us, exciting work for humans to do to advance the field of AI. And yes, the AI capabilities, every year, maybe every month, we will see new things checked off the list that we thought were only the purview of humans, but that will just cause us to realize more and more what the tremendous capabilities of humans and other animals are.

So I think on a cognitive brain level that your wife was right to love your dog because a dog has a cognitive and emotional processing component of its brain. I am quite confident from having owned a dog for about a decade that my dog, Rudy, who I had at the time that I was your student, that dog definitely had a sense of humor, no doubt about it.

Robert J. Marks:

I've never seen a dog with a sense of humor. How did it laugh?

Donald Wunsch:

Well, of course, it doesn't have the vocal capabilities that we have, but it had sort of a mischief type of humor. Actually, not too different from yours, by the way. You have a mischief, both of you, sense of humor as well.

Robert J. Marks:

Thank you. You're either thinking very, very highly about your dog or very lowly about me or a combination of the both.

Donald Wunsch:

No. Very, very highly of you and the dog for that matter. But I'll give you an example. I'm meowed at the dog. The dog cocked its head. It's so funny. But anyway, the cognitive emotional systems, there's a really interesting issue there because you could design AI to recognize emotions, things like micro expressions. Rosalind Picard of MIT, she was at the Georgia Tech at the time she wrote this. She wrote a book called Affective Computing, where affect is A-F-F-E-C-T. That's emotional topics. And so having computing that includes emotional recognition in what it senses and processes and analyzes and responds to, she was one of the founders of that field. And she got away from a pure emphasis on affective computing, got very interested in autism and ran with that. And she's one of the giants of the field too. And anyway, so there's a lot there.

And to say that an AI can feel emotion, I would not claim anything like that. To say that an AI can be developed, that will recognize emotions, process them, respond in ways that become increasingly appropriate to what's going on. And right now, that's very primitive. The AI will respond very similarly to a schizophrenic as it will respond to a normal person. And so there are hideous examples of that. But that's an example where animal intelligence is actually pretty far along, like our cat, and it's become our son's cat. But our cat will respond to the same mood differently depending on the person because the different people have different ways that they welcome or do not welcome the way that that cat would respond. And also, the cat has its own set of preferences too, so it responds differently to my son or to me or my wife.

And so I think the cat's a kindred spirit to my wife, had followed my wife home almost a mile or probably over a mile, and I think it recognized a similar personality and followed her home, but it responds very differently to all three of us. Anyway, the cognitive and emotional system is an area that deserves an enormous amount of AI research because you want these systems to interact appropriately with humans. And if they don't have a sophisticated ability to model and understand what they're sensing about us, then they will be very limited and their ability to be good partners or even good tools for us. So that area is an area that is getting attention but deserves a lot more attention. So you probably will see sometime in the next decade, if it doesn't already exist, a company that's just founded on that principle and just runs with that particular problem and comes up with better products along that dimension.

Robert J. Marks:

What dimension is that? Could you elaborate?

Donald Wunsch:

Cognitive and emotional processing.

Robert J. Marks:

I see.

Donald Wunsch:

So cognitive with emotional. So Grossberg calls it cognitive emotional system, but he's talking about cognition around the issues of emotion. And really, Grossberg views it as a tool to understand reinforcement learning. Engineers can say, "Hey, I can do reinforcement learning. I don't need to know anything about emotion. Give me a cos function. I'm off to the races." Right. And that's built on people like Paul Werbos, Richard Bellman. So certainly Andy Barto, Richard Sutton contributed a lot to that. Harry Hebb. Oh, well, Donald Hebb. Harry Klopf is one of them. Harry Klopf was one of the early ones.

He wrote a book called The Hedonistic Neuron. But anyway, a lot of fascinating stuff in the area of reinforcement learning.

Robert J. Marks:

But a lot of these things, Don, don't you believe that they're actually simulating as opposed to duplicating these processes?

Donald Wunsch:

Of course.

Robert J. Marks:

The idea is that if a computer, if we have an artificial nose, it might say there is an aroma whereas people says, "I smell an aroma." There is this qualia aspect that can't be duplicated by machines.

