

**Courage My Friends Podcast Series IX – Episode 6**  
**The AI Hype-Machine: Canada’s Ill-Advised “National Sprint” on Artificial Intelligence**

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*Needs No Introduction* is a rabble podcast network show that serves up a series of speeches, interviews and lectures from the finest minds of our time

**RESH:** What exactly is artificial intelligence? And exactly how intelligent is it? How should we understand Canada’s rapid acceleration on AI development and why are civil society groups mobilizing against it? Is this digital progress or digital colonialism? When it comes to AI, what’s the hype and what’s the reality for our jobs, our rights, our democracy and our planet? And is it here to stay?

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In the words of the great Tommy Douglas...

**TOMMY (Actor):** Courage my friends, 'tis not too late to build a better world

**COURAGE MY FRIENDS ANNOUNCER:** This is the Courage My Friends Podcast.

**RESH:** Welcome to Episode 6, *The AI Hype-Machine: Canada’s Ill-Advised “National Sprint” on Artificial Intelligence*.

I’m your host Resh Budhu.

In episode six we welcome Impact Strategist with Animikii Indigenous Technology, Jeff Doctor, Senior Researcher with the Canadian Centre for Policy Alternatives, Hadrian Mertins-Kirkwood and Technology and Human Rights lawyer with Tekhnos Law and Senior Fellow with The Citizen Lab, Cynthia Khoo. We discuss Canada’s accelerated approach to artificial intelligence and the mobilization of civil society groups against it, the multiple impacts of largely unregulated AI on people, planet and democracy, Indigenous perspectives on data sovereignty and digital colonialism and the meaning of AI beyond the hype.

**RESH:** Cynthia, Jeff and Hadrian, welcome. Thanks so much for joining us. Cynthia, you are currently a senior fellow with the Citizen Lab, tell us about that.

**CYNTHIA:** Sure. Thanks so much for having me. So I’m here under two hats. One is Senior Fellow at The Citizen Lab, where I conduct academic research and legal analysis of the human rights and civil liberties implications of new technologies and proposed laws to regulate them, artificial intelligence and automated decision-making, being one example of that.

Separately, I'm also a technology and human rights lawyer at Tekhnos Law, which is a sole practice law firm focused on advancing technology justice for historically marginalized groups.

**RESH:** Lovely. Thank you. And Hadrian, you are a senior policy analyst with the Canadian Center for Policy Alternatives. So tell us about your work.

**HADRIAN:** That's right. Hi. Thanks for having me. Yeah, the CCPA, we're a nonpartisan public policy research institute, so we work on all sorts of public policy areas from a social, economic and environmental justice perspective. I spent a lot of years working on climate and industrial policy. And AI has sort of fallen into my plate, as it has for many of us. It's tentacles reach very wide. So it's an issue that we're increasingly trying to get our heads around as well.

**RESH:** Thank you. And Jeff, you are an impact strategist with Animikii. Tell us about your work.

**JEFF:** Sgé:nq? swagwegóh! Jeff Doctor ní? gyá:sqh. (greetings, my name is Jeff Doctor). Hi, I am Jeff Doctor. I'm a Cayuga Nation citizen from Six Nations of the Grand River Territory. As you said, I'm an impact strategist and that's just kind of a fancy way of saying that I think through the social impacts of technology. So Animikii as an Indigenous tech company, we build web applications pretty much exclusively for Indigenous Peoples, but not always. This is governments, this could be organizations, this could be nonprofits. And our focus is understanding how can we ultimately build tech that is supporting the rights of our partners and Indigenous Peoples as a whole. And as such, things like every new hype cycle in tech, we often get lots of questions about whatever is the talking point of the day.

And today that is so-called artificial intelligence. Yeah, I've got a lot to say on that particular issue in regards to Indigenous Peoples, but not just only us. So yeah, that's about where I'm coming from.

**RESH:** So I'm gonna ask you, because AI or artificial intelligence has been in development for decades, but it's really only in the last few years it's become such a pervasive presence in all of our lives. We're sort of the guinea pig generation, right? We're using it more and more, even when we don't quite understand its full implications and many of us just don't understand what it is at all. So, Jeff, get us started. What is AI?

**JEFF:** The funny thing is, is there's as many answers to that as you want there to be, because in my opinion, I think it is a largely a branding strategy.

So, the way things often work in tech, especially in modern Silicon Valley based technology that's largely field through speculation and through this idea of making something that will create some sort of future impact that will "change the world" or all this kind of like innovation framework.

So in this current iteration of this hype cycle, this thing called artificial intelligence has a very long history of a bundle of technologies that has fallen under this kind of brand. But as this brand, it can kind of mean almost whatever anyone wants to mean. And unfortunately in the last couple years, largely through something called Large Language Model Generative AI and that particular branch of technologies, has taken up the whole conversation in terms of really what all these things are.

My short answer is it depends because you could be dealing with something like Open AI or ChatGPT, which is basically a way to take a whole bunch of data and create kind of like a statistical average on what the algorithm will determine the output would be and then spit it out.

**JEFF:** I have so many frustrations as someone who works in tech to basically build things, where something like defining what exactly it is that you are not only trying to do, but what the output is is super duper important. And right now we're in this almost like delusional environment where you just attach this label of AI to whatever mundane existing thing that is out there and somehow like the speculative nature, the valuation of it just grows exponentially. Whereas what the actual thing is often very mundane, whether this be predictive algorithms, whether this be any kind of pattern recognition stuff, whether this be stuff that just involves standard automation that has been around forever. But you slap this brand of "AI" on it and it invokes just so many things that are just so deeply problematic from the notion of intelligence itself has a very deep and problematic history.

But this idea that by just throwing enough computes through this like magic bean of whatever tech stack that you're using and then calling it AI and then assuming that it's gonna create some sort of like machine God, it's just absurd to me.

**CYNTHIA:** I completely agree with Jeff that it is a marketing term. Artificial Intelligence or AI it's used to add mystique around the technologies and increase hype so that people who are credulous about it don't really question what's under the hood too closely.

And the reason that people are able to do this with the term is because it's inherently unstable. The definition of AI is inherently a moving target. Because what artificial intelligence is, it means when a computer is able to complete a task that was previously considered something only a human could do.

So it's inherently relational, where before we thought only humans could calculate numbers, and then now we have calculators. And so at one point that was considered artificial intelligence, but now it's no longer.

And so I constantly think of when this question comes up, something that Professor Maura Grossman, who is a computer science professor at the University of Waterloo, said at a conference once, which has stuck with me ever since, that we only call it artificial intelligence when it's new. Once we get used to it, it's just software.

**RESH:** Interesting. Okay. So again, there are so many complexities and we're going to get into it, but again when people are using like ChatGPT or any of these chat bots and those types of things, there's the feeling that, oh, it's a program that can reason and can think, but it's not really that because it's not intelligent in any way.

Right. It doesn't have reason.

**CYNTHIA:** Absolutely.

**RESH:** It just has patterns. So it doesn't reason, it patterns.

**CYNTHIA:** Exactly. People have referred to it as "fancy auto complete". And that's essentially what it is. Because it looks so convincing, it looks like a human has written it, people get those wires crossed in their heads and they think, well, it must have some sort of emotional reasoning or intelligence. Because I'm so used to anything that looks like this in the entirety of the rest of my life experience has had all of this intelligence and reasoning behind it.

I was trying to think of metaphor analogy for what's actually happening. And you know those refrigerator word magnets? Mm-hmm. Where people make like silly poems on their fridge and stuff. Yeah. It's as if you had dumped out a box of those, put them all upside down on the table and then someone asked you to create a sentence from them, but you weren't able to actually look at each word. You couldn't flip over each magnet. They would just tell you which little black magnet was statistically chosen to appear next. There's this whole token process that's probably too much to go into here. But statistically you choose, okay, what's the next one? What's the next one? What's the next one? Regardless of what's actually on the magnet, and that's what's happening, but just at scale when it comes to large language models.

**RESH:** Okay? So thank you for that definition and that opening. And again, it feeds on an enormous amount of data, which we will get into.

Now, Canada was actually the first country to establish a national AI strategy in 2017, the Pan-Canadian Artificial Intelligence Strategy. And recently we've seen significant investments in AI development, \$2.4 billion last year under the Trudeau administration, the Carney government now promising an additional \$1 billion over the next five years.

Hadrian talk about AI as a national priority and why the acceleration on AI development now?

**HADRIAN:** It, it is absolutely a big acceleration. I mean, when we talk about AI just to build on what Jeff and Cynthia were saying, I try to make a distinction between AI in the abstract because as Jeff points out, that can mean anything. And I talk about the AI moment we're living through. Because there's definitely a distinct moment

that's happening right now. A particular hype cycle, a particular push to adopt this current, you know, iteration of artificial intelligence, whatever that means.

The way the federal government has approached it has been very, what they would call innovation focused. Or another way to put that is very corporate focused.

