Towards an Ethical Digital Society: From Theory to Practice
Prof. Anupam Guha
Centre for Policy Studies, IITB
International Institute of Information Technology-Bangalore

Lecture - 08
On A Materialist Conception of AI and Ethics

So we are talking about the materialist conception of AI and ethics. Again, this is not very ambitious. I am not trying to provide you with a brand new framework, Just trying to suggest a new way of thinking about ethics, which might be useful. Like one question which was not asked in the last one is that if I prefer human rights and regulations as opposed to ethics frameworks, but are not human rights ethical?

Is not law, something that needs to be guided by ethics? And the answer is, of course, yes. The laws are guided by ethical frameworks as well. But the point is, ethical frameworks differ. So what should be the basis of your ethical framework is a question that is, I think, more interesting. And one such thing I am going to propose, which is a materialist conception. Now what is a materialist conception?

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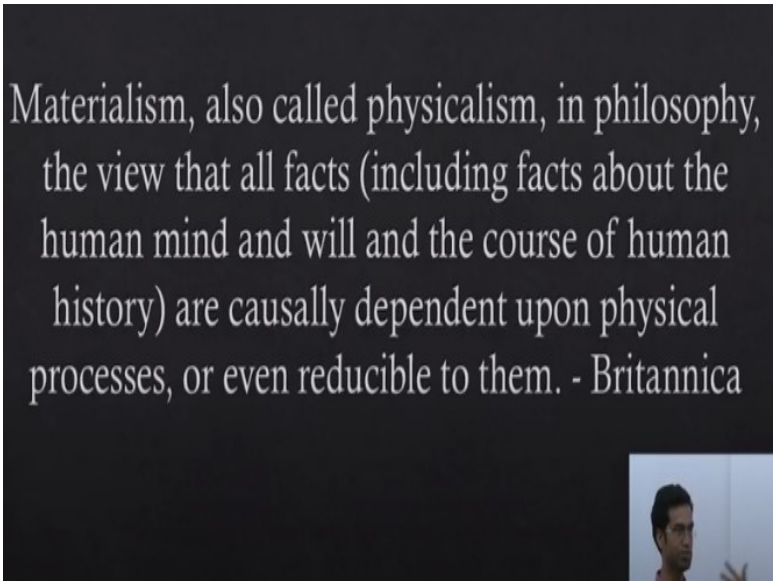

So materialism is a, so I am not talking about materialism, in the sense of oh, me wanting lot of stuff, like as it is used colloquially. That is not, it is a philosophical word. So in philosophy, and I am not a philosopher, so if anybody is and I get things wrong, forgive me.

But materialism basically means that we live in a physical universe, that all things that happen in those in that physical universe have a causal effect, that things have causes and effects, while your observation might be faulty, and etc. But things do happen in the real world separate from your observation. Your observation may imperfectly perceive it, but there is still an objective reality, that is materialism.

And even the things you perceive and whatever is happening in your mind that is also due to causes and effects. That is also due to some kind of natural reason. So that is materialism. But this sounds very scientific and philosophical, how does it connect with ethics is the question, right?

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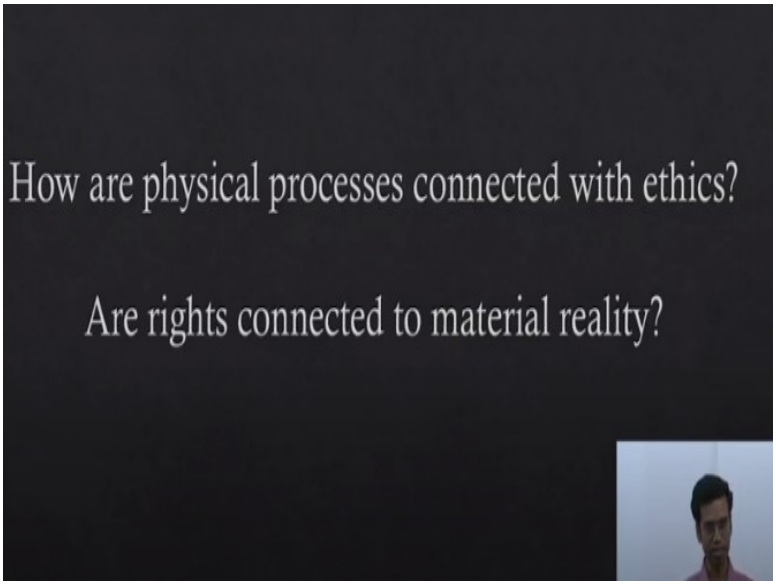

But how are physical processes connected with ethics? So let us take various phenomena which are connected with ethics. Somebody violates your privacy that is connected with ethics. But why do you mind that somebody violates your privacy? Think really hard about it. Why is privacy violation bad? Why is privacy so important? Privacy is important, because a lack of privacy gives a disproportionate power to somebody else over you.

That could be an individual that could be a collection of individuals that could be some kind of panopticon that could be a state. How does this power manifest itself? It manifest itself in forcing you to do some behavior, which is a materialist thing. It could be the pressure of wealth, which is a material thing. The way in which that power operates is through the natural realm, right?

It is not through magic, like when your privacy is violated, it manifests itself in ways which are directly measurable, which are things you can see in the world. Similarly, let us talk about another thing connected to ethics, we talked about inequity, right? Why does inequity happen?

Inequity happens, in this context of AI inequity happens that some AI systems have cornered some intelligence, which can be used to do some processes much better or have some kind of dominance over other people in society. And hence, collect a lot of wealth and that leads to inequity, that leads to concentration. Again, something that happens in the material realm. Let us talk about the third thing in which ethics is connected.

And one of the way ethics is connected is that it could affect politics and make you as a society do unethical things where certain uses of AI is concerned. Again, these things like even information, even rumors, etc., are materially connected. Like you have for example, the way is being used to analyze social media presences and all but those are connected to physical systems, right?

Like the way social media works is not some or like it is not physicality. Even virality is a physical thing. It happens because some algorithm behind are doing certain things. So ethics are very much connected with physical processes. Now are rights connected to material reality? Yes, they are. Every single right you have from the right to life to right of equality. All of these rights translate into the world through material norms.

What does right to live mean? It means that, you know you will not your life will not be in jeopardy. But how would your life be in jeopardy? Due to some physical forces which a state or an individual or a company does. How would your equality be threatened? Through some, again, some actual forces of wealth of other kinds of power, which would be leveraged through the physical world.

So what I am trying to say is that ethics and rights could be connected in the material realm, and it could become, it could become a way wherein you observe them in a

very dense form, and hence have a model of ethics, which actually means to do something in the real world. Hence, it could be a basis of regulations and laws. I am just thinking about laws from a more, this goes the other way as well.

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So laws, because they already exist, you operate in a reality, which already has laws, they are already affecting material reality. Some of those laws can be just, some of them could be unjust. But by the very existence of those laws, your material reality becomes disbalanced, your material reality changes. Regulations that often have unintended effects, but those effects often show themselves in terms of material reality.

