

Audio file

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Transcript

So, as Martin said, I'm in the Department of Science and Technology Studies. Science and Society is literally what my whole career has been about. I'm trained in sociology, history, political theory, cultural studies. My whole research at UCL, I've been here for over 2 decades, has been thinking about how science and technology both drive social, political change, but also is built through it, like how it's shaped by it. And we're going to think about that around digital tech today. I've thought about it in terms of climate change. I've thought about it in terms of genomic technologies. I've thought about it in terms of nanotechnology. But my interests at the moment, as we might not be surprised by all thinking about digital tech, big tech, I'm going to try and pack a lot in today because I want to stimulate you with a lot of different thoughts and then hopefully you can go and talk and think about this a bit more in your seminars and maybe even your projects later on in the year, think about these things. Because I think big tech, AI particularly, but not exclusively, is one of the big... topics of our time, right? How do we deal with it? How is it going to change things? Who's in charge of it? Like these are all these questions. These are the questions I'm sort of interested in, but I'm going to, I'm not just going to talk about AI because that's almost too easy to, and we'll think about what's maybe underpinning it, and then it might be something you can use some of these ideas and questions in other ways. But this is what we're going to try and get through. So My discipline or multi-discipline, it's lots of disciplines, is a critical discipline, right? We ask hard questions, right? We want to understand the way things work and not take things for granted or at face value. So that's kind of what we're going to think about in terms of big tech and the internet more broadly, which underpins pretty much all of it. And think about, well, how might we apply these critical questions? I'm then going to dig down particularly into this idea of how does big tech drive inequality, structural inequality. I'll say more about that a bit later. And how can we see both this sort of impact, but also perhaps understand why that impact is there in the 1st place. And then if I've time, I'll try and be a bit more positive because I apologize in advance. I'm going to probably sound very negative. Critical works on 2 levels here. But this, how might we solve some of these questions? But before we do that, I'm going to hand over to you very briefly. Right. Let's try and start with a positive on a positive note, right? What has the internet or big tech more broadly, what has it given us? How has it provided, you know, new things? Has it improved things for us? I'll give you just you can

raise your hand, chat out. Communication, yeah, absolutely. Do you want to explain a bit more? Yeah, like before the internet era, we could hardly communicate with people as much as we do them. Absolutely. Great, great answer. Yeah, I mean, certainly we can now talk to people in ways at speed and across distances that we absolutely couldn't before. So, yeah, good answer. Yes, you can access information very easily. pretty much any topic you're interested about. Another great answer. Yes, absolutely. I mean, Martin and I were just reminiscing about being here for a very long time. But when I was an undergraduate here, right, it was the very early days of the internet. Google didn't exist, right? Journals didn't exist online. If I wanted information, I had to go to a library, right, to look it up in a physical format. I know I don't look that old, but I am quite old, I promise you. Right. But the point being is, like, you know, that has absolutely changed our access to information, right? And But also raises questions, right? Where's that come from? Who's written it? Like, can we trust it? So, we'll come back to that. Any other positives? I mean, there's lots, right? Yeah. Ease of access to services. Yeah, absolutely. Yeah, so it's made, it's perhaps made things, it's reduced barriers to access for services. Absolutely right, because... online is easier for most people, right? And particularly now we're all walking around with a phone that has easy access to the internet, right? Convenience, right? It's made things convenient. Any other quick thoughts, positives? Yes, no? I mean, those are all good answers. No? Okay. Well, that's fine. That's, I mean, I agree with all of those. So I suppose I'm asking that question just to say, like, I'm not here to tell you everything's bad, right? Obviously, the internet has fundamentally restructured, reshaped the world we live in ways that have led to all sorts of positive things. But actually... The Internet wasn't a planned thing, right? It's not that these things were necessarily seen in advance, and it's also brought with it an awful lot of disruption and chaos. It's quite old now, almost 10 years old, but I do love this quote by John McNaughton, who was the tech journalist for The Guardian for a very long time. He says, The Internet is among the few things that humans have built that they don't really understand. It's the largest experiment involving anarchy in history. Hundreds of millions of people are creating and consuming content, which is not truly bound by terrestrial laws. And I like this quote for a number of reasons, acknowledging the positiveness aspects of it, but also saying this has been, this is an experiment, like we've created this thing and we're still grappling with its effects and working out how we govern it, how we police it, this idea that it's not bound by terrestrial laws, right? Because it's global, right? Before things were located in a nation state possibly, or possibly a sort of transnational framework of governance, the internet just Kicks all of those things out, right? Because how do we then manage content across national borders? What's legal in one context and not in another context? These are all questions that have been thrown up by the internet, amongst many, many others, which I'll pull out some of. Again, just to give you an example of the scale of what's happening online at any given minute, you can see, again, that's the other complexity here. The internet isn't a thing, right? It's enabling lots and lots of things, some of which is about