How can we build up the AI industry in Canada? How can we make sure the private sector and increasingly the public sector is adopting AI and using AI in their processes? That's been almost the entirety of the conversation. There's been very little conversation coming out of the federal government or any government in Canada around social consequences or environmental consequences or data rights and data sovereignty for people. You know, there's all sorts of dimensions to this AI moment that we're not really discussing.

The question is why are we doing it? And that's a really interesting one.

The way that the federal government in particular talks about AI is frankly very ideological. And by that I mean it's AI for its own sake. And you can see that in the way that our new AI Minister talks about it. The way our Prime Minister talks about it is, we want AI in the public service. We want AI in the private sector. We wanna be part of this AI race or winning this AI race.

And what we don't hear is why. What is the problem we're trying to solve? Which is not to say that there is no role for AI. But typically you have a problem and you try and solve it using technology. And this is a case of us going the other way. We're just caught up in this AI moment. We need to adopt it for its own sake, independent of what that actually means. Whether it's actually benefiting people, whether it's actually increasing productivity or whatever other measure you care about. We're just kind of rushing without having a clear sense of where we're going.

**RESH:** Right. And the government plans to embed AI, as you say, more deeply in government and other sectors.

We've got the new Ministry of Artificial Intelligence and Digital Innovation that is under Minister Evan Solomon.

And what's interesting, just going back to you, Jeff, is that when Evan Solomon was recently talking about it, he said that "Canada will move away from over-indexing on warnings and regulations".

So could you talk a bit more about what that means?

**JEFF:** I almost think AI is an excuse. These days I'm using just as a shorthand magic beans. Like in my head, every time anyone says the word AI, I just literally like auto correct it to magic beans and see if the sentence still fits.

And in so many cases, it is not only just an excuse by people who just have zero understanding of what this technology actually does.

I'm trained as a sociologist and my focus now is thinking through very carefully about the impacts of anything that we generate through software. And as such, like this moment of any of this bundle of technology into the brand of AI which is not only like a complete violation of so many things that you're trained to do as a sociologist through just basic stats like 101 going all the way back to the concept of garbage in, garbage out then to the notion of why are you building something? What is the impact of it gonna be? What's the consequences of gonna be? How do you show, improve your work, so to speak,

**RESH:** and who benefits something?

**JEFF:** And also who's impacted, whose harmed?

Anytime you have any kind of technological intervention, you always have to consider the externalities of the things that you're creating. Because ultimately you are setting into motion things that might not have been there in the first place. And that has consequences.

And I do feel that in this moment where a lot of things that this particular government has wanted to get through, there's things that are convenient excuses. And something like AI is it's a convenient excuse because it creates this potential for this kind of like magical future where only if you give us the magic beans all your wishes will come true, but you gotta give us all the money for the magic beans, right. But at the same time, what does that magic bean require? In this case, it requires an ungodly amount of computes. Not because the technologies actually require that. If you understand anything about specifically large language model, generative AI in particular, it doesn't actually need more and more and more and more compute.

It doesn't need more and more and more data centers. You just can't throw more math at this problem and have somehow it turn into a machine. God. That is delusional.

**RESH:** Right. And Deep Seek sort of proved that,

**JEFF:** yeah.

**RESH:** When it came out over the summer.

Now civil society, civil liberties, and human rights groups and individuals, including all of you have signed an open letter objecting to the government's so-called "National Sprint" consultation on its AI strategy.

Cynthia, what was the consultation and why the collective rejection?

**CYNTHIA:** Sure. So it's something that represents the views of a lot of people across Canada who are field experts, who are knowledgeable about AI technology, human rights, and how they all interact with each other.

So what this consultation was, the AI Minister Evan Solomon established what they called a 30-day national sprint, where if you had thoughts on AI on what Canada's so-called national strategy on AI should be, you had between October 1st and October 31st, so I guess technically 31 days, to submit your comments and to complete a survey that they had set up. All of which would ostensibly be reviewed by an AI Task Force that they had also set up at the same time, and then feed into a national strategy that I think they said they wanted to push out by the end of the year.

And we, as in people who are familiar with this field and topic, and I've been working on it for many years, we're kind of appalled because as we've indicated, all three of us on this call so far and I think people can generally tell, AI has spread through so many spheres of society. It's not just a tech issue anymore, it's a whatever issue you care about that is kind of now an AI issue because of how sprawling it is and how people are trying to force AI into everything.

And so with all the harms, all the complexities, all the nuances that we know have to be addressed, to have only 30 days on maybe, what was it a week's notice, with understaffed, under-resourced NGOs who are already fighting fires on a million different fronts. So that was the first thing, no time for people with under-resourced capacity, just was not a serious approach to the topic.

The second thing is that when you looked at the survey, it had extremely leading language. It was entirely biased towards industry. And seemed to skip completely over the question of, Should we do this? directly to How do we do this?

And one particularly ridiculous point was they acknowledged the existence of NGOs, but assumed that the only possible human rights or public interest perspective was from that of privacy rights. So they assumed that if you were an NGO, you were a privacy advocacy NGO. No other rights or interest were even contemplated in the survey.

And then the third issue is that if you look at the composition of this Task Force that's supposed to review these submissions and create the national strategy, it is incredibly biased towards industry or industry friendly appointees, and many people have commented on this. And so when you just look at it as a whole, especially compared to how some of our peer jurisdictions have approached AI. So for example, looking at the EU AI Act, which is a huge piece of comprehensive legislation or even looking at from several years ago, the United States blueprint for an AI Bill of Rights, both of those things involved massive amounts of consultation, thought and deliberation.

And so when you put that beside this 30-day sprint with leading language and incredibly narrow scoping from our government, it's frankly, kind of embarrassing.

And just shows that they're not really taking seriously the harms, not even theoretical harms, but empirically demonstrated over the course of years harms of AI and what's really at stake for everyone across the country.

**RESH:** Right. And getting to what you're saying, they described it as a "contrived urgency" and "a facade for manufacturing consent for a harmful and preordained agenda". And the letter is have three calls that they're calling for instead. Could you quickly tell us what those three calls are?

**CYNTHIA:** Sure. The first one is to address the capacity point about extending the deadline to February 2nd. And honestly, that might even have been too close a deadline, given what's at stake and the amount of work that has to go in. Because clearly we have to do that work for the government since it doesn't seem like they're going to be doing it for themselves.

The second call was to rewrite the survey into something that was more appropriate, that was less leading, less biased, and would actually open up the framing to address the incredibly wide range of issues that could be addressed with AI, particularly with respect to human rights, civil liberties and vulnerable and historically marginalized groups.

And then the third call to action was to reconstitute the task force. So we know, for example, that at the last minute they added a labor representative, which was great, but that shouldn't have been a last minute thing. And it shouldn't have been because there was an extra meeting. And it, should have been something that was built in from the start.

And that's the case for all the most impacted groups who are set up to be the most harmed or have already been the most harmed by AI, appear to be the least represented on the task force. And so that right there seems to be a fatal flaw.

**RESH:** Right. And we're gonna get more into the impacts on different communities and in different areas.

But before we do, as Hadrian was saying, Canada has defined four core areas of AI development. Scaling up domestic firms to compete globally. Adoption or incentivizing AI uptake by business large, small, and medium. Building public trust, so trust by protecting data and privacy. And sovereignty, Canada's control and ownership of its AI infrastructure.

Jeff, you have a lot to say about this, this concept of data sovereignty and Canada's data sovereignty and AI sovereignty.

**JEFF:** I got into my current role of where I'm at through the lens of what we call as Indigenous Peoples Indigenous Data Sovereignty.

And where I come from was quite literally like digging a hole in the ground to find where infrastructure was because the way that the infrastructure was recorded was just basically in somebody's brain. And you had to map it, you had to digitize it. You had to basically create those records. And my family was responsible for that because of the long history of the Indian Act.

I don't have time to get into all that today. But basically the gist is that as Indigenous Peoples under colonization, not only are we very familiar with the concepts of sovereignty and having that sovereignty not necessarily respected, we also have a very long history of our data being used against us, instead of ultimately for us.

And so the Indigenous Data Sovereignty Movement really took hold around 2015. But it's not like it's anything new. It's just this is a particular kind of term that has coalesced and that we're all kind of using together. But Indigenous Peoples have always been sovereign entities that have managed their data. It just hasn't necessarily looked like the data that we all talk about today.

So these kind of discussions that we've had, and we thought very carefully through, through generations, about what does it mean to have our sovereignty not respected and how do we use data for governance, but also how do we govern our data? These are very old conversations that people that don't even care about anything digital are still talking about.

And in the last year or so, the moment that Trump says Boo and then Canadians jump in panic, I'm kind of losing my mind. Because one of the most annoying things for me as an Indigenous person working in tech, I go to a tech conference and everyone starts with the land acknowledgement. Usually they get the nation's wrong or the pronunciation's horrible. Or it's kind of insulting. And then it's not even like recognizing that there might even be representatives from those very "communities" there being acknowledged like in the audience.