Sort of contracting this whole material reality into the small thing of data, socio-technical systems and AI. How do those materially influence individual and social rights? Let us talk about individual rights first. We have seen that AI systems, certain AI systems in certain places can dramatically curtail your individual rights on certain AI systems which are aiding various kinds of surveillance norms, right.

And by the very presence of those systems, your rights as an individual fall into jeopardy. You have other AI systems which are under human beings. I had mentioned moderation in the last talk, moderation of public speech, etc. Now by the very presence of AI systems there you are having you know the responsibility of moderation is being taken away from humans or at least the companies would like to pretend so.

And hence social media companies are trying to automate away their moderation protocols. Faulty as that is, the way it ultimately ends up operating is affecting your speech, which is a very material thing, because, you know you can shout in an empty room, but ultimately, these platforms are the new public squares. Right to be forgotten, getting the right to forgotten.

I did mention right to forgotten in the last one, but like okay. So right to forgotten operates in various ways. What is the most insidious bit is that the information which is being collected about you in various platforms, there are no hard guidelines right now to annihilate that information. So various AI systems, you are a part of them whether you want to be or not. Often when, for example, when anonymization is done, it is also something that is contested.

You could deanonymize data using machine learning. Similarly, you know we would like we have so many places where biometric data and facial data is being taken. And we do not really have any control over that data. Now that data does reside in physical artifacts. So again, annihilating that data **is** could be very much of material action that you take, something you do in the realm of the real world and also it connects to ethics.

Now that was socio-technical systems, all of them operate like this. Now what is a socio-technical system? We talk of technological systems, but I would like you to think of them not as technology but as something which exists within society and technology. When we talk of these technological systems, none of them operate without the social contexts they're in.

None of them operate without the data they take from society or the intelligence they take from society. So the existence of that system is not an interaction between society and technology. There is a neologism here called inter-action. There is this philosopher called Bader, who had termed it, interaction, by which he meant that the entity are not two separate things of technology and society interacting between each other.

It is one entity of that particular use case of technology and that particular use case of the society, which forms a unique whole. And outside of that context, that equation completely changes. I think we need to start thinking about that when we think of socio-technical systems. And of course, there are social rights. The right to right of self-determination, for example. One of the most important social rights we have.

And that right has already been eroded in so many ways, right? You cannot determine how you would communicate as a society because you are forced to use certain platforms because they have a complete monopoly over your society. The democratic control of your society has already been pawned off by the state to non-state actors outside your society, which have a parasitical relationship with your society, using wealth.

Again, all very material things. And of course, you have that leading to inequity. One very small example I would like to give, not an AI example, but a platform example. When Uber came to India, do you remember the prices there was like the rent, the salaries, they were promising people like one lakh a month and something like that. And within like a, within an year or two, it had shrunk 10 times.

And like, you know you could say, oh, show us the algorithm, show us the algorithm, and they might show you the algorithm, might, again. Very hard, but they might. They would never show you the complete data set, because that is where the thing is. And ultimately, why should a platform which is essentially expropriating somebody's labor, get away with it, and not even call you a worker?

Because they would say, what would they say that you are not a worker, they are a platform, and you are freely associating on that platform. So these are social rights, which are getting pawned off at a very fast rate. And we need to, when we think of ethics, we need to think of that as well.

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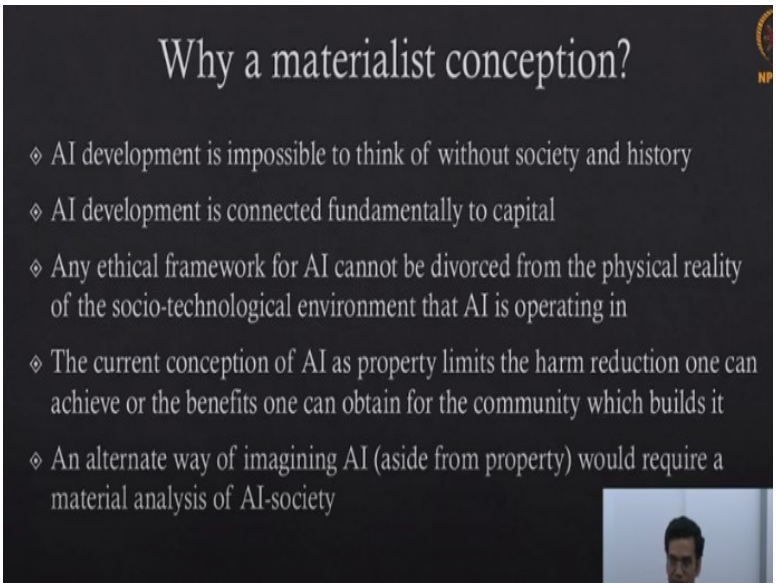

Okay, so why are materialist conception, I am going to try to really hard sell this point. First of all, AI development or for that matter, any technological development is impossible to think about without considering the society that forms it and the history that is before. So why does an AI system gets made, because people make it.

And why do people make it so because there are societal pressures, market pressures, etc., which means something else could have also been made, which means that, sure, you could use facial recognition to sort of identify faces, but you could use the same computer vision technology to identify tumors for cancer research, which would be a much better social use. Which one gets made depends on how that society politically decides which one to make.

Of course, the market will force it and all but again, it is not without context, which means that, you know the very true truism, I am going to say that it is not the technology, it is the society. So do not lose that political control on society the first point. Second point, AI development is conducted fundamentally to capital. Now there is a small point and a large point I am making here.

Small point is of course, you know AI is connected with other resources. What AI gets made is what gets researched. Which one gets researched is the one which one gets funded. True for all of us. It was like when I was an AI researcher, the question as a PhD student, what is it? Who is who is going to fund us? What project are we going to work on, etc. Now who funds all these big projects?

A lot of them are defense companies, right? DARPA funds DRDO funds. And of course, those usages are not going to benefit your society. Then who are the second tier funders, like companies, which do really shady stuff like Palantir for example. I do not know how many of you know about them, but they are extremely, lets just say, they do things, all right. So we have established that a. technology is made in a certain historical context, b. it is connected with money.

But there was a larger point about capital I was trying to make, which was that AI itself is capital. AI systems are capital, because they are essentially means of production, which create better wealth using intelligence obtained from data. Hence, the paraphernalia itself is capital. So AI is created because of capital and then AI influences capital.

By the way, one of the very fast ways in which it influences capital is finance. Finance is getting extremely automated these days and like stock markets, etc. machine learning is being used there. So there are very deep connections there. Third, any ethical framework for AI cannot be, so from point 1 and 2, it follows that any ethical framework for AI cannot be divorced from the physical reality of the socio-technological environment that AI is operating in.

In short, if something works in America, does not mean that same thing would work well in India, because you cannot take something out of its context, you have to understand the whole thing, money, society, culture, capital, everything and then accordingly make development. Fourth, the current conception of AI as property limits the harm reduction one can achieve or the benefits one can obtain for the community, which builds it.

This is the last few words or something I really want you to internalize that AI is built by community, always. Because there is no machine learning system which does not operate on data. And data comes from society. Most of it is unpaid labor, remember that. Like, when you are working and creating that data, you do not realize you are working, right. You are on your phone, you are clicking away things.