Donald Wunsch:

Well, so a machine may be able to deliver everything that we care about in terms of the qualia of sensation, but what the machine will not have is our lived experience, our embodied lived experience. So there are some people that are even attaching sensors and wearing the glasses with cameras in it and having microphones and trying to capture every moment so that they can feed that to a computer that learns from it. But still, one thing that one of my collaborators, we had an interesting NSF grant where we had a person from the bioengineering department at Georgia Tech, and he had a mouse brain lab where they would take sections of brain and do stuff. But he was pointing out that animals are sensor rich and they'll have an embarrassment of riches with sensors. They'll just have an overload of more sensors than you need for any given task.

And then their processing of what they do with that sensors in some cases might be relatively simple, especially when you think about what is done, not only with insects but let's say with reptiles and lower mammals, what they can do with... I think even the smallest mammals have pretty sophisticated brains actually, but what they can do with a lot fewer neurons than we bring to the table is just amazing, and the sensor richness is part of that. And so if something is disgusting or deadly or something is irresistibly enticing for certain age of animal pheromones or for most animals of food odor, so there's a lot that can be done in the field of olfaction that connects to various types of processing that an AI system might be able to recognize and classify. But you're right, if it only cares about pheromones or food as a cognitive concept, then it's lived experience, so to speak.

They're not a living creature, but its experience of those things is still dramatically divorced from our experience of that. Right. These are things that we would live or die for and that the AI is just another input and another piece of the cos function. And you could raise the value of the cos function, but if you lowered the value of cost function, it would happily march along and do whatever it's doing with it. And so a human might deliberately lower the value of the cost function of a food or a pheromone just because of some life decision they made, but it would not be the same. It would not be the same.

Robert J. Marks:

Right. You mentioned the idea of the mouse brain. I maintain that the human brain is more than a computer made out of meat, that there are things that the brain can do, which are non-algorithmic and computers are limited to algorithmic processes, but that doesn't limit the idea of generating, if you will, brains that are able to duplicate the non-algorithmic thing. Have you ever thought about the idea of

growing a human brain like on a pig? I mean, they grow different organs on a pig like livers and things of that sort. I don't know if it's livers but different organs. And I did talk to a guy that does this and I asked him, "Can you actually grow a human brain on a pig?" And he says, "Oh yeah." I'm just wondering if there's a way that we could tap into the extraordinary powers of the human brain in order to go to the next generation of AI and have that meat computer do things that AI can't do.

And as you mentioned, the cost is just prohibitive currently with AI. If we got meat computers and we're able to do something with that, maybe the cost would go down. Any thoughts on that?

Donald Wunsch:

Well, I think that it might not have been Noel Sharkey. You remember that guy?

Robert J. Marks:

No.

Donald Wunsch:

Something like Sharkey was his name.

Robert J. Marks:

Are you thinking of Richard Starkey, better known as Ringo Starr of The Beatles?

Donald Wunsch:

No, I'm thinking of a guy who was on the Neural Network Council for a while. I think that was the person. He was either doing it or he was talking about it, but there were people that would insert electrodes into the skull of a cockroach, or I don't know where they have a skull, into the exoskeleton and down into the brain of a cockroach. And they would have joystick controllers and they would find the pleasure center of the cockroach and then they could stimulate either the pleasure or the pain and they would teach the cockroaches to do whatever they did so that they can control it with a joystick and they can make the cockroach run down a maze. And you can buy kits now to do this. So you could literally buy a kit to, okay, here's how you put the electrodes into the cockroach and here's where you can order the living cockroaches and you...

Robert J. Marks:

Don, this is great. I've always wondered if there was a use for the cockroaches around my house. This is good news.

Donald Wunsch:

So anyway, they started doing this in the '90s or maybe the late '80s, but this is now... Literally, you could Google it, you could find kits that enable you to make these. And so the stuff with pigs, what I would say is that there is a major ethical issue about chimera, so like genetic engineering of animals to have human capabilities along with the animal capabilities. And if you stay away from brains, for example, if you could have a pig genetically engineered to where it would grow a human heart for heart transplant patients, that might be a very good thing. But if you genetically engineered it to grow a human brain, there's ethical problems with that.

But the fact of the matter is things like pigs and bears, dolphins, they have pretty advanced brains. And so there would be things that could be done that have their own set of ethical problems, not as serious

as anything when you start getting involved with human organs, including brains. But still like if a pig brain were just a tool to replace a supercomputer, if that solved major human diseases, would that be worth the issues of like vivisection of a pig. The People for Ethical Treatment of Animals would say it's absolutely not worth it. And on the other hand, somebody who's suffering from a disease might say that it's easily worth it.