And then after that, it just launches into this notion of Canadian sovereignty, Canadian sovereignty, Canada Canada Canada without understanding or respecting that, one, not all Indigenous Peoples see themselves as Canadian. And two, what does that actually mean in terms of what happens if Canadian sovereignty assumes the elimination of Indigenous sovereignty?

And that kind of giant elephant in the room is always super duper awkward because now a lot of Canadians are suddenly conscious of their own sovereignty supposedly being under threat by the Americans, without quite understanding that that's nothing new. Canada's always been a junior partner to American imperialism.

And at the same time, what does that ultimately mean for the Indigenous Peoples who are also threatened by notions of Canadian sovereignty. And now the adding in the digital component is again, super duper frustrating because so many of these conversations, and this isn't by like necessarily horrible people, this could be just well-meaning people that are almost trained to kind of forget that Indigenous Peoples

are still here. That we still have rights, that we still exist as sovereign peoples. It's just that sovereignty may not necessarily always be respected.

And so I guess the question I throw back is, what does Canadian sovereignty, much less Canadian digital sovereignty or whatever kind of moniker you add in, what does that actually mean to the Indigenous Peoples of these lands that don't see themselves as Canadian, that have never seen themselves as Canadian, that might not want to be Canadian?

Obviously I'm not speaking for all Indigenous Peoples because there are some Indigenous Peoples and people as individuals who do want to be Canadian. And we also have to make space for that too. So it's very complex in the sense that we're often treated as this monolithic, oh, all Indigenous people are the same. And it's just like, no, not at all. So it gets very complicated in terms of which Indigenous Peoples? And then what is that particular political trajectory sometimes in opposition with Canada or in competition with Canada or basically being oppressed by Canada.

So for me, this current moment of like nation-building and this extreme rhetoric of Canadian nationalism, even by like progressive and well-minded people, often forget that there's still underlying contradiction in Canada that claims to be this progressive place, but still is ultimately built on Indigenous dispossession. Again, we're still here, so I'm sitting there in the room being like, hi, I too understand all of these things and what's going on?

**RESH:** And again, this extends into digital exceptionalism as you write about on your blog and digital colonialism, and we'll get more into that as well.

Artificial intelligence feeds on massive amounts of data.

Hadrian talk about this and where is the data coming from?

**HADRIAN:** Well, the data comes from everywhere. We really live in a sort of data economy at this point. So every single interaction we have on the internet, on many of our devices that is producing data that is collected by whoever's operating that device or operating that service, it could be social media, it could be our emails. It could be, you know, Apple tracking, how long we look at apps, like everything is turned into data. Anytime we use services like Google Maps, us driving around is feeding data into that system and so on. So, all of that data is collected from what we do.

We also have AI, in particular, the way they train these models is feeding on all sorts of published data. So anything that's been written and published on the internet is being collected and processed to train these models. So that includes like every single book, every digitized, all sorts of stuff. So not just user interaction, but just content. Every piece of digital content out there is being turned into this data.

But then there's also this whole universe of labor that is specifically producing data.

So we think of this AI as being these fancy robots. I always laugh when we see articles about AI and it's this like sanitized robot in like an abstract space. And you know that's AI and it's like, no, it's not. It's data centers and it's people. And so a lot of how AI is trained is the model produces a variety of outputs and then you have actual humans reviewing those outputs, moderating those outputs or tagging content for the AI to process in its training and so on. So there's a whole bunch of human labour involved in processing this data.

But yeah, the short answer is that it's everywhere and everything, and it's become a huge part of the economy and a huge priority for, especially the tech companies, who increasingly realize that their greatest asset is not their software or their services, it's the data they can harvest.

**RESH:** Right, and so this is harvested with or without consent. So everything I type into Google if I'm a student and I'm handing in assignments on online platforms. So, everything that I do.

**HADRIAN:** Yeah, so privacy law is really important here. The rules are different in different places and certainly there are protections.

You know, we have privacy laws in Canada and around the world. The EU also is quite strong on this. That prevents certain kinds of data from being collected, especially for example, health records, data that we are inputting into government websites when we're doing our income taxes or whatever, that's not being collected by a private company, of course.

So there are protections around privacy. But they're probably weaker than they need to be. A lot of them are outdated for this new digital era. And also, a lot of the time when there are privacy protections, they're opt in. You see that, especially in social media.

So you can dive deep into your Facebook settings or Instagram settings or whatever, and uncheck every box. You know, don't collect my data and sell it to advertisers. Stuff like that. Private companies are increasingly required to offer that option to users.

But most people don't know about it. And if they do, it's hard to navigate and then they ultimately give up. Or as these companies often do, every like six months, they'll update, they'll be like, Hey, we have a new privacy update, so you have to go back through and re-opt out of all this stuff.

So in practice, even if there are ways to limit how your data's collected, it's just not easy and it's not happening by default.

**RESH:** Okay. Thank you.

Like any tool AI has its pros and cons. It all depends on how it's used. Again, for what purpose? Who has control? In what context? The open letter, and so much of the work of all three of you, raise significant concerns about the costs of loosely or unregulated AI to people, planet, and democracy. And it's astounding how many costs there already are within just this very short time. So let's now get into that. And Cynthia, I wanna start with you.

What are the impacts on marginalized populations, you know, in terms of race, gender, ability.

**CYNTHIA:** Thank you for that question. It's hard to know where to start because there have been so many and they have been so well documented over the years. So just a few examples off the top of my head.

We know that Meta or Facebook, for example, has been serving a discriminatory job advertising, which there have been lawsuits about both in the US and one currently happening in Canada. And the thing to note there is that even after Facebook made changes so that advertisers could not themselves choose discriminatory criteria, and Facebook could not intentionally do it, the algorithms still served up the job ads in a discriminatory way just based on the statistical patterns.

And so going to what Jeff said is that one of the issues with these harms is that it's not always intentional. And that's part of the problem is you have to treat as a systemic issue where you prove it against even whether people mean it or not. And so people who say things like, well, we just won't do it that way, or we're not intending to do that, they're making promises they can't actually make. We have to keep that in mind when it comes to regulation and lawmaking around these technologies.

Another example is tenant screening. Algorithmic tenant screening has been shown to have a lot of problems and wrongfully end up with people wrongfully denied rent because either through mistaken identity or through racialized names being misspelled they're mistaken for different people. Or through the fact that these algorithmic screening tools rely on criminal records, which we know are also unreliable and inaccurate and that then feeds into rental decisions.

ProPublica has done a lot of investigative journalism in to algorithmic bias in the US and they found things like mortgages, for example, that a black family with the exact same financial profile as a white family is more likely to be denied a mortgage based on mortgage loan algorithmic screening.

There was an article by Wired that showed how a pharmaceutical company, NarxCare used this algorithm when it came to prescribing painkillers that was supposed to make sure that people did not end up addicted to opioids. But one of the factors in that algorithm was, Did you have trauma in your past? Or were you abused when you were younger? So that ended up biasing the algorithm against women. And so people going through massive amounts of pain, were not able to

access their medication because this algorithm said that if you gave it to them, they would end up being addicted to it, whether that was actually the case or not.

At the Citizen Lab, we published a report a few years ago on the use of algorithmic policing or "predictive policing", and algorithmic surveillance, which again, the past is present when it comes to algorithms because you are only using the data you have.

And we looked at every type of police data that was available, whether that's arrest data, public reports, corrections, have you been carded. And on every single measure, it was racially biased because of the wrongful over criminalization of Black and Indigenous people and other racialized communities.

And that feeds into these policing algorithms. So you end up with what Virginia Eubanks has called "feedback loops of discrimination".

**RESH:** And then on top of that, you're seeing through generative AI and chat bots either overt or subtle racist and sexist and transphobic messaging as well.

**CYNTHIA:** Right. Exactly. Yeah. That's a great point. And so even I fall into the trap just now of thinking of AI. Well, okay, I have looked specifically at automated decision-making systems, and so that's where my mind automatically jumped to. But that's just one type of technology that is currently classified under AI.

So when it comes to generative AI, it's everything you said about how it just exacerbates and concentrate stereotypes. So I think people have probably seen examples of typing in certain types of people or demographics into these generative AI machines and the types of products, like the sexualization of women, racialized women, for example, or it's just the next generation of what Sophia Noble has written an amazing book called *Algorithms of Oppression*. And so she wrote about the racism embedded in search engines like Google, where at one point in time before she wrote this book and brought it to everyone's attention, if you typed "Black girls" into Google, then all of the results would be porn. That actually happened for other racialized women as well. And so she asked, what does it mean that Google, which at that point in time still held public trust as an arbiter of truth, says that this is what it means to be a Black woman or an Asian woman. And we're seeing that all over again with Gen AI.