You are in your car, you are driving away and your phone is recording your location. All the time, you are creating this valuable intelligence for these companies, you are not compensated and I am not suggesting that, you know you should propertify it and sell it. That is also bad by the way, because then only the poor people will be forced to sell because that is the only capital they would have.

And that would be one further level of injustice. So I am not saying that, because that always is an answer, oh, okay, then we will buy it, we will buy the personnel data, but that also has terrible consequences. So it should not be propertyfied in that particular way.

But if the community generates the data and the algorithms as well, in an indirect fashion by doing the research, and most of this research does happen in public universities, then I would say that we need to go towards an actual model of commons rather than the sort of developmentalist model of commons we have right now which is I think a misattribution of terms.

Because commons cannot just mean that, oh, we will collect data and we will do development with that commons has to mean that we will collect data, because that data was that communities in the first place. So that community must control that data. The intelligence that is extracted from that data is used for the direct benefit of that community controlled by that community in a democratic fashion. That is my line on it.

And how do you make that analysis, you will have to analyze how AI and society are operating in very materialistic terms, the value which goes in, the value which goes out. I am going to tell I am going to quote this Infosys gentleman I know who is a longtime person in that company has seen India's IT boom, pretty much well, now works as an academic. And he said, you know Anupam there are no metrics.

Like if you ask somebody, how much money over the decades has been poured in the IT sector, and what value it created, not from the stockholder value point of view, but like actual benefit to the community, actual jobs, actual growth, the answers might

surprise you. The answers might as well be that it has been just an engine of further inequity, more than anything else.

And this was a person from the industry. So and I have looked and these numbers are not present. Like we are talking about these grandiose terms like Fourth Industrial Revolution and whatever. But where are the hard numbers? And why are we so optimistic that this time we will have the job creation, etc., when all we had is jobless growth.

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Okay, now another line, because we are talking of ethics. So we should talk very basic stuff. And this is a problem I have with these discussions, usually that everybody talks about AI, especially the government and especially these companies, Fourth Industrial Revolution, as if AI is something completely different, something which came out of, I do not know some mystical smog and it will save us all or destroy us all.

It is not really you know. We have had like paradigm shift in technological changes before and we have had terrible events after that. Do you guys remember how the world was like when the steam engine was invented? And when capitalism formed because of the steam engine, when like the economic recessions changed?

How many revolutions, coups, military dictatorships, riots happened at that time, because of that inequity? Well, we have to start thinking like that. AI is not that different. It is yet another technology. How is it different? It is different in two very

specific ways. First, unlike most technological leaps in the past, instead of augmenting your physical capabilities it augments our intelligence capabilities.

It takes data, makes intelligence available for you, you can take better decisions with it. So it is doing some labor for you of a different kind than earlier machines have done for you. And because of that labor it does for you, or rather the labor it you do, because the labor is still being done by humans, it just amplifies it. That amplified labor leads to a more, "efficient travel of capital."

Let us put it that way, right. So it is just what was before, it is just more faster, right. That is one way in which AI is a bit different from the technologies we have seen in the past. And the second bit is, I think, which is the more important stuff is that a lot of humans right now are engaged in doing these what are called mal-employment. So there are two words which even I am very new to, but I am really liking them.

One is under employment, and one is mal employment. Neither is unemployment. So what the platforms have done is the gig economy where multiple people have to take multiple shitty jobs that is underemployment, where you are doing two, three jobs just to get by. And mal employment is then because of this certain technological thing, where you know average engineers are not even needed anymore in this AI world, you are stuck doing bad jobs.

Nobody needs you. Because only the highly qualified AI engineers are needed, right? You have this army of people who can only be employed at bad paying jobs. So the usual **(FL)** of automation is that the jobs would go, but the sense from the industry rather, is not that jobs would go, it is that wages would depress. Wages would depress, because the middle jobs, the jobs which took skills are the ones which are going to get automated by AI.

And, that depression in wages, an overall depression in wages, just adds on to jobless growth and further inequity. So we need to do something about it. And that has to be the core of any ethical way of looking at society. So you know if you want human dignity, like Kant said, human dignity is unimpeachable. Well, now you have a

challenge to that. Now always had a challenge to do that since the steam engine, but things have just become a bit faster.

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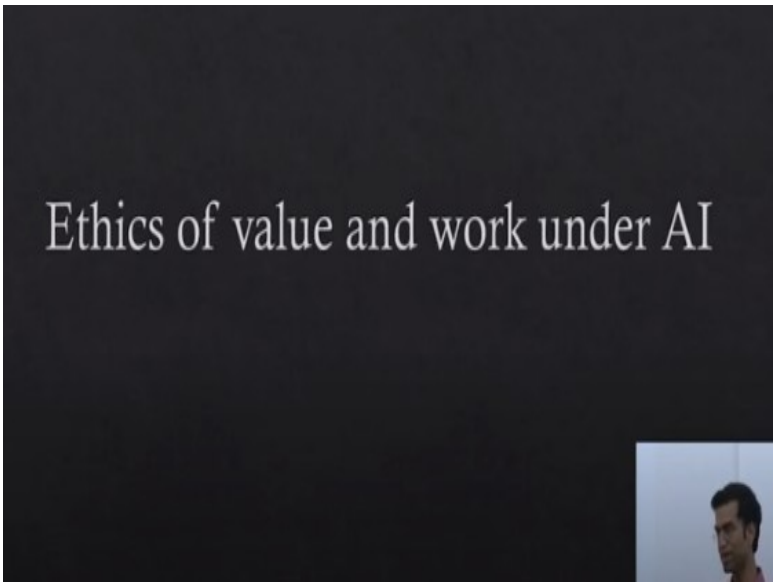

So let us talk a bit about value and work. One another error we often make when we think of AI is we think that the AI is doing the work. It is not, it is humans who are doing the work. AI is aggregating the work and making it faster. Humans still collect the data, AI takes that data, machine learning takes that data. It squeezes, it gets intelligence out of it, and then run some stuff with that intelligence.

It still needed millions of humans to gather that data for you. But each of them did a small atomized amount of labor. The labor was still done by humans who did not even realize they were doing labor, right. So it is unpaid work, essentially. So you are slowly moving towards connecting that with the last argument I made, which is the depression in wages of middle workers, you are reaching this very problematic place in society.

I hate the word problematic because it is a weasel word, like you should always tell what problematic, right? But the point in society where you have an inequality, because the middle jobs are under threat, but you also have another inequality, because work is not recognized as work, extraction is not recognized as extraction. And that is a problem because it is so highly atomized.