communication, some of which is about us doing things, some of which is about information, some of which is about us creating things, right? Uploading stuff. We're not just consuming on the internet, we're also contributing and creating content. digital social media platforms, right? We now kind of exist both in the real world and digitally. Some of that lines up, some of that maybe doesn't line up because we have the ability to curate to a certain extent what we put up online and what we say about our lives. Commerce, right? No one said that, but like shopping, right? And that's become even more so, right? One of the reasons high streets in this country are you know, dying essentially, is because since the pandemic, you know, huge numbers of people now just do their shopping online. That's, you know, because maybe we had to in the pandemic, but we haven't gone back to shopping in person because the internet makes these things convenient, more instant, right? So all sorts of things happening all the time. Okay, so I mean, I've already hinted at some of these things, but some of the positives. What about some of the negatives? What I'll throw this back out to you again. Like, any quick thoughts about what might be the downsides? Yes. Social media has become quite accessible compared to when it first came out. Yeah, I agree. What's the downside, do you think? I've drove that on as many age restrictions and it's become quite normalized for young teenagers to have access to internet and social media platforms. Yeah, I mean, we're in the middle of a discussion. So I think Spain literally today have just announced they're going to ban it for under 16s, right? We're having a conversation in this country about whether we're going to do the same. So you're absolutely right. There's these concerns about its effect on particularly young people. Mental health is a big, big issue here. What that does in terms of how they connect to the world. So yeah, it's a great answer. Yes? Yeah, so it's opened up this sort of this, I mean, there's the dark web, obviously, because the internet isn't just the bit we see, it's also the bits we maybe don't see. But it has made all these positive interactions more easy, but possibly also **** crime, illegal interactions. Similarly, because it's a tool in some ways, right? And regulation becomes harder and harder to apply to these contexts. So yes, that's a great answer. Yes. We tend to isolate ourselves sometimes online and stuff like not interact with the real world as much. Yeah, absolutely. I mean, lots and lots has been written about the kind of loneliness epidemic that's been created by the sort of digital world. Increasingly at the moment, there's a discussion about people turning to chatbots for companionship rather than actually just spending time with each other. The question is the default now that we turn to digital platforms, we talk to our friends through messaging platforms or social media platforms rather than just spend time in person. So yeah, absolutely. Another concern, genuine concern. These are all real concerns. Any others? Yes. Creating the loss of AI, yes, especially on Twitter, like it's become a concern because there's no legislation on how free and how unlimited AI to create, yeah. Another great answer. This is great. You're all very clued in. I like this. But you know, so you've got this idea of misinformation, right? And now we've had that for a while. I'll talk about it in a minute. But you know, how do we trust what's