I should also point out that there's another aspect here when we're talking about historically marginalized groups, women are on the forefront of this. Like when it came to DeepFakes, for example, a study showed that even though all of the news coverage and concern about DeepFakes was, oh, how is this going to impact politicians and how's this going to impact election integrity? My colleague Susie Dunn at Dalhousie wrote this piece pointing out that all the coverage is on politicians and intellectual integrity, but 96% of DeepFakes are used to make non-consensual, intimate images of women. And you see that now with all of these so-called nudify apps too. It seems like every new generation of technology, the first thing it's used for is to violate the sexual integrity and bodily autonomy of women. So that's something we have to keep in mind as well.

**RESH:** This is frightening. And the impacts are on people, but it's also on planet. Hadrian, talk a bit about the climate impacts of AI.

**HADRIAN:** Yeah. The short answer is we sort of don't know and because this is exploding so quickly. But there's some issues here.

So first of all, and we've talked about this a little bit, Jeff mentioned it. Again, this particular new generation of AI is using an extraordinary amount of what the industry calls compute, which is like servers crunching numbers at all hours of the day. And for that you need massive data centers.

So there's been this huge data center build out around the world in the past few years to try and keep up with demand from the tech industry. And we are seeing truly unprecedented investment in these data centers. Like hundreds of billions of dollars in very short amount of time all over the place to build these data centers.

The International Energy Agency is estimating that data centers alone are gonna be consuming somewhere between 3% and 5% of the world's entire electricity within the next few years. So it's a huge amount of electricity.

From a climate perspective the question is, where does that electricity come from? And it seems to be, and again, we don't have great data 'cause this is all happening so quickly. A lot of that new electricity is coming from natural gas and coal plants. So there's places in particular in the US where coal plants were being phased out or shut down, and then they're being fired back up again and a data centre is being built next door.

In Canada, especially in Alberta where Alberta's really trying to attract a lot of data center investment, like they're saying, you can do it here because we have cheap natural gas.

So there is, in theory, a way forward where you build out all these data centers and power them with new renewable energy, but that's not what we're actually seeing.

These data centers also use a huge amount of water, which is a big concern. They use clean water, it evaporates or gets polluted in some other way, and that can reduce the availability of water for people. And then between the water and the electricity use, these data centers are also driving up utility bills for the communities that they're located in.

So you're seeing a lot of movement in, certainly you've seen this in the US already, but I think we're gonna increasingly see it in Canada. Where people are saying, we don't want these data centers in our backyard. We don't care that on paper it brings investment to our community. It's using all of our power. It's using all of our water, it's creating all this noise. It's creating all sorts of problems for the people who actually live here.

So this is not maybe an unfamiliar experience. We have a long history in this country of building big infrastructure that harms communities without really asking those communities if they want it. But we're seeing that with data centers as well.

And at this point it seems like the sky's the limit. I mean, the industry and with government backing them is building as many and as large data centers as they possibly can, as is physically possible right now.

**HADRIAN:** I'm not sure how long that will be kept up. There's a lot of questions around how big this bubble has gotten and how much it will collapse and when. But for now data centers are absolutely a huge environmental issue and potentially single-handedly undermining a lot of our climate progress.

**RESH:** Yeah. Because we are also rolling back environmental legislation that we've been building up over the years.

And when we're talking about those data centers, it's about land, it's about water, it's about energy. It's also about rare earth minerals as well. And Prime Minister Carney has been traveling now to talk about AI and partnerships with countries like India and the UAE and I think Australia as well, and probably some more.

So again, these data centers are not just for what's happening in Canada, but part of these international agreements.

And the communities on the front line tend to be those very vulnerable communities Indigenous communities at the forefront of this. Jeff, could you talk a bit more about the impacts social and environmental on Indigenous communities? Because, as you said digital colonialism is an extension of the settler colonial state.

**JEFF:** Yeah. So I always have this painting, it's called *American Progress*, I think. It's John A. Gast *American Progress*.

It's this classic image of this notion of Manifest Destiny, and it depicts this like, bundle of technologies that are really ultimately about colonizing. And everything from the telegraph wire to like the mail carrier to like agriculture, to trains, boats, bridges, all of these technologies that in our current society we just deem as normal, each one of them has a certain trajectory.

Each one of them didn't just happen because this weird kind of like mythic notion that we have of ... you've ever played a game, like ironically civilization that has this tech tree that there's this natural, linear, progressive technologies and that always like these things are just inherently inevitable.

But every technology has politics. Every technology is a product of its time. Every technology doesn't just come outta the ether. It's made by people for specific reasons within that context. And so the point is, we are currently in a moment where

there needs to be an excuse for capital to continue to just grind through. And extract more and more and more.

I used to study oil and gas, I used to study this notion of peak oil. This notion of at some point the problem we're gonna have collectively as a global society, we depend on this very one particular kind of resource that ironically is also destroying us.

And the concern 10 years ago is, oh, it's gonna get harder and harder and harder to extract this particular stuff. And then what? Because the demand is gonna supersede that. But it turns out that all the people that are working in that sector had the opposite opinion. That actually the demand for energy was actually starting to decline in part because of the realization of, oh, it's this horrible contradiction where the more of this energy we extract and use, the more we're basically destroying the planet. We should probably do something about that. And so that becomes an existential threat, not only to oil and gas, but the entire sectors of the Canadian economy that depend on continuous and endless extraction. And this reverberates through the entire Canadian economy as a resource colony.

Let's be real here, this is what Canada does. It basically extracts stuff from the earth and then sends it off to whoever largely the Americans, and then they use it usually to blow somebody else up.

And so as society is then realizing like, oh, we should probably do less of this. We should extract less, we should consume less. We don't need all this. That creates a huge problem. And enter this current moment where this magic bean of AI somehow, this bundle of excuses comes together that, oh, we have to extract more, we have to mine more, we have to use more energy.

Oh, and by the way, all this stranded assets that we have in Alberta, that we can't get to the shores or get to the States because, you know, there's all these Indigenous people in the way that don't really like their land and all that being destroyed. Hey, if we plop a data center beside it, we can have our cake and eat it too.

We can endlessly extract from the earth for the excuse of generating power, and then that power powers the data center and oh, that data center also requires an ungodly amount of critical minerals. And I've used the term critical. It's not critical. These things aren't critical, we don't need them.

But it's a branding, it's an excuse to kind of create this notion of urgency so that instead of recognizing the potential harms and asking do we even need this? Who is it harming? What are the consequences of this? We're all just basically told to shut up and do it because it's for your own good.

And obviously as an Indigenous person, this is nothing new to me. This whole concept is completely normalized of this excuse of Indigenous territories and lands and peoples as sacrifice zones. And, oh, you have to get on board for your economic

development or for the greater good or for national sovereignty. Again, who's national sovereignty?

And so I really do feel that in this current moment of polycrisis, when basically the entire kind of political capital of the world was dependent on certain kinds of extractions and that volume or that rate of extractions and use and energy and blah, blah, blah, it was starting to go down. That destroys everything that breaks the cycle of capitalism that requires infinite growth in a finite world.

And enter this notion of digital data, which creates this concept where capitalism can have its cake and eat it to, it can create this infinite resource, aka data that can be generated forever, that can be created forever, that can just basically create this endless value.

But the problem is data, digital data is still a physical thing. Every bit, every byte, every little thing that sits in a hard drive, that's still physical. And so the problem is the material restraints in the world still ultimately kick in and you can't just create this infinite growth cycle.

But I do think that a lot of people are just ultimately delusional in the sense that they think that you add this magic bean of AI and it solves all of these inherent contradictions, and not only capitalism, but also Canada itself as a resource colony. But when you look at the actual impacts of these decisions, they don't have that magical infinite end in a finite world. But we're not supposed to ask those kinds of questions. We're supposed to sit down and shut up and deal with it.

Again, an endless colonial relationship where basically people just have the right to just come in and take regardless of the consequences and just extract and send it elsewhere. And then the people actually suffering the harms of that aren't even conceptualized.

And so Indigenous Peoples, because of this very long history of basically racism and even this notion that Indigenous Peoples have no relation with technology because we're backwards and savage and blah, blah, blah, again is depicted through that notion of American progress.

If you don't know the painting, basically in the bottom left corner, there's a couple Indigenous people who are naked and shaking their tomahawk at the giant white figure that's displacing them and oh, they have a bow and arrow and then some horses and ooh, look how backwards and inferior they are.

But no, they just had a different set of technologies that didn't destroy the world. And somehow that's worse, that's backwards? And so Indigenous Peoples have a lot to share about the notion of when we create any kind of technology, what is the actual consequence? What is the impact? Who is being harmed or benefit? And how do we ultimately choose whether or not we create these things?

Instead in this society, we don't ask those questions. We just assume that whoever ultimately is creating this thing of innovation equal good, progress equal good, new equal good.

**RESH:** And the voices behind this are incredibly powerful because what we're seeing here is the marriage or a closer marriage between big tech and big oil and gas. And something else that I find interesting about the environmental aspect of this is that the technology that you need, the data centers, the chips and all of that, they degrade quite quickly unlike say the internet when it came out it could piggyback on existing technology and infrastructure, which was also harmful. But like fiber optic cables and telephone lines, we all remember, dial-up internet and all of that.