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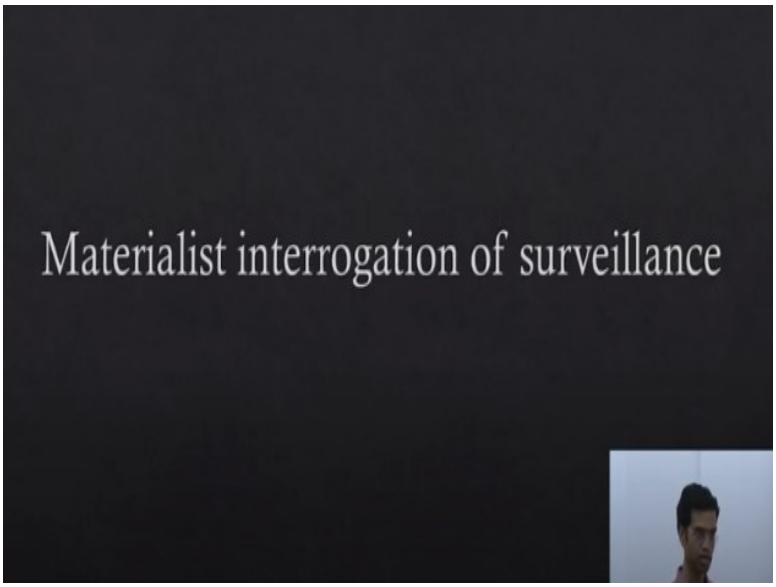

So we have been talking about this materialist way of looking at ethics. Let us talk a bit about surveillance. We have actually touched on this that surveillance, first of all there are various kinds of surveillance which these AI systems enable. But the more interesting question is why surveil? Why do state surveil? The obvious answer is control. But why control? Why do states want to control?

And then the obvious answer would be to regulate certain behaviors. Why do they want to do that? And at some point, you would hit this barrier, and a very interesting thing would come out that there is behaviors which have material benefit to a certain owner class, which the state really likes. Because here is the thing about surveillance and brutality in general, state brutality in general.

While often brutality looks random, especially to the people it happens, it is not, it is not random and it is not silly. It is often highly efficient and it has its own logic behind it. Even when you have things like, you know colonialism or the new forms of colonialism we are seeing, often it is some kind of settler colonialism where land is involved or power is involved or local elections are involved or something is involved.

People do not do brutality without reason they generally benefit from that. And hence, the materialist interrogation of surveillance starts at that point that why does surveillance happen? Why do states surveil? If at all the benefits of AI were community owned and if at all data, like certain kinds of data was not allowed to you

know even exist, it was annihilated as soon as it formed by the community, then would surveillance even matter that much, think about it?

And would surveillance happen at that rate? Like, we are often quick to identify surveillance, we are often not as quick to identify why it happens. And I think that needs to be interrogated.

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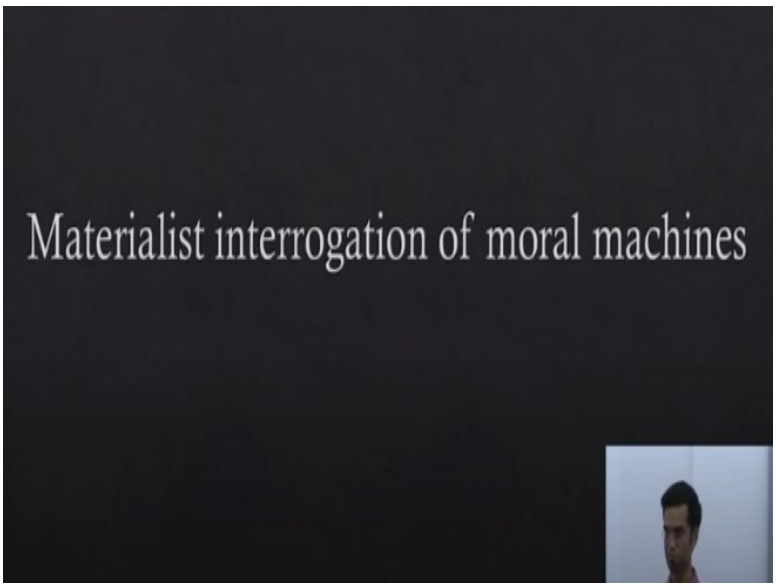

Now comes the more irritating bit because I have been seeing this. So I have been basically talking about the ethics part of it, and how to look at ethics in a materialist fashion. But unfortunately, there is this difference between ethics and morality. And technology people often confuse that. There has been for a while a certain clamor in the AI space of something called moral machines. It is a terrible idea.

The idea is that machines can take moral decisions, they cannot by the way. We have established in today's talk quite extensively, that moral decisions must stay with human actors. But there are a bunch of AI scientists who think otherwise. And they think that machines should take moral decisions.

And then one of course fundamental example they give is that automated car is driving in a road, there is a puppy, there is an old woman, which one should the automated car kill? To which of course my answer is why is there an automated car on the road? There should not be an automated car on the road. That was a human decision. Now you have taken that human decision that was your human fault.

But there is this whole idea of moral machines. I will later go into this in detail. I think first of all, I do not like the word moral. Ethics is something much more definable. And all morality has this mystical bent to it. And I do not know how to even interpret that moral machine. The larger argument of moral machines, I have a problem that it sort of fundamentally commodifies and dehumanizes people.

So I don't have truck with that. Shorter argument of moral machines I am more willing to deal with, which is what they call functional moral machines wherein it is not that the machines are actually taking moral decisions, but where you need to have like patchwork systems to prevent systems from failing down at a very societal level. And they do not have a better phrase for it.

So they call it functional moral machines. And even that I think is fundamentally, you know agency escapes from political actors and goes to machines and machines cannot by definition have agency. And I do not see what is so special about AI and which has not existed with other complicated machines in the past. You know an aeroplane is a remarkably sophisticated machine. It has thousands of parts.

And if it crashes, so many people would die. And it is so complex, but you would never say that, you know jumbo jet should have moral agency. It does not, right? So why should why should AI again like, and also you never say that just because it is so complex and so sophisticated you know you cannot really regulate it, because it is too hard for regulators to understand it. No, aeroplanes get regulated every day. Yes.

True. And that is a that is a sort of, I mean, at some point, you are going to make those fair enough, given that point, that is an ethical decision you are making at that point that but of course, you know you could say that, I mean, to carry that forward, you could say that accessibility is a fundamental quality of your society and not just jumbo jet, but everything should be accessible.

And that is something that could be like a line you have in how you form your community, which I think is more useful, because then if you are talking about AI I think it makes better sense to have these certain societal lines which get used on AI,

rather than having these ad hoc situations and trying to make decisions on them. But I see where that is coming from.