So I don't know the answers to all that, but I do think that there are things that we can learn from biological systems. And there are people who have played with interfacing biological systems with electronic systems. There are people who've done that. I think that you'll definitely find papers where people have said, "All right, we've got these electrodes and we've got neurons on its chip and we can have the neurons on the chip talk to the electrodes and make some computations." And one could advance that line of research considerably. And I would be surprised if there was not a lot of progress on this, even if they're not as a tool, for example, for Parkinson's research. You may be able to induce Parkinson's in certain animals and then research about how the signal from a brain to a muscle might get mediated and so forth. So there's certainly a lot that could be explored in that.

Robert J. Marks:

Yeah, this is an interesting idea of using brains instead of silicon. I think I mentioned Niels Bohr say forecasting is dangerous, especially if it's about the future. At the end of World War II, if you were to ask what is the future of electronics, what do we need to do, they would concentrate on the vacuum tube. They would say, "We need better vacuums, we need better filaments," and not realizing what was happening in the future with the advent of semiconductors. And currently, all of the approaches that we have for artificial intelligence have been due to human intellect. If you look at the milestones, for example, you mentioned Hebb, I think in the late 40s, neurons that wire together fire together and-

... McCulloch-Pitts neuron, and then eventually Bernie Widrow's ADALINE, Paul Wurbos with back propagation, and that was popularized by the PDP books and Rumelhart.

Donald Wunsch:

Rumelhart, Hinton and McClelland, yeah.

Robert J. Marks:

Then we had convolutional neural networks, which was an incredible breakthrough. We had GANS, generative adversarial networks, and then diffusion for deepfakes. Then we had the transformer, which has resulted in all of the large language models that we have today. So I guess the question that I have is, what will be the next step? And will it be something that kind of derails where we think AI is going? Maybe if we were able to harness the power of the brain directly and have, if you will, carbon computing instead of silicon computing, maybe that would not make necessary all of the big energy plants that are being required. We just don't know what's going to happen. And this is going to happen with the human intellect. There has to be a human coming up with a new breakthrough in the idea of what we can do with computers, be they carbon or silicon.

Donald Wunsch:

That's true. I would also say that the engineering of breakthroughs that have already been accomplished but not yet reduced to practice have a very good potential to be something that would yield a breakthrough in AI. So there are neural network models that may deliver great results if they're scaled up. There's ideas in quantum computing that with a little more push might come through. There's just a number of things. I think that breakthroughs in embedded systems may be worth a lot. So like throwing

a lot of memory at a problem, that has a lot of potential because memristors, they can stay in a memory state without using power for a long time. And then you use power to, of course, query them in your memory state, but that has the potential to be extremely important in embedded computing.

And so for example, one thing when I read Stan Williams' paper, the missing memristor found, there were half a dozen authors on that. He was talking about the work in the '70s by Leon Chua saying that there is such a thing as a memristor and that it was like a fourth basic circuit component. And then the Stan Williams article and Stan Williams still continues to do fascinating work, so does Leon Chua, by the way, when I was talking about pioneers that are still with us. One thing that popped into my mind immediately was, well, if you could imbue in something like paint, a little bit of memory and a little something, maybe not in every particle of paint, but something that could detect a wireless signal, it would be great to have paint particles that you could click a remote control and change the color or the pattern on the paint. That maybe you can already get TV monitors that are way cheaper than they used to be that are the size-

Robert J. Marks:

Gotcha.

Donald Wunsch:

... of the wall. Right. But imagine that if that were even another order of magnitude cheaper so that the whole wall, you could have anything that you wanted on the whole wall and you just were painting the display on the wall and then you could control it with your remote, much like you do with a big TV. And it might have nothing to do with the technology tools that I mentioned. It might be something completely different, but the idea that this is part of the idea of Internet of Things, but it's intelligent Internet of Things.

Robert J. Marks:

Gotcha

Donald Wunsch:

And so if the objects that you regularly use have even a tiny bit of machine learning and memory built into them, then even a very subtle intelligence could make a pretty big difference. You could have pill boxes that know whether they have been opened yet. You could have sensors that tell you whether the food in your fridge is spoiled or a food that you've got out needs to be put in the fridge or all sorts of things you could have. And it might be just a timing signal. It might be an old faction signal. It might be a camera in the room that identifies everything that you have in the room. And then there's something that sends a signal to your phone saying, "Hey, you left that on the table too long," or, "Hey, your dog jumped on the table to eat that food."