You talked about a polycrisis, or polycrisis was also named. And we have many, we also have an inequality crisis with labour and impoverished communities on the front lines. Hadrian, what does this mean for workers for labour?

**HADRIAN:** Yeah. There's a sort of a contradiction here. There are many contradictions in this AI moment. But one of them, as we've discussed the AI such as it is, especially these large language models, they're not intelligent in the way we understand intelligence. They don't have a world model. They string together words in a sensical way, it makes sense to us. It creates the appearance of reasoning. But they don't actually, you know, the AI, "they", I'm already anthropomorphizing, the systems don't know what the words mean, right? They have no actually internal understanding.

So on the face of it, these things are not good enough to replace humans. And certainly when we compare the outputs of large language models to experts in their own fields the quality is not there. Despite claims of like PhD level intelligence, that's like the new kind of branding for a lot of these models is PhD level intelligence. In practice they're not replacing PhDs. These models just don't understand what they're talking about. However, that doesn't mean that these models are not affecting the job market.

Now it's hard to tell right now. Jeff pointed out, I think astutely, that AI is often being used as an excuse. So we're seeing a lot of layoffs in the private sector and the tech sector. We're seeing the federal government going through this kind of austerity push to cut 40,000 jobs from the public service.

In both those cases, they're saying that it's because of AI. And that may just be an excuse. That they wanna lay people off or they want to cut the size of the public sector and they're just saying AI so that they have an excuse to do it. So that could be part of it.

But there is some evidence that especially lower level, like more entry level work is being replaced by AI.

Where you had, for example, legal clerks or administrative support and like data entry, call center jobs, where we're just seeing less hiring there because you can use

large language models. This is the unfortunate lesson is like these models don't have to be as smart as a person if they can do a serviceable job at particular tasks.

So again, this is all happening so quickly, we don't have definitive data, which is frustrating for me as like a data guy. All we have is anecdotes and these kind of preliminary studies. But yeah, at the kind of lower end of the labour market, so this is especially hitting young people or recent grads, we are seeing jobs disappear. Either through layoffs or just reduced hiring.

And there are all sorts of estimates about where this is going. It's really hard to know where the truth lies. So, you know, various bodies saying like somewhere between, put it in the ballpark of 25% to 60% of jobs and tasks are exposed to AI in a meaningful way, doesn't mean 60% of people are gonna lose their jobs. It's more complicated than that.

But the bottom line is that again, despite the limitations of these technologies, despite the social and environmental and human rights costs and otherwise, there is a real impact on the labour market and we may just be looking at the tip of the iceberg right now.

**RESH:** Right. And Cynthia, I wanna bring you in here as well because you're also seeing for people within their jobs, AI is having an impact in terms of how it's being used on workers in terms of surveillance, all of those types of things. And also the workers in AI because a lot of the machine is actually human.

**CYNTHIA:** Yep. I'm so glad you brought that point. We might not have data here in Canada. And definitely if there are people who are looking for a research project, please start studying this. But they do have data in the United States when it comes to algorithmic systems, automated management, AI and labour. So I would highly recommend the work of the Labor Futures Program at Data and Society is this phenomenal research stream that has been looking at these systems in the context of labour specifically for years now. They are critical, they are cutting edge, really amazing research. And something that they've found is that the AI is going to replace our jobs, or you're gonna be fired and placed by a robot narrative is a little bit reductive. And they found that a significant part of the case is that people's jobs are not replaced by AI, people's jobs are changed by AI. And so instead of you no longer having a job, your job description changes where you're not doing the task itself, but your job basically becomes babysitting the computer that is supposed to replace you. But as both Jeff and Hadrian mentioned earlier, is not actually quite up to the task yet, but for whatever reason is still considered cheaper or better than paying a human to do it fully.

So now you basically have these hybrid arrangements where it's like a machine is doing it, but the machine is not quite all the way there. So you still keep the human on to basically fix the machine when it breaks and make sure that it's still working as intended.

But of course for people who are managers and owners of corporations, this is just an interim step for them. I think their end game is they do want to totally replace humans with robots. Because you have this perverse trajectory where while they are claiming that they're going to make robots that can increasingly pass as humans, when it comes to workers, they're trying to turn humans into robots. People who don't have to or assumed to never have to eat, drink, sleep, go to the bathroom and can just provide endless hours of labour at increasingly lower pay. So thinking of the work of Veena Dubal's, *Algorithmic Wage Discrimination*.

The other thing that I would point to is using tech and AI as an excuse that also has been established in some cases. So eg. The European Digital Rights Initiative has actually referred to AI as "austerity tech" in response to research by Human Rights Watch, which showed that algorithmic decision-making systems are offered as "cost-cutting efficiency measures". So it's part of this broader political project to underfund government and public services where you strip funding from education, from healthcare through social welfare, and then you come to these beleaguered public servants, teachers, healthcare workers and say, we know you don't have funding, but guess what? We have this super cheap, efficient, non-biased. 'cause how can math possibly be biased, solution for you. It's called AI. It's called automated decision-making system. And this will solve your problem without ever mentioning that these are the same people who created that problem in the first place. And the solution that they're offering it's basically a Faustian bargain because it's not actually helping. It might be a bandaid solution, but it's actually worsening the problem in the long run because of all these other costs that we've talked about over the rest of this episode.

**RESH:** It is interesting that we are seeing this, right?

I'm coming from the college sector in Ontario where we are going through an incredible amount of layoffs and shutting down of programs. And at the same time, we're seeing more discussion and more investment in AI. And I'm sure, people are seeing this everywhere. And something else that was really interesting when I was reading the letter, is the "ghost workers", the people who, when we think we're putting our information into AI systems, it's actually people who are having to sift through all of this as well.

**CYNTHIA:** Yes, exactly. I'm glad you brought that up. Which is not just how non-AI workers are being impacted by artificial intelligence, which it is actually increasingly grey now, referring to AI as this term we've all agreed doesn't mean anything, but somehow we have to keep referring to it because it's been so established as the recognizable term.

But its existence relies on underpaid labour, much of it in the Global South to begin with. So the term ghost work comes from Mary Gray and computer scientists at ?, They wrote a great book, I think coining the term "ghost worker" or "ghost workers" that talked about the people who clean the data, the people who content moderated, the people who go through immense amounts of trauma because they're exposed to such violent, traumatic content in order to make it palatable for consumers on the other end.

They're the reason that any of this is even minimally functional to begin with, despite the remaining problems. The people who clean the data to make it possible. That's one way.

The other way is that, because AI is such a strong selling point when it comes to marketing and hype, there's actually even this phenomenon of companies claiming that their tech is AI when it's not. When there's actually secret human workers on the other end that are manually reading through your emails or listening to your voice messages and then doing whatever the task is that the customer thinks is being done automatically through AI, but it's actually human, so that's a huge privacy violation as well.

Astra Taylor, who's this great filmmaker and writer, was also the 2023 CBC Massey lecturer wrote a piece, I think way back in 2018 called Faux to Nation as an FAUX to Nation, to describe this phenomenon. And then Jason Sadowski, who is also a prominent tech scholar, a tech critic calls it Potemkin AI because it's artificial. And so it's happening on all fronts where it's resting on the backs of workers from its creation to who it's displacing to the point where it's also taking credit for actual workers' labor because companies are trying to ride that wave of AI hype

**RESH:** In 2018, UN Special Rapporteur on Extreme Poverty ,Philip Ashton wrote a report focused on the UK, but easily translatable to everywhere else in which he identified the gradual and stealthy creation of "a digital welfare state". Hadrian, how is AI impacting our social security system?

**HADRIAN:** Well, again, I think it's a little early to know. On the impact side, we're seeing potentially impacts in the labour market. We're seeing potential impacts on people's wellbeing and it can be hard to measure. To Cynthia's point, absolutely there is data, there's research on this going back decades. But a lot of it's changing so fast, it's hard to know and in kind of real time what we're dealing with.

And on the delivery side, we also don't know, again, we've got like governments saying that they're adopting AI and that AI is how they're gonna not only reduce costs, i.e lay people off or reduce workforce, but also improve the quality of service.

But again, we don't really have evidence for that or, or clear plans for how that's gonna be rolled out in the public sector.

**RESH:** Yeah, because as we've been pointing out, this is all so new and we're just figuring it out as we're living this.

**HADRIAN:** Well, I mean, you have five AI experts in the room ask where we're gonna be in five years and you'll get five different answers. And even in like the big tech companies, despite them being kind of unanimously on side around this being the future of everything, there's still intense disagreement about where this technology is going.

Have we hit a wall with LLMs, et cetera. The experts can't agree. And then to expect governments to know what to do with that. And for us as people in the public to know what to do with that. There's just so much uncertainty about the next five years, let alone the next 10, 20, 30.