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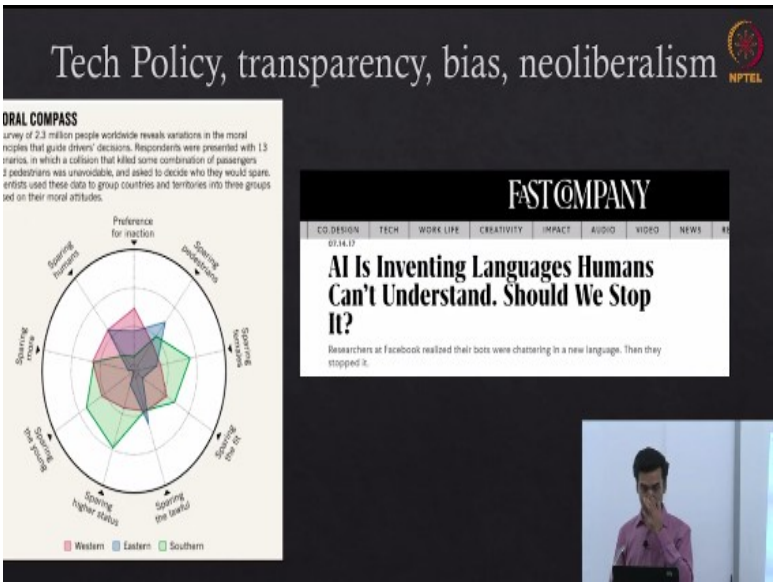

So the moral machine debate by the way, it got recently pretty popular because, and also entered the policy realm because I do not know MIT had done this experiment, moral machine.net or some they had a website and millions of people actually went to that website and, so they wanted to show that, you know in which culture is it more acceptable to kill old women rather than a dog when the automated car is driving, and in which culture, it is more acceptable to kill a pedestrian rather than a, you know some other kind of person.

And it is an interesting ethnographic cultural sort of experiment as far as I am concerned, but like really making algorithms to have cars take decisions on whom they should crash into, I think sort of completely avoids the debate of why certain systems should exist in the first place. By the way, to make an analogue with the jumbo jet example, like right now we are facing a climate change crisis.

Soon, somebody might have to take a call that aeroplanes should not exist, period. So boy, I took it down to materialism again. But you know there is a, there is a sort of a point of order I want to make here that in the policy space, often there is this mystification of AI which plays into this neoliberal framework of looking at it.

And then example, I remember is this really hilarious example, I have been quoting everywhere, which completely took some words from the AI realm, but made a meaning of it, which was completely different. So I do not know if you guys remember. This was pretty famous. Some researcher at Facebook had made a bunch of machine learning entities and was teaching them how to communicate with each other.

And when I say communicate, I am like literally machines passing signals between each other. And because they were, self-evolving, they developed some protocol of communication, which was highly efficient, and which was more efficient than whatever the human researchers had given them. And then they were communicating. Now this news goes out, it gets printed into a bunch of newspapers, I think it started with MIT review, which is a terrible science reporting newspaper.

And then everybody interpreted it as two AI systems developed some kind of consciousness or something. And were talking in an alien language with each other, has AI research gone too far? This is a problem, right? AI has so many problems. We have been discussing that for like two hours.

But the problems people and often policy people think AI has is of a completely different nature, which are like, which has nothing to do with what AI really is, which attributes things to AI which do not even exist. Not helped by the fact that you have certain people, certain very rich people whose name I would not take who are making busy making Institutes like, you know World something ending Institute or existential crisis institute, or how AI would end us all institute.

And there are enough real problems and you know they are sort of having this discussion, which has really no real impact on policy. I think, here is my argument that to really understand the ethical implications and to develop an alternative ethics framework, you first need to understand what AI is and is in turn a certain degree of technological literacy hence becomes a must for policy people.

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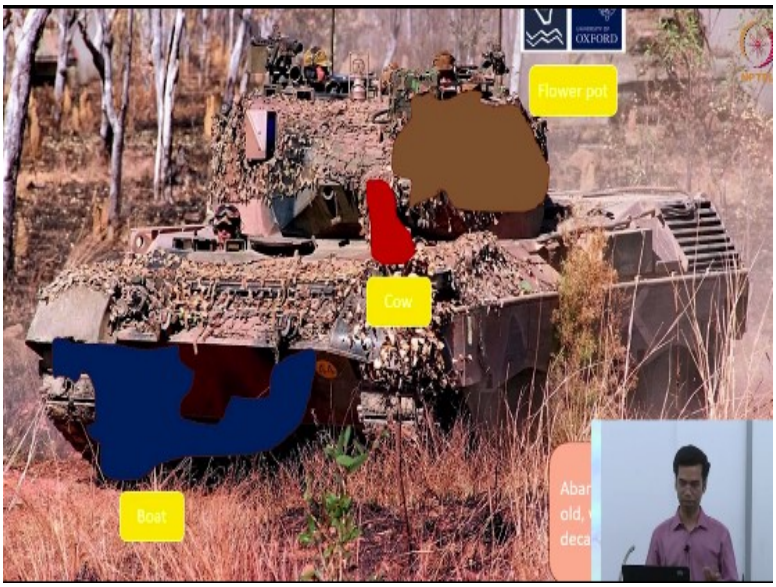

And why does technological literacy become a must. You know you could exhaust your breath all day talking about whether autonomous weaponry should or should not exist? I would say it should not exist of course. Some people somewhere might say it should exist. But the point is that the technology itself, so this is a tank, this is a main battle tank, the Abrams tank.

Let us see what happens when we run some of the like, not right now state of that, but like two, three years back state of that computer vision systems on them and see what they detect. And that is a boat apparently. That is a cow. That is a flowerpot. This is from one of the best computer vision systems University of Oxford had produced.

Another one called Clarify said, this is an abandoned no person, broken, old vintage outdoors, rusty decaying thing. It is none of those. So I am trying to make the point here that, you know computer vision and natural language processing and various kinds of machine learning are still as a technology, you know there is so much scope for improvement. So at a very brass tech level as a policy person, you need to be aware of that.

And when certain bombastic claims are being made, you need to have the awareness to say that you know boss, machine learning does not work at that level. You cannot have automated tanks shooting shells at each other. It is a bad idea in general. It is an unethical idea also. It is terrible for human rights reasons. But also it would not work.

It will lead to terrible losses, it would not work. And that articulation I think needs to happen also.

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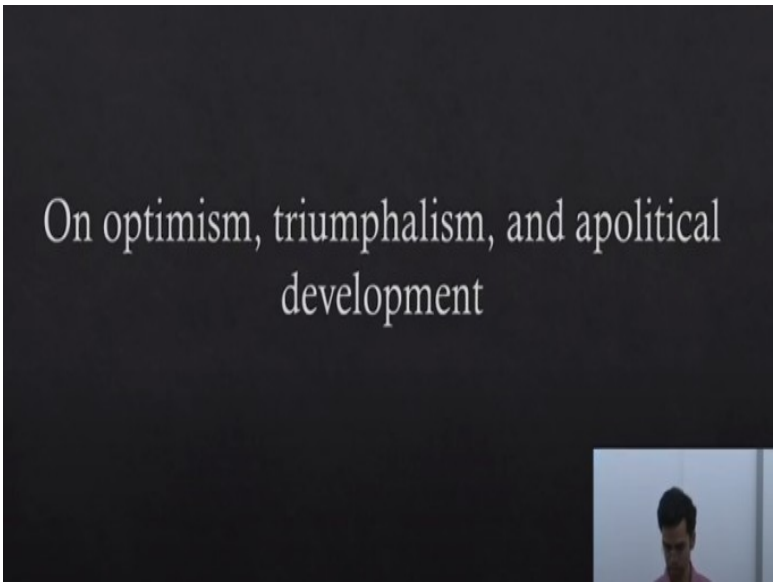

Okay, so on optimism, triumphalism and apolitical development. See this optimism a lot of people have, economists especially I do not know where it comes from that new jobs would come. There is this example that has often been, you know given that India still has a lot of its population still doing agrarian labor, right. So where are these fantastic new jobs, which were supposed to have come in the last few industrial revolutions?