on there? Who's written it? Like how do we know? Right before at least someone to put information out the world probably had to get it published in a newspaper or a book. Like there's checks and balances. Now you can, as you say, you could tweet anything. But as you say, now in this world of AI, deep fakes, like It's a whole new era where we, can we even trust what we're seeing and hearing and watching? I don't know the answer to that, but again, great questions. I'm gonna move on just in the interest of time, but those are all really, thank you for those contributions, all really great and probably scratching the surface. Okay, so what are we gonna do today? Just a very brief kind of framing. The internet isn't, as I already said, one thing, and the internet has also grown out of a thing that, you know, built in the 1970s to the thing it is now. And actually, interestingly, when it was first kind of became a thing that publicly was more accessible, this is the 1990s, really, there was this huge sort of positive celebration of this new thing that allowed us to kind of be anyone, to play around with our identity. This is a very famous cartoon from the New York Times, which says, remember when on the internet nobody knew who you were, right? It's a response to what came out in the 1990s, on the internet, nobody knows you're a dog, okay? But there was this conversation in the early days of the internet that this was a good thing, right? This was a site of plague, this was a site of kind of freedom, right? Where we get to sort of free ourselves from our lives and our identities and we can be anything, we have avatars, etc., right? It's sort of ironic now, that celebration, when this is a sort of update of the same meme, essentially now, when actually the concerns are, can we ever not be ourselves online? Because we're being surveilled all the time. All this data is being collected on every click, every time we watch something, every time we spend time on a video on TikTok or wherever. So you can see even in the 40-odd years of the internet being existing, it's our worries and concerns, our questions have changed. And obviously it's developed, right? The technology has changed. Facial recognition being an aspect of the development within these big tech companies. I'll get on to this later in terms of thinking about discrimination and kind of structural inequity. But this is the Amazon facial recognition software, which as you can see, this photo of Oprah Winfrey was over 75% likely to be a man. So not very good at his job. But when I tell you, this wasn't what happened if it was a white man. This was only happening if you were a black woman. So it's not a neutral technology, right? There's actually built within it inequity, perhaps kind of, it's reinforcing perhaps some things in the world. So it's not, again, it's not purely digital. It's actually structured, within the sort of sociology and politics of its time. Similarly, I'm sure some of you will be familiar with this idea that certain content is allowed, certain content isn't allowed. These aren't actually free neutral spaces, right? Meta is owned by one person. X is owned by one person. Google the same, Amazon the same, right? And these are corporations. they feel public in some ways, right? Particularly Twitter or X in its day, sort of we all assume, oh, this is the public sphere, but actually heavily constrained by the rules and regulations that are set by the top or the people that run these things. So they're not actually open and free

spaces. They are heavily... shaped by particular politics of the owners or particular ideologies or particular legal frameworks. It can be all of these things. So again, I'm just moving us into this idea that technology is a neutral thing. It's actually quite carefully shaped. And again, coming back to this idea of kind of jurisdiction, right? The internet can also be stopped, blocked, heavily constrained, like those of you from China will know, you don't have free access to all information via the internet in China, right? That's true in other countries as well. AI also isn't reproducing just neutral facts about the world. It's not just a neutral repository. It is shaped by who's made it, what answers are acceptable, you know, what answers may or may not be unacceptable. So again, I want us to push us on to, I guess, how I approach the study of technology. So I'm just going to try and summarise this very briefly. This is a whole lecture course in itself, but I'm going to try and do it in a few minutes. So there's this traditional ways of which, and so popular public ways in which we might think about technology, which are that it's autonomous, that it sort of is self-organising. Technology develops because it's just the best thing, right? And then the next best thing, and then the next best thing, right? It's sort of independent, right? So technology is always progressing, I suppose, is another way of putting it, but that somehow that's outside of our control. So a lot of the conversations about technology that we see in the public sphere and the popular press are, technology has done this to us. Technology is doing this to us. We need to stop this because it is acting on us, as if it's somehow this sort of independent force, right, that we haven't built or had control over at any point. This is what's called a technological determinism argument. This idea that technology is, its impact is one way, its impact on us, right? It's very, very common. And not, I should say, wrong, right? That is obviously happening, right? All those reasons we just talked about, those are true. Technology is changing things. But the idea that we don't have a part in that, that society, culture, politics haven't also been part of shaping it is the bit that I want to kind of push us towards. But the popular view is that, well, it's just shaped by science and technology, right? Again, it's a technological question. It's a sort of neutral, it's about objective knowledge. It's again, the social, political, cultural has no part there. All of that, I would say, is wrong. right? That's what my discipline would say is wrong. Because technology is not neutral, right? It's not just a tool. We hear that very often, actually. Oh, it's what you do with it. That's the problem, right? The problem is how it's used, not the thing itself. I don't think we should agree with that, actually, because most technologies have been built by people. right? And those people come from particular places with particular politics or particular historical and cultural context. And what my discipline tries to help us see is that those things often get built into the tech. They might be quite invisible in some ways, but we can start to see in the way these technologies play out that actually they're heavily shaped by culture, they're heavily shaped by politics. So to pretend otherwise is to sort of not see what's really going on. So instead of thinking of technology as a sort of linear, autonomous thing that just happens outside of our control, we want to see it as something which is embedded in the world in quite