**RESH:** Right. Nevertheless, the government is again, moving full speed ahead with this AI adoption. Now, one of the things that we do know, and one of the very alarming issues with AI, especially generative large language models like ChatGPT and what have you is what the letter calls "its brute force attack on reality".

Jeff, say more about this and the cost to mental health. And as a teacher, I also have to add to learning and critical thinking.

**JEFF:** So again, tapping into like my sociological background they really hammered into us when we're doing Stats 101, the notion of garbage in, garbage out.

And you have to be incredibly careful about not only how you create data, what are the inherent limitations in data itself. Like data is never like a one-to-one representative of reality. It's always a depiction of something. And then the way that you then analyze it, you do all those sorts of magical math to create some sort of whatever, like you do basic stats work, and then there's so many problems.

Then you have to write a big explanation about how you're supposed to like deal with all these biases and it's just this long process. And then I come into the tech world and all of that just goes out the window. All of the ethics, all of the basic data quality, everything that you're supposed to do as a sociologist, they just completely and utterly throw out the window.

And instead, what you get is just like, what's now called by a lot of people AI slop. One thing that really concerns me a lot, not only as an Indigenous person, but like any person that has been marginalized or has been dispossessed from their culture or is trying to understand parts of themselves that is largely suppressed or oppressed by the mainstream society, there was this period of the internet where basically you had access to not only other people who were like you or who had experienced things like you, but knowledge, access to culture, to teachings, to "forbidden knowledge" in certain circumstances. I'm just being very generic because this isn't just an Indigenous issue.

This is folks that, like trans people or people who have gone through living in a community that just doesn't represent who they are. The internet provided a way to really explore yourself, and that requires quality information. That requires reliable things you can go to and go to privately as well. Because you might be in a society that doesn't necessarily agree with that because that's why that identity is marginalized.

So to give the example of Indigenous Peoples, I grew up off-reserve. I didn't grow up in my community. And statistically speaking, a lot of Indigenous Peoples in Canada don't either because of the trajectory of colonization, because of the ongoing

genocide of us as a people, Peoples where we don't have a normative socialization into our culture.

And so having access to our culture digitally, or cultures, has been amazing in terms of not only learning the basic like 101 of your culture and your identity, but other things like language, other things like politics, other things like connecting with people and then finding your way home.

That is a very common story for Indigenous Peoples is dispossession and it's just physical remoteness. Canada's a very large place and we've been scattered all over the place, even as a Haudenosaunee person . Our core territory is the Finger Lakes region of New York. And when the American Revolution happened we got kicked out. People know about the Trail of Tears, but nobody knows about how all of the Haudenosaunee villages were destroyed by Washington, at least under Washington's orders. And we were forced to flee. So I directly come from people who had everything taken away from them, and that's a hard thing to grow up with. And through the internet and then through actually like talking to really human beings, I learned a lot about myself, my culture, and all these kinds of things.

And I really worry that as that kind of brief moment in history where there is access to these things remotely and digitally. And also a period in which a lot of people tried really hard to keep a lot of this information safe and secure and secret. And part of that was by not writing it down. Part of that was by not digitizing it. Part of that was not putting it out in the public realm. Like, it's this contradiction in Indigenous data sovereignty where you have to make enough of the data accessible because so many of us are dispossessed. Otherwise, what's the point? But while doing so, it's also stolen. It's repurposed.

So now with generative AI, one of the problems, the biggest problem is we have this horrible contradiction where we recognize that so many people need access to their cultural knowledge. But we can't just put that out there on the open internet because it'll be basically grabbed, slurped into this giant slop machine and then spit out as this horrible, not even pan-Indigenous, I don't even know what to call it. Any kind of generative AI output involving Indigenous Peoples, just inherently has to be wrong because just the very nature of how the technology slops together all the data to create basically a predictive kind of like average, but that doesn't work with specificity. That doesn't work with every individual Indigenous culture, which can be radically different.

And so what's happening is that people that used to have access to reliable information about Indigenous culture, Indigenous politics, rights, all these things, that's getting harder to find. It's being polluted. The information ecosystem so to speak, is now you have to sift through all this generative AI garbage, which we already, so much of our cultural knowledge has been eroded and we've had to piece back together.

And it's making that progress even, like it's so much more harder now because the information that we're drawing from is being re polluted again, and that's forcing us to

basically then again push that knowledge back underground, take it offline. But then again, people aren't physically there because colonization's still ongoing.

So we're in this horrible kind of contradiction where we have to both keep our data safe from generative AI, but all it takes is one person who may have the best intent, but they give up their information, whether that be our language or about a certain teaching, or about whatever, a story. It could be just one little thing and they want to "oh, not be left behind" or "not be left out", or, "oh, if only we get involved in this thing, then somehow it would be okay". And I wanna warn people, that's just not how these technologies work.

Not to say that certain models of smaller AI can be used and tohiga media, they mari that basically they have certain kind of trajectory which allows them to have the technology that works for 'em, that doesn't work for everybody.

My point is that this notion of, oh, if only Indigenous Peoples participate in this moment of generative AI then somehow it'll work out.

And I wanna caution everyone that, like, that's just not the nature of these technologies. That's not to say that we can't create our own very small, very specific, very targeted models. But just throwing our data into the slop machine and expecting something good to come outta that, it just won't. And it's gonna cause so much intergenerational harm because the next generation of Indigenous Peoples who have been dispossessed and they're trying to come back home, either won't know how, or what they do know is basically further eroded. And that's not just an Indigenous problem, that's a problem for anyone that's been dispossessed. For anyone that's been marginalized.

**RESH:** So it is this, cutting off from each other, from communities. There's this isolation, cultural isolation as well, erosion. And there are so many mental health impacts and again, impacts on critical thinking. And Cynthia, I wanna bring you in on this question as well.

**CYNTHIA:** So I don't want to get too far over my skis just because this is not a topic that I specifically studied or worked on myself. But by reading the news headlines, generally you can tell that there is something going on beyond what some people consider a moral panic that tends to accompany every new technology. You have empirical studies showing that there are negative mental health impacts of people who have engaged in extended "conversations with ChatGPT and other LLMS. OpenAI actually had to roll back, I believe, one version of updates on ChatGPT because it was shown to be even too, sycophantic for them. And there's just something you can logically reason is very unhealthy to have this, from many people's perspectives, companion they feel who basically agrees with everything that they say and who gases them up at every opportunity.

With respect to potential cognitive impairment, there have been studies showing that students who rely on ChatGPT and anecdotally as one, perhaps you could speak to

this as well, have seen to be losing skills over time because they're not using them as much. So there's a element of cognitive de-skilling as well.

And I would also point to the work of Nita Farhany at Duke School of Law who has written a book I believe, and now writes about the idea of cognitive liberty. And her point is that this is a new level of issue where it's not just a matter of, oh, the internet persuades people to think in certain unhelpful ways. It goes beyond disinformation because it's not just impacting what you think. But she said, with extended use of these certain types of technologies, it actually changes your very ability to think properly about things in the first place.

**HADRIAN:** I love the idea of cognitive liberty, that's a cool phrase. I think and Resh, you would know this because education does feel like ground zero for, for this AI moment a lot of ways.

**RESH:** Oh, yeah.

**HADRIAN:** And building on what Cynthia said, I mean again, we're getting evidence in real time about this.

There is a very interesting and maybe troubling dichotomy here, where it does seem that students who are using LLMs well are benefiting from it. If you're trying to learn a new topic and you have this essentially a tutor you can bounce ideas off of, it does seem to help some students. But the opposite is true. If you as a student are using it to replace your thinking rather than to help you think through things, it actually erodes your critical thinking skills. And so what we're seeing is this kind of spiral where people who become more dependent on Large Language Models are less able to critically evaluate the outputs. And that's the real danger.

There's again early evidence around that in the healthcare sector. A doctor who is using AI to help them diagnose is better than either the AI or the doctor without the AI. So again, this partnership seems to be the most effective in the short-term. But over the long-term as the doctors get more dependent on the AI tool, they actually become worse at diagnosing because they stop using their own thinking when they're doing it.

Again, this is all kind of happening very quickly and we don't have guardrails around it. We don't have regulation around it. And we're entering pretty dangerous waters where we don't really know what these tools are doing to our ability to think. And if they're undermining our ability to, again, evaluate the outputs of these tools, then we become even less equipped to use them.

**RESH:** Now, AI's impact on democracy as a whole right is a major concern domestically and globally. Last year, UNESCO came out with a report on artificial intelligence and democracy. Hadrian, just going back to you, what are the risks of AI to democracy? And, our public democratic system, because a lot of AI is still very privately owned. So democracy and AI.

**HADRIAN:** In some respects what we're dealing with AI is not new. The internet and in social media in particular have had pretty profound consequences for a democracy. They've really changed both where the public's sphere is and also how it operates. Moving from, I mean, it's funny to call it a public sphere, where increasingly a lot of our public discussion happens on private platforms that are moderated by very opaque algorithms.