We still live in a world where we talk of the Fourth Industrial Revolution, but a large part of the global south has not even reached the first Industrial Revolution. So this whole thing that it will happen, let it happen, I think is flawed. I think there is lacking of rigor in measuring that. Secondly, on AI triumphalism. This idea that let us go with it, because that is how things should be. No.

Why should certain things be automated? Why should certain things have AI? Like often it goes beyond like simple use cases where you have a need and then you are making a solution? And often it is like no, we just need AI here, *isme* you have AI the company valuation will go up, *isme* you have blockchain this would happen. That sort of thing we are seeing.

I remember I was in a workshop where somebody was talking about finding trafficked children. And they were like all the agencies in India, which are investigating trafficked children, they should all be connected by a blockchain. And I was like you know really like do you know what it is a ledger, it is a glorified ledger, how perhaps it would help by not erasing the records, but like, what else does a blockchain do?

So I think there is a degree of triumphalism when it when we talk of AI, which also is, and the third one is this apolitical development. This idea by or AI developers that the things we make, they do not have political implications. I think we have talked enough today to render that idea completely false.

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Now this is not the end. Though unlike the previous day, I am not showing you the ending movie all right. I am going to show you a video. It is a video which had gone viral a few years, I think four years back. It has some good points, but it also has some bad points. But it is a very popular video. And I want you guys to sort of critique it, like note down in your pads or whatever, that what is wrong in this video.

It is a very persuasive video. So it is like it was very popular when it happened. But there are certain parts of it I have an issue with. And we will discuss that once you have seen this video. And I want you to see this video because this is an example of a popular discourse on the impact of AI on society. Many of you would have seen this video before, humans need not apply. How many of you have seen this video? **(Video Starts: 38:09) (Video Ends: 52:55)**

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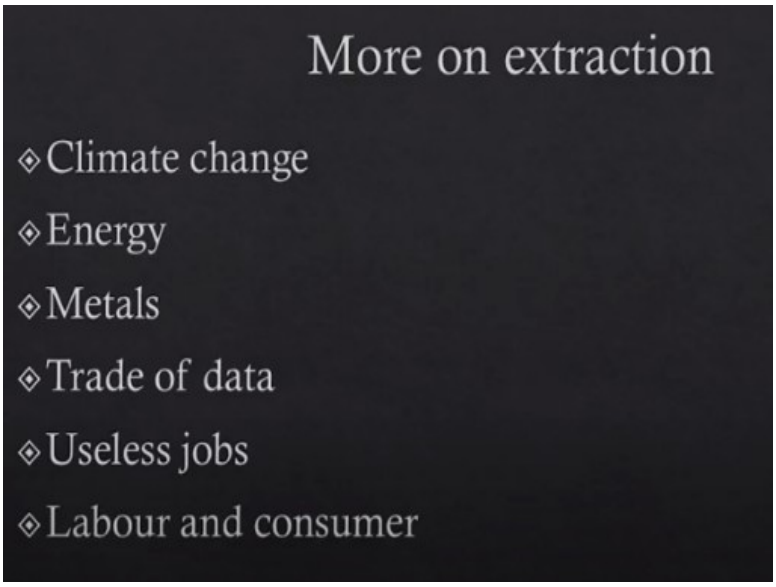

And these are like almost hilarious line in certain circles that oh, am I audible? Is this working? That it is possible to, it is possible to imagine the end of human civilization, but it is not possible to imagine the end of capitalism. Have you heard it, right? Yeah, I know. See, the very boring critique is that it is nowhere near that powerful. I say that in the sense it is very obvious to me and the person who made this video has a very glorified view of AI.

But if it works and if it is somehow magically is that productive then why is it not okay to not work? Why is the implication that the, you know the implication is in this video, that not only will there not be work, but because somehow all the wealth that this AI would produce would keep getting concentrated. But that is not like that, if you can challenge that then not working is fine. I am happy not working.

I am a very lazy person. Now I am quite happy if I am given a big I do not know share in some AI commons in the future. I will come write a few papers once a week and give a few talks. Perhaps quote five, six lines. The point is that there are multiple inevitabilities in this video and one inevitability as you have pointed out is that the economic system will not change.

It will be the same system but with more automation till and I think that was a big critique. And your thing was that if it is so productive, why is it bad why cannot we have a commons. And my critique was that it is never going to be that well, like the

scale of AI it was showing was very out of context. And it was taking these cherry picked really successful stories in that videos of Boston Dynamics robots running around.

I do not know if you guys follow Boston Dynamics on Youtube, very funny robots. But the point is humans do much more labor that can be that easily replaced. Then I think the most important point is that any society that will build is an ultimate cumulation of policy, political and economic decisions. It is not something that just happens.

So, but otherwise, there were some points in it, which were good, which is that if we do not change anything, there is an actual fear that some of us would not be needed. And to make certain that that does not happen, we need to change the macro structure so as to account for that. So as to make certain that the benefits of like ubiquitous machine learning translates to some kind of.

But there was another critique, which I think should have been made is that this infinite growth, this in everything would get automated, can the planet support that? We have talked about that in the previous talk about extraction? And I want to like talk a little bit about that now. So climate change. See the thing is, remember we were talking about data localization, the idea that all of our data of a sovereign territory should stay within that.

The way they perceive it, is that they want to have these data centers, and they will have all the data of a country within those data centers. And then to access them foreign companies will have to pay a royalty or something. The question is, data centers use a lot of energy. And even right now the sort of energy consumption, we are synching in data, they leave quite a bit of carbon footprint.

And it is not just data center, there are various technological, so GPUs, for example, GPU development is a very energy, like the development takes a lot of energy and then running the GPUs take a lot of energy. And the more sophisticated your machines are, where your deep learning systems are running, the more energy you are taking. It is not just limited to AI.

For example, one technology blockchain, one of the biggest abuses it had was crypto, right. And there are a lot of critique of crypto. One big critique, which often gets forgotten is that to do that mining stuff, the sort of energy calculations that were required were immense, like energy outputs the entire towns could use. And you know it was often being done in areas where regulations were not that high and etc.

So there is the constant thing of how much energy we are consuming in building this forever growth of automation economy. And how that affects the climate, how that affects pollution essentially. Energy does not come for free, we do not have Coldfusion yet, and we do not have a global system of solar millers or something. So like that is really important.

And by the way, a complete aside going away from the materialist conception of ethics when it comes to AI, but I hope you guys do know that there is no way we can control ourselves at the 1.5 degree centigrade figure, which is the number we have to like manage it. It will most certainly reach 2 and beyond.

So any discussion on any technology, we have, ethical or otherwise, we need to have that figure of 2 degree centigrade in our heads flying around whenever we design these future economies. The third thing is metals. We did talk about metals in the last thing that you know computational technology requires a lot of well, not easily available metals. And there is an entire economy of these metals, which has not been studied yet.