complex ways, complex systems, complex politics. And we can then see those, try and see those politics and those values in the technologies themselves. Other thing, I'm going to leave this for a minute, I'll come back to this in a second, but so another important question is, Who designs it? Who has made these decisions, right? Who has decided that you can put this thing on Facebook or a meta platform, say this thing on a chat platform or not? That's not a neutral decision. Someone's made that decision. Who has decided that the algorithm works in this way and not that way? This is a computer programme. Someone's made that decision. But we often like to pretend as if The technology is sort of doing this thing by itself. So that's the thing I really, if we take one thing away from today, it's trying to sort of see technology as something we can actually embed and therefore interrogate through this kind of social critical lens rather than just sort of seeing it as this black box of, oh, that's technology. It's its own thing, right? What does that mean in terms of the internet? Yeah. So, well, The very birth of the internet, you don't have to pay attention to all of this slide, but the very birth of the internet actually shows us this really, really clearly, right? The internet was built, I mean, initially by the military, but then largely academics, academic computer scientists built it. They were not thinking, right? This is the 1970s. A lot of it was handed over to graduate students as well. Graduate students built into this system, because it was their politics, this idea that code's never finished. Code's open for revision. Code is checked by people. There's this communal kind of, you might call it egalitarian sort of idea of how the internet functions as this open to revision. It's called the permanent beta, right? This open to revision, open to modification. No one single person gets the final edit of the code, right? That doesn't have to be like that. was their politics built into this system, right? So right from the beginning, This group of people were thinking about, how do we build this thing that works in the way we want it? And of course, what that means is there wasn't much thought built to, well, what happens if people like us use it? Sorry, people who aren't like us use it, right? They're academics. They were just thinking about, well, we want to share knowledge. We want to share information between this group of people who are all pretty much the same. They didn't build in security protocols. They didn't build in like anything that was going to be suspicious about are you who you say you are, any of these issues that we might be dealing with now because they were just designing it for themselves and a particular use, right? It wasn't really until the early 1990s when the sort of the World Wide Web and web browsers became more and computers more generally became more publicly available. So more people started using it. that any of this stuff started to become even an issue, right? And then in 1993, it was opened up commercially, right? So what was previously an academic network, and just as an aside, UCL was the first UK institution to be connected up to the American network. So we were like the beginning of the internet in the UK here. It was called the Janet network then. I think we still actually use some of that infrastructure. And then suddenly the infrastructure gets opened up to commercial companies. And again, commercial companies have a different politics,