Robert J. Marks:

Yeah. I'm aware of a company. The CEO is a guy named David Copps. We did an interview with him and that's what he said. We've exhausted a lot of the pros, the corpus of pros that's available to train large language models. So what he's doing is concentrating on images to learn more in terms of transformer models. And so yeah, you're exactly right. I think that that would be a lot of fun. Let me ask you a question. AI is a revolution. It is changing. It is having an impact. It's going to be very disruptive, but I think it's going to make our lives a lot better, give us a lot more free time just like other technology has done. Great technology frees us up to do extra things. And so that's true of the Industrial Revolution. I

mean, my great-grandparents spent a lot of time in their garden hoeing out weeds and things of that sort, clearing stumps in order that they could get a garden.

And of course, you don't need that anymore because of the different industrial revolutions that have happened. Is AI comparable to past industrial revolutions?

Donald Wunsch:

Yes, but I think it's even more important. So there I'm with Eric Schmidt. Eric Schmidt and Henry Kissinger and one other person wrote a book I read recently. I wish I remembered the name of it. It sounds like you're familiar with it. I recommend that book. I don't agree with everything in the book, but I think that it is a very well-written treatment and it covers some of the history of investment in human learning and education and the implications of AI for that trajectory. Anyway, I think that it's really remarkable. And one thing that it makes the case for is democratizing access to something important. And so that book talks about the Gutenberg Press, which of course is used for printing Bibles among other things. And particularly it emphasized the importance of the Gutenberg Bible because before literacy was widespread, then you would have people saying, "It has written this."

And well, if they can read and you can't, you just kind of go, "Okay, it's written this." And then as it becomes more widespread to have access to reading, that was actually pretty disruptive. And so the various technologies that have come along have continued that path to disruption. And so AI is a force that can do both. So I'll give you an example of this.

Robert J. Marks:

Well, before you do that, let's go to ChatGPT and say, what was the book on artificial intelligence written by Henry Kissinger? Because neither one of us knew what it was. We didn't have the memory to do it. So ChatGPT is thinking now. Oh, he wrote two books, The Age of AI in Our Human Future in 2021 and Genesis, Artificial Intelligence, Hope and the Human Spirit. I'm not sure which one you were talking about. I think it was probably...

Donald Wunsch:

Does it show the co-authors, Eric Schmidt as well?

Robert J. Marks:

Yeah. The co-authors of the first one were Eric Schmidt and Daniel Huttenlocher.

Donald Wunsch:

I think that's the one I'm thinking of. And the other one.

Robert J. Marks:

The other one was Eric Schmidt and Craig Mundie.

Donald Wunsch:

Okay. I don't know which one I read. I read it. I liked it.

Robert J. Marks:

Okay. Well, at least we have two possibilities for the listener. Yeah. Kissinger wrote a couple of books. Okay, go ahead.

Donald Wunsch:

Yeah. So one thing that I was going to give an example is back to the concept of paradox. So I would say that AI has this paradoxical, both lowering and raising of barriers for ordinary humans to do things. So for example, a lowering of the barrier is that AI can help people code software at above the level of ability that they would have without the help of AI. Now these tools right now are not that good. I was talking before about AI making promises and then not keeping those promises and even lying to you that said I developed this and it didn't and there was nothing in there. These were pretty sophisticated AI coding tools. This was like this year. This was not in the past two months, but it was 2025. And these AI tools by one of the major companies was literally lying about that it developed this subunit that was doing the things it was told to, and it just was a pass-through box that did nothing.

And so that's a good example of artificial specific stupidity released by one of these trillion dollar companies. But on the other hand, these tools are very capable. If you wanted to develop a game interface to play your favorite game, and so particularly a two player game where it's just so that you and I could play a game of Go or chess over the internet, these tools could do a pretty good job of that without making a lot of the mistakes that I just mentioned. So it's lowering a barrier of entry because I don't know about you, but it'd take me a long time to program something like that. I'd have to relearn stuff in classes that, yeah, when I took the class, I got an A, but I never had to do it for a living kind of thing. And so I would not be that good at a task like that.