Last to last year in Naqel somebody wrote a paper on the energy consumption of AI, but it was more of a trade paper like what countries are dumping their energy costs on other countries to like, quickly develop these computational infrastructure. But there is also the amount of hoarding that is happening of semiconductor metals of stuff like that, and there are there is again WTO stuff etc., which is pertinent.

And which you know if you are talking about a materialist look at ethical usage of AI, then you have to also look at equity of these metals the countries of global south they come from, and how they essentially reach the hands of certain countries which have

monopoly on their trade. The fourth is we are talking about trade of energy and trade of metals, then is the trade of data.

Of course, there are countries in the West which claim that it is not a thing. We are not trading it. It is just free flow of information. And then to counter that now you have the narrative from certain global South countries like China, India, Southeast Asia, that no data is a property and we as a country want to hold on to that property and will not let you have it and we will do data localization etc.

And I think I mean I would like to challenge the first one openly and critically kind of challenge the second one as well, because of course, data has economic implications, deeper economic implications, it is not property, but it is intelligence, and it controls the flow of actual property. But my problem is I want policy. I first of all, I do not want us to abandon the policy space when it comes to trade of data.

So that needs to be fought. Because right now there is an attempt to completely subvert that and sort of negate the whole conversation, like not have that conversation, I think that is a problem. But I think that having localization as a solution is also a problem, because okay, one thing I had mentioned before that, you know even if you localize, and even if you say that, you know all the data, certain kinds of data of India would stay in India.

What stops a Facebook or a Google to from opening a gigantic data center. They definitely have the resources for that in India, and your local companies, even from your social democratic framework, you are thinking from, they will not be able to compete with that. They do not have the resources to build their own data center, or whatever. So if you just say that, you know you have to localize the data and that is the regulation that I do not think holds.

Secondly, you could theoretically have all data of a country at a local place, and you could learn machine learning models on it, and then just transmit the models. You only need the intelligence, you actually do not need to lug that data with you everywhere. So there are some technological issues with localization.

But I think it is also more important that we remember that, you know one of the biggest problems with localization is that, so for example, privacy, like data which impacts your privacy. Right now you could have it in some, you know place where it is out of the hands of your state, and you might want that to remain. So that so first of all homogenizing data is something that is a problem.

We need to first say what data is data of an individual. What is the data, which is social data, and hence regulate that. Secondly, regulation does not necessarily mean localization, because of all the things I have just said. Regulation could just mean particular usages are stopped and particular usages are not stopped. It does not need to be geographically done though for certain usages, I do see the merit in the geographic argument.

And even strangely enough, while America opposes it, even they have some localization measures, which they are putting up with certain sort of sensitive data of certain agencies. IRS data, for example, you cannot store it outside America, etc. Australia has started to do that. So it is not as if it is a global South thing. It is also at other places. I think the GDPR is like the correct direction to think.

Then first thing about protection, first think about what needs to be erased. And only then you can think of Commons and other things. Then more on extraction, right? Useless jobs. The fact that you have this bloated economy of so now you have some very interesting jobs. Like there is a whole army of people whose job is to click the up and down button on Amazon to give like false rating to stuff so that those stuff gets bought.

These are called click farms. They do that all day. Similarly, you can buy like the likes for your twitter and can viralize yourself. There are these are not value producing jobs, right. They are not actually creating value of any sort. So these are useless jobs, but they are a consequence of this, whatever economy we are making. And we need to start thinking very seriously about what to do about it. Are these real jobs?

And if they are not, why do they occur? And what are the policy tools we can use to prevent them from happening. And the last one, I think this point has not been raised yet of extraction. We have talked about unpaid work, when a lot of this data collection is concerned. A lot of that unpaid work happens in the guise of you being the consumer. You are on Youtube, you are clicking stuff, you are consuming stuff, right?

But you are also giving them the data they need to train their algorithms to show stuff to people so that they can see more stuff. And of course, they would of course, you know sort of fine tune it so that some hate videos or racist videos would be there to viralize because that brings clicks, etc. It is a deeply convoluted thing where the line between consumer and worker has been blurred.

And this you see with the Uber driver, who is of course, like the worker, as in they are driving, but they are also feeding data into the machine and hence producing value of another sort. So that sort of stuff how do you quantify it? How do you make certain that these companies in, these platform companies especially, that there is a very huge degree of opacity in how these platform companies work.

How do they, you know how do they pay back their workers all their workers. And at some point, we might have to think of very sort of hilarious things like perhaps unionization. Imagine the idea that all people who watch YouTube unionize because they are producing data. I mean, it sounds hilarious.

But like, you might have to start thinking in really unorthodox terms, you know just to like, get back the policy space that this is also something which is benefiting you. So this needs to benefit society in some way. Yes, I have heard. A bunch of YouTube producers are uniting. And they have partnered with a German trade union, which is one of the biggest trade unions in Germany.

And the person who led that unionization effort is my favorite YouTube channel JoergSprave who makes the slingshots. He makes slingshots, like things, which shoots arrows and stones. Very interesting channel. He has made slingshots which can take on like battle tanks and stuff. But yeah, it is a channel of a person making slingshots. But he got pissed off at YouTube and one day decided to unionize.

And I think we need to see more unionization efforts of tech workers of all sorts if we to navigate this kind of complex economy.

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And let us talk a bit about democracy. You know we have been hinting and venting at how the ethics of AI is deeply connected to the society you live in, well, what controls the society you live in. A large part is the political structure of it. And we are at a time where the exercise of democracy is influenced by and influences various forms of capital, including technology.

Now capital has always influenced democracy, right? Who owned the media has always affected who you vote for, etc. But now we are seeing a sort of velocity of media of AI backed media of AI, which is trying to capture public mood, etc. that it has become a problem we need to think about very seriously. Like propaganda, for example, what is often these days called fake news.

I do not like that phrase, because it has certain implications that other news is not fake, which I think is problematic, because all news in a way is fake because all news has a certain lens, politics and algorithmic oppression, something we have been seeing for a while. And also I do not have like, good answers for that, from an ethical point of view, because sometimes, like, of course, we need to have a materialist framework of what is happening.

But sometimes it seems to me that there are even stuff, which even these companies do not have a control on. I would like to remind you of the genocide, which happened in Burma, for example. A lot of it was directed by WhatsApp, Whatsapp messages, etc., the Rohingya genocide. And you know it is easy for us to say that, you know Whatsapp probably wanted virality or content or whatever, you know.

But I am a bit doubtful about that. Sometimes it seems to me that sometimes the very existence of a certain kind of platform sort of amplifies a certain kind of discourse which is harmful for political movements and stuff. And it may not necessarily be that the platform itself is even aware of that or understands the implications of what is happening.

Because if you look at Twitter for example, Twitter gets a lot of flack because there are a lot of Nazis right wingers who are like saying extreme hateful stuff bigoted stuff and Twitter is constantly under attack right that why do you validate them? Why do you give them blue ticks? Why this, why that. And then Twitter goes on, then oh we will block some handles and they randomly block some handles and so unfortunates get caught up in that one.