right? They have a different idea about what they want to use this for. They want to make money, right? They might need different things, right? How do you ensure the person is who they, how do we deal with fraud? How do we deal with all these other things that just weren't thought about at the beginning? Point being, point of the sort of development of the internet and then big tech, as I'll get onto, Politics has been there. We might just pretend it's not, but it's been shaping the way it was originally built, the ideas of who gets to use it, how they use it, and then that changes as different iterations of the internet come online. The same is true as we move into the early noughties, and we get what was then called Web 2.0, which was this big change away from one-way communication on the internet, which was largely text-based, maybe a bit of video and image, right? But it was not until we had blogs in the late 90s and then social media platforms coming in the noughties, did we really get to the point where we could put stuff on the internet, right? So it becomes a two-way st. We're not just consuming, right, I literally mean that whether we're buying stuff or whether we're just reading stuff or watching stuff, right? We're now creating. And you can imagine again, huge influx of now millions of people all creating information, right? It raises some of those other questions we talked about before, like, well, how do we now know what's good information and what's not good information? How do we, again, different form of politics, kind of invading that space, reshaping it, presenting us with different questions and lots of problems as well. So, you know, what we can see is throughout its life, people have, actually moved from, and these are just a couple of quotes from sort of early internet scholars, Manuel Castells, Clay Shirky, both of whom you can see in these quotes were sort of seeing the internet and actually Web 2.0, this idea that look, now we all get to create, we all get to be producers of content as much as consumers, as this wonderful moment of emancipation, right? Freedom, okay? We all now are free to create and experiment and connect and do all these things. But at the same time, we get lots of other people, again, these are all sort of early internet scholars, being concerned about, well, hang on a minute, that might be true, but Isn't the inverse also true that we're now also giving over all this information to these companies who run the internet? We're also now agreeing often to terms of service where we are handing over lots of metadata, lots of data that previously no one knew about us. So there was a bargain at this moment. Most of these Web 2.0 platforms, I'm thinking here about Facebook as one of the early ones, obviously, and obviously all the meta platforms since. they are free. They're free at the terms of use, and what do we give them in return? We give them all our data. I mean, interestingly, we're at a moment where that's changing. I don't know if those of you who are on Instagram have noticed, but Instagram are now experimenting with this idea that you pay for an advert-free feed. So, again, we can still see it's not a thing, it's a moving thing. I've said most of this already, but I guess, alongside those kind of general ideas about kind of the internet as this emancipatory thing, or this maybe slightly more authoritarian thing that's governing and surveilling and collecting things about us, there's always been this idea, as I've already said, of the

internet being this space where we can connect with like-minded people, but that works in multiple ways, right? In the early days, in the early academic networks, it meant huge communities for science fiction enthusiasts, right? But, you know, today we also can see it's huge communities of the alt-right or the manosphere or, you know, these other, I would argue, quite toxic spaces of where people are collecting, right? So it's giving us things is both good and bad, potentially. And I've already said this bit, right? Very rarely, since the birth of these big corporations providing these platforms for us, have we seen anything other than restriction, constraints, or rules and regulations about what you can say and what you can't say, right? And that's true on meta platforms. Also true on Apple, for example, if you want an app in the Apple system, right, you have to abide by their terms and agree that the app can only do these things, can only have this content, mustn't have this content, right? So Apple is entirely controlling its ecosystem in terms of what is possible to do with an app on an Apple product. So let's think about this idea of politics. What politics are we starting to see emerge clearly out of these bigger platforms? Well, this again is recently early scholar, Deborah Cohen. Facebook, and I would say this is true of Meta and most other platforms, it has a tendency towards capital accumulation and commodification of use. What does that mean in plain speak? It means essentially they're businesses, right? I'll ask you the question. How does Meta make its money? Where does Meta's money come from? Why is it one of the most valuable companies in the world? To move your data maybe. Yeah, but what do they do with the data? Sell it to businesses. Yeah, sell it, right? Exactly, right? It's advertising, right? So essentially, we, it's what we might call immaterial labour. We are the workers, right? We are the people that create value. For Meta, we don't get paid for that, right? We get a nice app, platform, whatever to do things with, but we are actually all of our lives that we are putting on those platforms is monetized, it's commodified, we're making money, so of course what that also means is... for those companies to continue and their corporations, right? Their very existence is to make money for their shareholders, right? How do they make sure that they continue to make money? They have to find increasing ways to keep us doing things, to keep us on those platforms, to keep us on those sites. So there is a very, very clear and obvious politics of capitalism, if you like, of capitalist accumulation on these sites that I'm sure many of us are already aware of, but it's heavily, heavily shaping what those things look like and what they want us to do. There's been a long running argument about sort of what we're agreeing to when we sign up to these things. This is again quite old now, but I'd like this one because this is quite an early terms of not reference, terms and conditions that you would have had to agree to to open a Facebook account in 2007. And I don't know if you can quickly see, but it gives at the time, by posting any content to the site, you automatically grant the right for Facebook to have irrevocable, perpetual, non-exclusive, fully paid worldwide license to anything you do on that platform. Now, this got changed because a lot of people complained and protested this. But this was their first go at saying, no, no, we own everything you do on this