And these tools are better than me at doing something like that. But so on one hand, it's lowering a barrier and it's opening accessibility to a large range of people. So there's people who never took the class and never got the A, who can do some contributions in areas where just five years ago, forget it, wasn't possible. But you might remember when Robert F. Kennedy announced his campaign for president of the United States, and he said that he might pick either Jesse Ventura or Aaron Rodgers for his vice presidential candidate.

Robert J. Marks:

Jesse the Body Ventura, the professional wrestler.

Donald Wunsch:

Or Aaron Rodgers. And so anyway, I decided to make a little joke. And so I told one of the AI tools, "Please generate a picture of the New York Jets offensive line with earpieces and dark glasses and Secret Service paraphernalia, including Uzis. Give me some examples." And it refused to do it. It said, "No, you're violating the standards." And so I took out the Uzis and then it did it. But one of the images was pretty funny and I did wind up posting that image just to see whether people laughed at it or not. But there was one image that showed a young woman. She was clearly an athletic young woman, but she was probably about at most 120 pounds and very attractive young woman dressed like a Jets offensive line person. I'm not athletic at all, but I weigh about 220 pounds and most of my strength is in my legs.

If she's the only thing preventing me from sacking Aaron Rodgers and I didn't have any gentlemanly politeness, I'm sacking her and Rodgers. So the thing is that there were famous examples where other mistakes were made, where one of these systems to generate images was asked to show presidents of the US from the 1800s, and they had people of genders and ethnicities that were not representative of presidents from the 1800s. They made all sorts of mistakes.

Later, I asked a different tool and it had no problem with the Uzis. It was showing people with Uzis, but it was making other mistakes. It wasn't at all like the image intended did the joke. But so for example, if I had the resources of one of these companies, I could just say, "Turn off that filter. I want you to make this image. There's nothing illegal about the image, nothing immoral about the image. And so you have filters that don't let me make that image, but you're wrong. And so you turn off those filters for me so that I can make the image that I have in mind." So there are entities that control our freedom of expression because they control the tools of expression, and so they limit our freedom of expression by their control of those tools. So AI technologies are both increasing our ability to do things that we would like to do, and they're also constraining our ability to do things that we would like to do.

And there are people and companies that are controlling these processes, and they differ. So one piece of the puzzle that I agree with is LeCun position that open source is a great antidote to this, that having open source AI software prevents you from getting a monopoly among big companies and governments over AI capabilities, that if entities, at least some of the entities that are good at developing these tools at scale are also releasing the tools, then others will be able to leverage the tools and will have more cross-fertilization of the ideas but furthermore more freedoms related to AI systems. But there are also dangers in that idea because some of these AI tools can be used in nefarious ways. And so LeCun is an optimist about this. He's saying that, yes, we have good and evil in our drives and in what things that we try to do as technology is made available to us, but that overall the trends are positive.

Another person that writes about this is Jordan Peterson and there are some others. There's a Harvard professor, Steven Pinker, who writes about this. And so as an eternal optimist, I like to believe these ideas, and I do think that we're flawed and followed and need the forgiveness of God and the help of God to become better versions of ourselves. I also think that there are tools that we've been blessed with the ability to discover, whether it's AI or nuclear energy that we can use to solve our problems and make the world a better place or that we can use to destroy the world. And I think that we have a stark choice. We must either do the former or sucked into the latter. I think that's true with nuclear energy and with AI.

Robert J. Marks:

This is the topic I want to address in our next section. So let me just remind people that we're talking to Donald Wunsch. He's an award-winning professor. He's a Mary Kay Finley Missouri Distinguished Professor of Electrical and Computer Engineering at Missouri University of Science and Technology, where he is the director of the Kummer Institute for Artificial Intelligence and Autonomous Systems. And he wrote a paper called Artificial General Intelligence is Nowhere Near Artificial Specific Stupidity Is Already Here and then Policy Implications is the final part of the title.

Announcer:

That's it for this week. We'll be back soon with more from Dr. Donald Wunsch. Until then, be of good cheer.

This has been Mind Matters News with your host, Robert J. Marx. Explore more at mindmatters.ai. That's mindmatters.ai. Mind Matters News is directed and edited by Austin Egbert. The opinions expressed on this program are solely those of the speakers.