So we are exposed to ideas that, I mean, we don't really know why we're exposed to them, it's because they were served up to us with an algorithm. And you layer on top of that all sorts of myths and disinformation, which AI supercharges. I mean, I see AI in this context as really exacerbating a lot of these underlying trends that we've been inadequately dealing with for 20 years. To me, that's the big issue.

Fundamentally democracy requires, I mean, it requires a few things. One of them is information. We need to have a true sense of what is going on with whatever the jurisdiction is we're voting in, or participating in, a clear sense of who our leaders are and what our options are. And a sense of what people, our community, our neighbors actually think about all this stuff.

Having that information is important. And social media and the internet and AI in particular, it clouds all of that. We're all living in kind of different worlds, which makes it hard to engage in democracy. It's hard to know what is true. We're seeing an erosion of social trust. So we don't necessarily trust our neighbors in the same way we used to. So it's not like one answer to this question. We're in a bit of a perfect storm of an information environment that is not conducive to democracy and it's really hard to know how to get out of that.

**RESH:** Cynthia, come in on this. What are the risks of AI or maybe the benefits to democracy and civil rights, because you're really working in the intersection of this.

**CYNTHIA:** Well, to Hadrian's point, in terms of what the algorithms decide to promote to the top, we know a little bit why. So I last focused probably the most rigorously on this in a 200+ page report for the Women's Legal Education and Action Fund, also known as LEAF, looking at if there was anything Canadian laws could do to address tech-facilitated gender-based violence that was being proliferated on social media platforms. And one of the things that we found is that it is very much rooted in platforms' business models.

The reason that it is so easy to end up in a white supremacist rabbit hole on YouTube and a misogynist rabbit hole on Twitter is because white supremacy and misogyny sell. Whereas, workers' rights and calling for the rising up of the labour class does not sell. And so that's why we don't get automatically and very easily pulled into those kinds of rabbit holes, even though the world might be a better place if we did.

So even though a lot of it is mysterious and opaque, that doesn't necessarily mean it's unexplainable, and that doesn't necessarily mean it can't be traced to specific

policies and decisions made by people with names at these companies. So there have been so many investigative reports about Meta.

I think one just came up the other day actually knowing that their products are harming people and then choosing not to do anything about it or to water down their own employee solutions to it, because that would impact growth.

So when it comes to impact on democracy, people have mentioned like that this is new or that the things we're seeing with AI are new. And to some extent they are, but in many ways they're also not new.

I really like the fact that you opened this saying that the AI has been researched for decades because there is a major tendency to take an ahistorical view of these things where people kind of get dazzled by like, oh, it's new and shiny tech. It's the hot new topic. But really these are just repeating patterns that have happened for decades already.

So if we want to look only in the very recent past, one of the reasons that we are so appalled by the government's approach to this AI consultation is because they already came under so much criticism in their failures of consultation on AIDA, the Artificial Intelligence and Data Act where it was rushed, there's not enough information on the Bill, there were amendments regulations proposed at the last minute.

And then when it comes to technologies' impact on democracy and just general social wellbeing and the information environment, we've gone through multiple tech bubbles, both within AI we've gone through multiple AI bubbles and AI winters, also multiple tech bubbles outside of AI.

And so it's kind of a slap in the face to everyone who have either been harmed by these kinds of reckless approaches to technology. Or who have been studying them and saying all this time, we need to slow down. We need to look at the harms.

So for instance, this has happened with social media platforms. This has happened with so-called gig economy apps like Uber, Lyft, Airbnb. I think Hadrian had mentioned how AI proponents are saying, oh, this will actually help the environment, but it's actually doing the opposite. It's actually reviving the fossil fuel industry. Microsoft has signed an agreement leading to the opening of the Three Mile Island plant.

And similarly with Uber and Lyft, the promise was, oh, this will help traffic congestion. And studies later showed it actually brought more cars out onto the road because people were picking it over public transit.

Look at everyone who's defrauded by cryptocurrency scams. That was the last tech bubble, the last hot new Tech thing, right?

And so it's almost like Groundhog Day at this point. Just pluck out the technology, replace with the technology and we're going over the same merry-go-round over and over again. Which is why each time it almost becomes more insulting because do you think, we don't remember just two, five or ten years ago, what happened with a technosolutionist approach to things.

Technosolutionism, where you are assuming that any complicated social problem can be solved by technology, when often it's very much on the contrary, technology will make it worse.

And I think whether you're talking about democracy or human rights, civil rights, civil liberties, it's really dangerous to think that, oh, AI will help, or AI doesn't matter, or even AI is here to stay.

If people had not kind of given up so easily when it came to either regulating social medias or the gig economy, if they hadn't said, well, it's here to stay the genie's of the bottle, we could have maybe done something about it and we could still do something about it today.

Joanna Redden at Western University and her colleagues at the Data Justice Lab, they published this great report about canceled systems. They looked at 61 government systems, AI and automated systems around the world that actually did get canceled, stopped, or rolled back.

So it's not too late to just outright reject and refuse this technology. And just to say, no, we don't accept these narratives and we don't think this is right. And we're not going to just go along to get along because that's unnecessarily defeatist, fatalistic, techno determinist.

I keep citing people. It's because there's so many brilliant people that have worked on these issues for so long. I just wanna make sure that they all get their due.

**CYNTHIA:** Chris Gilliard, who actually is a great EduTech critic was on this podcast called This Machine Kills, which is a tech critical podcast. And they were almost making fun of people who say like, oh, well the genie's out of the bottle. And their comparison was, no one ever says you can't ban chemistry, just because bad things have happened with chemistry. And I think we really have to expand our political imagination as to the appropriate response to AI because there is so much at stake.

And so it isn't really possible to be too alarmist about it. In fact, from what we've seen in Canada, people probably aren't being alarmist enough.

**RESH:** So you can unring this bell in a certain sense in terms of it's negative consequences. And Jeff, I wanna bring you in on this as well, on that question of the democratic impacts, but also what can we do to mitigate the harms, the negative consequences of AI?

**JEFF:** So again, the painting of American progress, I just find it so instructive. Because one of the fun things about being an Indigenous person is the notion of inevitability almost becomes comical. Not just me growing up, but like my parents, my grandparents. I've watched how in so much of our imagination, we've been trained to convince ourselves that we're just gonna erode into nothingness and basically disappear. That like Indigeneity is a dead end. Because the final kind of end boss or end goal of settler colonialism is for the settler to become the native, which is why you see so much things like in the national anthem about like "our native land". It's just like, oh really?

Anyway, there's sayings, like there's so many slogans in Indigenous spaces, one is "like decolonize your mind" and part of that is basically like training yourself through the politics of refusal. And you kind of have to, because you live in this world that not only assumes that the conditions for your destruction are inevitable, but that they are necessary.

And so you have to kinda start with almost like mental training to embody this notion of no, I still exist and I'm gonna continue to exist. And not just me, but like my friends' family, and then all the way extended up to this notion of the nation or again sovereignty.

People might see like Haudenosaunee sovereignty as like ridiculous, but is it though? So anytime you hear any kind of narrative of inevitability, you have to kinda inoculate yourself against that.

**JEFF:** And again, another process of settler colonialism is the inherent destruction of the past and socializing people into not asking critical questions of history. Which again, is one of the things that particularly generative AI is very good at destroying because it places everything in this like slopified presence under the excuse of some sort of inevitable future. But in doing so, it just destroys the past, which is why if you go to YouTube, you'll see so many horrible generative AI history things that are just garbage.

As an Indigenous person, again not gonna speak for all Indigenous peoples, but at least in my culture, like this notion of seven generations thinking has often been kind of appropriated into being very future oriented, which is funny because in my opinion, it's not.

It's this notion of thinking through responsibility throughout time. And it's not just seven generations forward. It's basically thinking of seven generations. So three generations back, three generations forward and then your generation now. And your decision-making has to be rooted in the context of the past so that when you're making decisions that are ultimately going to impact the future, you can tap into the wisdom of not only your current observations, but everyone who's come before you and can tell you stuff because they've experienced it themselves.

The beauty of the oral tradition is it does actually pass down a lot of these lessons throughout time because people have been through all this before.

In my community, we've gone through something similar in the sense of we have this big debacle called the Grand River Navigation Company, which is kinda like the classic tech bro thing, which is just like, oh yeah, invest all your money into this canal 'cause canals are the future. Like it's going to give you all the jobs and all the money. 'Cause back then it was like a magical technology. You can just like shorten transport times make all this money and increase trade and yada yada. Yeah. And then boom, railroad comes along for other reasons, and then the canal's obsolete.

And then where did all of our money go? And I see this with everyone being convinced to buy into pipelines or buy into a data center project. Without the context of understanding the wisdom of that decision then, not only are you maybe making a really bad decision, but you might be entering into a new relationship of dependency.

And that's the other thing I think a lot about as an Indigenous person, what does it mean to be dependent on like anything, including any kind of technology?