platform. And the reason this was heavily protested was because actually people started to see their own photos on Facebook being used in adverts for some company because their own content had been sold to a company and then was being used to make money for that company because they had agreed to it. But that's the thing. How many of us read these things? We just go, yes, please, yes, I'll use that. But know, the detail is in these sorts of things. But again, we can see all that these companies, you know, are having. And so much of this control relies on, as has already been helpfully pointed out, surveillance, right? This idea that we are being constantly monitored, constantly surveilled, data is being constantly collected. And this is I mean, again, this is early work in this area, but these days, you know, this is very sophisticated stuff. You know, this is eye tracking software that checks how much we're we are watching a video on Instagram and how long we are staying on there. All in service of pushing things to us that we might like so that we stay there, so that we might see more adverts. So it's all designed to keep us on these platforms. And almost all of these platforms work in that way. With the exception of Wikipedia, I think really, LinkedIn maybe, almost all of these platforms. And OpenAI similarly is right at the moment discussing adverts because it's not making any money at the moment, as a way of actually leveraging some money. So I'm really looking forward to student essays that have an advert in the middle of the text. But we'll see how that goes. Anyway, what is this? This is called surveillance capitalism, right? Underlying big tech, underlying this sort of these dominant platforms on the internet is this model of surveillance capitalism, which is, if you use Gmail, your emails are being scanned for content. If you use WhatsApp, you know, your WhatsApp messages are being scanned for content, you know, and then being used to drive probably adverts at you on Instagram or another meta platform. All of this is in service of essentially these very, we're talking about five big companies largely now making as much money as they possibly can. I'm going to skip over that. So what might be, what questions might we ask about that? Okay, I mean, there's all sorts of things we might ask and I'm going to just delve into a few of these at the moment. I've said the top one already, but I think we need to be critical of this idea that The internet, because it's a technology, is therefore some neutral technology, and it's about what people do, bad things or good things, right? Literally built into the structure in all sorts of ways, as I've sort of pointed to, are politics, our particular ideas of what we want out of that technology, and then maybe replacement ideas as we've evolved. Who are we in relation to this then? And what role do we have? Do we have any agency? Do we have any control? Are any of these technologies liberatory? Are we fully outside of this sort of old idea that the internet was this wonderful thing, exciting things or are we increasingly just locked down into all of our data, metadata to be monetized? And then I guess this bottom bit is what I want to focus on a bit more is, you know, we are both shaping and being shaped by these things. And so our job as critical scholars is to make visible what's often invisible, whether that is the capitalist logics, whether, as I'm going to talk about in a minute, is the way in which actually embedded in all sorts of these systems is

still heavy structural oppression and inequity. I've talked a bit about imaginaries, like, you know, we're in this moment at the world, in the world at the moment where we're being sold this idea of AI. AI is going to do this, and this. AI is going to solve climate change. AI is going to change the way we work in all these different ways. That's not real. That's an imaginary, right? We're being sold an imaginary future by these companies in which AI is a central component. You know, alongside that, AI is going to destroy us all. AI is going to kill us all. That's another imaginary. But But there are, I guess the question for us is like, is that the one we want? Do we have any say? Do we get to push back? Do we get to suggest another version of the world in which AI might not be the same or there at all? These are the sorts of questions that I'm interested in asking all the time. What I'm not going to do for, yeah, I've not got very long, 10 minutes, just over. There's all sorts of other things I could talk about in relation to big tech. And I just put this slide up, say I'm not going to talk about any of these, but these might be things you want to explore. in the seminars or in your projects later in the year.

Environmental impacts are not, we like to think about digital technologies as if they're sort of ephemeral because they're all in the cloud, right? But they actually have an enormous physical presence in the world, whether that's through extractive materials or whether that's through carbon footprints or whether that's through water use for data centers. they exist online does not mean they don't actually have a very big impact in the world. And we often don't attend to that. Someone's already mentioned deepfakes misinformation. I'm not going to talk about that today. But also, these are companies which are often using, again, labour from around the world in often quite exploitative ways, whilst being located in nice, sunny Northern California. It's not just tech people, rich tech people in Silicon Valley, who are employed in these companies, often they are embroiled in all sorts of questionable labour practices. If you follow the news, Amazon, this is an ongoing discussion about Amazon and the way they treat their workers.

Anyway, right, let's remaining 10 minutes or so. This is from a book cover, actually, but Google used to have, I mean still does, I think, have an autocomplete function which would suggest when you were looking up something, these are the things we think you want to know. This comes from a book by a scholar, STS scholar, Safia Noble, who It's a really good book, really recommend, called Algorithms of Repression. But essentially her research and her argument is these are not neutral platforms. Google is not a neutral platform for a repository of information because actually you can start to see it suggesting certain forms of information, which is harmful or marginalizing for certain people, and privileging other forms of information. So again, we need to attend. That's not, as it's true of ChatGPT or other AI platforms as it is of Google, right? They are not neutral repositories. They don't just spit back neutral knowledge. That knowledge has come from somewhere. If it's a large language model, it's come from a data set. So what was in the data set? If the data set is the world, you know, is what already exists, then that what already exists is going to be sucked up into the large language model and reproduced. Okay? I'll come back to that in a second. So we are also seeing

increasingly these discussions about, well, the limits of AI or the fact that AI is reproducing all sorts of quite racist or gendered or sexist, you know, amongst other things, knowledge. So what does this look like? I mean, I've already mentioned, but this is a bit more detail. So this is what Google used to have in its autocomplete function. You can see this is heavily sexist. The first suggestion are women evil, right? Sex is possibly also religious, right? But you can see this is not, this is not like what you would expect. Like you wouldn't get this if you go to like a library, right? Probably. But here we can see Google being heavily constructed. Just a couple of examples, right? First suggestion, climate change is a hoax. So clearly misinformation being spread sort of embedded in the system. Similarly, Holocaust denial being one of the first kind of options here, right? This was some years ago, and Google initially said, oh, no, no, no, we don't have any control over the search. We're a neutral repository of knowledge. The search just reflects what's out there. But then quietly, oh, here you go, I've got the quote. This is what they said initially, right? Nothing to do with us. We're a technology. and then actually rather quietly did change whatever algorithm was at work that gave you these results. And that's the clue, right? So they did have control. They could change it. They had point until it was pointed out. Google was reproducing all sorts of harmful information, not even reproducing pushing as the suggested topic all along. So This points us to this fact that we need to think about data, right? What data is being fed into these systems and then how is it being spat back out? And there's lots of lovely SDS work. These are all SDS scholars who have pointed to the fact that actually if the data about the world is racist, that's then what gets built into the system. If the data around the world is gender, but it only thinks about gender in a binary, that's what gets reproduced, right? And so what we're starting to see, particularly through AI, but through big tech platforms more broadly, is the reproduction of all of these forms of what I would call structural oppression, right? Just reproduced, which is worrying when you think about the number of people who are relying on these platforms or systems for information now, that that information is, is continue to replicate these harms over and over again. I already mentioned this. This is the fuller version of the Amazon facial recognition software, but this quite clearly shows a bias towards, well, let's say it was better at identifying lighter skinned male faces than anybody else. Why is this? Because it was trained on a data set which was largely white men. Okay, so the technology fails to then identify, well, this is why Safia Noble identifies particular and very, very harmful tropes about black women being the things that come up when you search for black women on Google. I'm going to skip over that. We can also see this, there was some really horrifying research that came out a few years ago around the kind of way in which gender and gender norms are built into AI assistance, right? If you've used Siri or Alexa, but an early version of, I forget which one it was. Have I got it here? Assistance. Basically, if the user spoke kind of abusive, kind of sexist speech at it, laughed and just sort of shrugged it off. So these quite unpleasant norms around gender behaviours, about, you know, what's acceptable behaviour, about how women might respond to