Because going all the way back to like us cooking things in clay pots, it was annoying because if you've ever cooked in a clay pot, it breaks very easily and you can't cook at super high temperatures in the same way you can with like steel and practically, it's kind of annoying.

But on the other hand, you can make a clay pot yourself pretty easily. It's not hard to do. But can you make a steel pot yourself? No. You need a smelter, you need to mine. You need to do all this stuff.

When colonizers brought steel pots to us, we didn't see the externalities, we didn't see the mining, we didn't see all the labor. We didn't see all the lives destroyed to make that steel pot happen. We just thought the end result. And I wonder often why culturally or why we didn't create steel ourselves. Is it because we thought carefully through the externalities of the technologies and we didn't want the impacts and that's why we stuck with clay.

Even if it was kind of annoying and it broke a lot, well at least it wasn't completely destroying people's lives. So I think a lot about that in terms of adopting any kind of technology is thinking through not only the dependency you're entering into, but often think through the past lessons of has this kind of thing happened before?

And even if that technology has changed, is the process still the same? And how can you apply those lessons into the future?

**RESH:** Right. Here we're seeing with AI very fast evolution that we started with traditional or algorithmic AI, and then very quickly into large language models and generative AI. We're seeing the movement towards autonomous AI. And so again, what are the externalities of all of that?

Hadrian what should be the priorities of democratic statecraft or governance in this age of AI?

**HADRIAN:** Well, the first thing is we need to have a broad public discussion about it. And we were talking earlier about this task force and this sprint and all of the problems inherent and how the federal government is approaching this. But it's actually the correct impulse. We do need to have this broad-based conversation, broad public consultation, bring in all sorts of folks who can weigh in on this, and collectively map out our shared vision for how we integrate these new technologies into our lives, into society, into the workforce, et cetera.

So that is broadly what we need to do. And the way they've done it has been so again, you know, foregone conclusions around, we're just gonna push adoption for its own sake rather than genuinely trying to figure out what we're trying to work toward. That's a lesson that applies in every area of policy.

We should be thinking about what is the end goal here? What are our principles? What are our values? And then adopting new technology that's consistent with that. So at a high level, that's what we need.

I think if we want to get more nitty gritty, there are models for how to do this that aren't the US. Again, Cynthia mentioned the EU, which is I think taking a more thoughtful approach. Also not perfect.

But we should be considering something like the precautionary principle here, which is basically let's not adopt new technology or aggressively build out these data centers. If there's gonna be harm or we don't really understand what the harm is, or we don't know how to mitigate the harm, we need to slow down and have a plan.

I think we're just so caught up in this fear of being left behind by AI that we're making a lot of really irrational decisions at the policy level, at the corporate level, frankly. I mean, a lot of these AI pilots at the private sector are failing. The majority of them are failing because we're all just rushing. And we just need to be more thoughtful. That's my high level takeaway.

**RESH:** Lovely. So, Cynthia, how can the public mobilize against the harms to civil and human rights posed by loosely regulated AI development?

**CYNTHIA:** So before I get to that, I want to add on to what Hadrian said, because I'm so glad you said precautionary principle.

Because we've been talking a lot about AI's impact on the environment. And I think AI regulation has a lot to learn from environmental law, such as the application of the precautionary principle. Sophia Noble, who I mentioned earlier, has pointed out we apply this to our environment, so why would we not protect our informational environment in the same way when it's clearly these problems are systemic.

**CYNTHIA:** People have also called, for instance, like an FDA for algorithmic models for AI or like a drug development approval model where again, it would seem ludicrous for us to say pharmaceutical companies can just deploy whatever drugs

they want at any time and then, you know, figure out the effects after and then roll back and make changes needed. But effectively that is what we are doing with tech right now, even though there are consequential impacts of that.

The other thing that I would point out in terms of what a more correct, better justice-oriented approach to AI regulation would be is drawing from the disability justice movement, the concept of "nothing about us without us".

So this really should be a bottom-up exercise and not the blatantly top-down way that the government has been running it.

And then the other concept I would point to is actually one that Jeff has written about, if not coin, which is the idea of move slow and empower people in a piece for Animikii.

In terms of people coming together and mobilizing, I would definitely say look up the People's Consultation on AI. It is still in progress, we haven't announced any details about it yet. There's a group of us who are working on organizing this. We expect more details to come out in the next couple of weeks? We're hoping to provide people with multiple avenues of entry depending on how familiar you already are with AI issues.

The other thing I would say is we've been coming down really hard on AI proponents, and I think that that's correct and justifiable, but I also don't want that to necessarily be transferred to individuals who are using ChatGPT.

If you're just kind of trying to make ends meet and this tool helps you, like, it's really hard to tell someone like that to not use this tool that you find helps you. So I think we're more pointing at it's really hard for an individual person to, on their own, read everything they need to know about AI, gain the tech literacy required and the political acumen.

**CYNTHIA:** When you have these huge machines, like these huge political machines aided by politicians, much of the media, a lot of mainstream technology, journalism, the managerial class, all acting in concert to push these narratives about AI is good, you need AI, you're struggling, let us help. So I think hopefully some of the ideas we've raised here will have opened people's eyes a bit and show, especially with the ideas of de-skilling that you don't necessarily need it. And even though it may make your life easier on one day in the short-term, there may be a cost being paid in the long-term, both individually and collectively.

In terms of just actionable suggestions is talk to your friends and family about this. If you took away something from this podcast or if it makes you want to read something more, share it with the people in your life. Because I think a lot of people have in effect been bamboozled by the mystique and the hype around AI. And there's a lot of people who I know who, based on their politics and how they look at the world, I suspect that they wouldn't be in support of AI and ChatGPT, except they are. And to me that speaks to a gap in public education and the success of this hype

machine around AI. To the extent that we can break through that in our own relationships, I think that will go a long way as well.

**RESH:** Thank you. And in the last minute jeff, do you wanna say a bit about the move slow and empower people approach?

**JEFF:** Yeah, I agree completely with Cynthia that like, I never wanna shame the individual if you're using AI. That said, I'll totally side-eye certain people. But like I get the ridiculous pressure. Even UI, you can't use any application these days without a giant button being like, please, please use our AI, we need to justify the cost of this. Oh God, please click on the button, please click on it! It's not the individual's fault here.

So I mean, the whole move slow and empower people.

Again, I'm so tired of this exceptionalism and the move fast and break things from Mark Zuckerberg who's like the most ridiculous person on the planet. I was just like, okay, if the baddie is doing the bad thing, what's the inverse of that relationship?

The idea of like moving slow and empowering people for me as like, that's my job is to, again, think through, like if you're rushing through things, you make mistakes. That's just a general principle of life. And mistakes have consequences because you're intervening in people's lives. Any technology is ultimately an intervention. You're using some sort of technique to create some sort of intervention to alter the trajectory of the future, you're interfering. And that has a consequence. And that has a consequence on people. And you should be responsible for that consequence.

So what's the most thoughtful way to do that? Well, you don't wanna rush it. You have to take the time to talk to people. I hate the word consultation the way that it's abused, but you have to consult with people who know what's going on. You have to learn from people. You have to involve other people, because you only have your own perspective. So the more people you can get involved, the more different kinds of perspectives and different forms of knowledge and wisdom you can tap into. Because ultimately, again, you're intervening with the technological wizzle-wazzle and you are responsible for the creation of that intervention.

I just watched the Frankenstein movie the other day, and it's just like the classic case of the arrogance of the tech bro was obsessed with the creation, but not the after. And my point is that you are responsible for the after. Everyone's obsessed with "innovation", but no one's obsessed with responsibility for said innovation. And to do that responsibly, you do have to move slowly and work with a lot of different people who are not you. And ideally work with the people who are directly impacted. I know that. Ooh, that's so radical. Oh my gosh. The people who are impacted should have a say in what's happening to them? That's crazy. You can't do that. So it's just like all of these things are completely outside of the realm of normal "technological development". And it's crazy-making to me.

**RESH:** Absolutely. So we've gotta shift the conversation into something better. And thank you for that. The Open Letter to the Minister of Artificial Intelligence and Digital Innovation from Civil Society Organizations Opposing the National Sprint Consultation on AI Strategy will be linked in the show notes to this episode, along with links to Animikii, the Canadian Center for Policy Alternatives and The Citizen Lab. Cynthia, Hadrian and Jeff, thank you for a brilliant conversation. It has been a pleasure.

**CYNTHIA:** Thank you so much.

**HADRIAN:** Thank you.

**JEFF:** Thank you.

**RESH:** That was Cynthia Khoo, technology and human rights lawyer with Tekhnos Law and Senior Fellow with The Citizen Lab, Hadrian Mertins-Kirkwood, Senior Researcher with the Canadian Centre for Policy Alternatives and Jeff Doctor, Impact Strategist with Animikii Indigenous Technology. The link to the Open Letter can be found in the show notes to this episode.

And this is The Courage My Friends podcast.

I'm your host, Resh Budhu. Thanks for listening.

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