sexualised abuse was literally built into the system as if that's a normal thing. So again, the point being, these are just quick examples, the point being that when you start to see how the social, cultural, political world is often just being sort of sucked up or is being built into these systems, we can start to see it everywhere. Again, I've already said these things, but we can see that in Facebook meta platforms for a very long time had a rule that you could not show a woman's ***** right? That was a banned thing, right? Perfectly fine to show a beheading or something super violent, right? But there's an odd moral politics going on here, right? Which is based on someone's opinion of what's morally right, what's morally wrong. Not neutral, not, you know, anything goes, someone has made a decision. Again, this is a study from a few years ago now that was on TikTok. Some of the moderator forms, sorry, the instructions for moderators was leaked. And what they showed, as you can see here, is actually the moderators were told to deprioritise in people's feeds anything that had an abnormal body shape, someone that was chubby, had a beer belly, that was ugly, that lacked front teeth, et cetera, et cetera, right? So the TikTok platform here, privileging certain bodies, certain content over and above others. And particularly, I think, I can't say here, but like disabled people, right? Anybody with any kind of disability, visible disability, deprioritise, right? So we might like to think of the algorithm as a sort of neutral, oh, it's just things I like. It's not, right? Politics being built into the system. Why might they do this? Well, if you think again of this as a platform as we want to make money, right? They're privileging certain bodies that are gonna be attractive to the people they want to stay on the platform, right? So there's this idea underlying all of this horrible stuff, which is if we show people Beautiful people doing lovely things in this sort of aspirational way, that's the content they want to consume, that's how they're going to make us money, and then finally we sort of see... literally politics of the world reshaping these platforms. We've seen this most explicitly, I think, in the last year or so with the reelection of Trump in the US and his anti diversity, equity, inclusion agenda, where he's essentially banned it from being something which is federally funded. And what we see, what we saw almost instantly was all of the big tech companies also changing their rules around inclusion, diversity, who's protected on their platforms, who is not in line with the the sort of dominant political power. So again, what questions might we ask of all of this? I appreciate those are all quite grim examples, but they're grim, they're real. And I think do a job in really making explicit the fact that we have to understand who's building these things, right? What normative assumptions, how do they think the world should be? Or how are they building these platforms to achieve the things they want? And then we're just sort of using as if they're neutral platforms. More important question, who's policing them? Someone raised this point about kind of, you know, how do we make laws? That is a good question. We don't really know. This conversation about do we ban phones? Do we legislate the companies? This is an open question, which we don't really know the answer to. Who benefits and who loses, I think, is a question we should always be asking of all technologies all the time, and science, to be honest, all the time.

I mentioned data. It'd be tempting to say, oh, well, these platforms would be much, much better if they're just trained on better data. And that to a certain extent is true. But actually what also is the case is some of these companies, OpenAI being one of them, decided to fix its data bias by employing an awful lot of people for very cheap labour in developing countries to basically read and monitor all of the horrifying content so that they could remove it. which is a questionable practice, I think, in terms of pushing the responsibility to make them better onto the people who are often at the short end of the thing in itself. I'm out of time, so I'm gonna just skip ahead. I had some sort of possible positive things about the future, which I'm gonna just, I will put the slide, I'll give the slides to Martin, so you can flick through those, but I guess in those last few slides, I wanted us to think about like, well, what can we do? How can we collectively maybe resist some of this stuff? There are things to do, but ultimately we're still left with this quote, I think, of this is still a big experiment we're living through and we're not really sure how to fix. I'll leave you with this. These are the things I'd like you to sort of take away from this idea that we are both shaping, I say we, and shaped by these things. These things are not one thing, they are multiple things and therefore we need multiple tools, politics, sociology, history, political theory, etc., to really truly interrogate them. I'll leave it there. Thank you for your participation in listening.