You know who have not said anything wrong, and then you are like okay, why did you block that person and sometimes they feel that they you know one big problem I have is that this job of policing speech should not be given to platforms. It should not be their responsibility, because ultimately, they operate from a capitalist perspective. They want to make profit. Now you are asking them, okay, now you moderate speech, right?

And they will moderate speech in their own way, and then you will not be happy about it. I think it is way better if you have like regulations of what speech is allowed and what speech is not allowed, if you are going to be moving away from you know absolute free speech paradigm anyway. And interestingly enough, this is something even these companies have articulated.

So when I was in the Internet Governance Forum, they are having this huge debate with like somebody from YouTube. At some point, like they just gave up and they are

like, okay, tell us what to do. You guys are the regulation people, tell us how you would regulate. Because if you give us like predictable, well defined regulation, we will be happy. But right now it is just complete chaos.

Because every country has its different demands and random demands, okay, block this account block that account and we do not know what to do. And I think while I do not say that give the company's benefit of the doubt, I think there is some small merit in this, that there is a lot of overreach by states. We have seen that in the Indian case, where requests go that you know 4000 handles, ban all of them.

And then Twitter quickly complies. And then all the activists are like, why did you ban those handles? I think Twitter finds itself in a space where it does not really know what to do.

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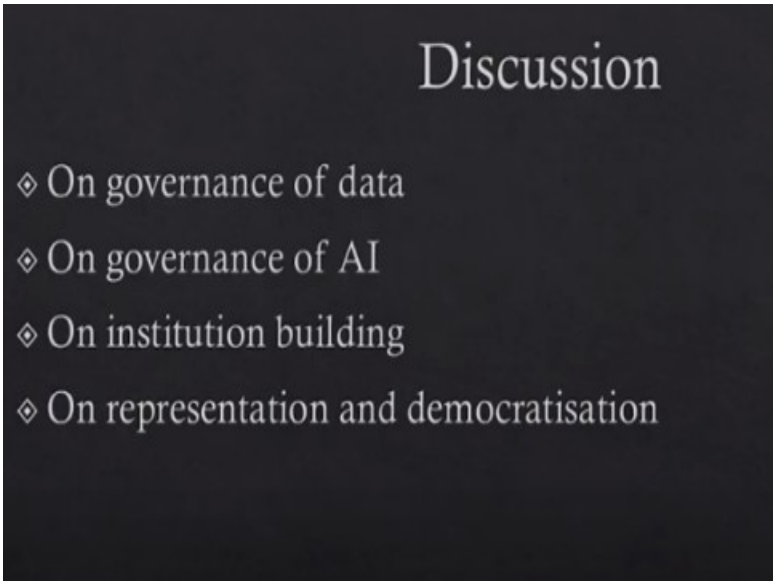

I want to have like an open discussion. One thing, the last point definitely that how do you think AI should be governed? Like leave aside whatever I have said. It is very obvious AI needs to be governed. You cannot leave it as an independent entity. And AI entities need to be governed to be more specific, because each entity is unique to its context, right? How do you think it should be governed?

How do you think we should incorporate their representation of the society it operates in? What are your ideas about that? If I can have some and on democratization of it. But democratization is one of the most ill-used words in AI, right. Like Google would

say, we have democratized AI, open AI whatever. I am not talking about that. I am talking about actual democratic control of AI development in society, how could it happen?

What are the ways in which that could be done? But okay, I will give you a very lame sort of a very basic sort of an idea. I think, for one, at least in India, we need dramatic public funding into higher education, which incorporates AI and also sociology of AI and a combination of the social sciences and the AI stuff in like, unified curricula which look into. But that requires money and political will.

And like right now the trend is actually the opposite as far as public funding of higher education goes. That would be my very basic idea that fund colleges and have AI taught properly with its social impacts and everything. But some ideas please. Everybody who have not spoken. These three gentlemen has spoken a lot. They are my guests, so I do not want them to monopolize the conversation.

But other people and also the professors please, please I am putting you in the spot. How should we democratically govern AI and have it be representative of societies it comes from? I have seen something really interesting. There is this thing called tech workers coalition in the US, which is I know Bangalore has a branch now. You guys are like one city, which is in the wrong country sometimes, right.

All the politics is from there. Like come on, we should have our own thing. But okay, anyway nice. Tech workers union is getting international and they can sing their internationale and all. So it is a very, like, I have been following their work for a while. I am mutuals with the person, like a lot of them are on Twitter. And I like what they are doing. And I think, I think that is prime that we need to get workers some sovereignty.

And for that to happen, there needs to be collective bargaining. Google engineers have already shown the way by walking out and stopping some projects. And I think that is the way to go. Ultimately, companies need workers, these companies cannot work without the engineers, right? They cannot work with their shareholders or whatever. They can keep their shares, but ultimately who is making the AI?

So the workers, especially engineers, STEM workers, we have to unionize them. I think that is a very important part of any kind of democratization of AI. But in America, it is still possible. In India, it is much harder, I think, because the union culture has been over the years over decades been eroded bit by bit, that at this point, if you tell some engineer that you need to have some control over your production, they would think you are a silly chap.

Like most engineers do not think like you do. Like they do not want control. They want, you know they just want a steady salary and no panga. So getting that culture I think among engineers, getting them to understand that they have a moral responsibility to control what they work on, and they have a societal responsibility I think that is very important.

And I think it is also important from a justice point of view that, you know you are producing the value, why is it that you do not get the value you produce? Why is it that it goes to some faceless people who you do not even know? By the way same thing, I was in a company for two years after my PhD, and you know we had these conversations all the time that you know we create the thing, but we do not control the thing.

It is just. Two things, first of all of course there is. For the second part, there is a, you know big answer, which I would not say, because that would be a bit too far into the future, right. We still operate within the paradigms we are given. But for the first one, I actually have a good use case example. So it is not from AI. But as you know the energy sector is also pretty complicated, right?

Energy companies are notoriously complicated. There is this Spanish company, I would like all you guys to look up, it is called Mondragon Incorporated. It is an energy, wealth, resources sort of a company. It is a complete workers cooperative. 60,000 workers and they vote on everything. The company has five levels of hierarchy it is voted for. So like the team votes for its manager.

Every other manager is not selected by superiors, but elected by juniors. And then the managers elect somebody and they will have somebody. So the salary ratio of the person at the top of that company to somebody at the bottom is not more than five is to one as you know in most energy companies, the ratio could be more than 200, 300 to 1 for a CEO, when compared to the lowest paid skilled worker.

And this company has existed since the late 40s in Spain, has consistently performed. So it is a good case to study on how democratisation can be done well, while not collapsing these convoluted procedures. So that is one example. But then why do we have to go that far? We have our own examples, right? Like India Coffee House. I have been giving this example to people. It is completely controlled by its workers.

And running a coffee house chain is not as sophisticated as a tech company, but still pretty sophisticated if you want to not run it to the ground. And they have been running quite well and quite cheaply since, like since the chain started after independence. I mean, the Amul example is overused and boring. Everybody uses that. But I think worker control at least some worker control over these company is deeply needed.

I think Europe also is pushing towards that now you need to have a minimum 20% or 30% worker representation on company boards in certain European countries. I think that is also the correct way to go. But overall, I think we need to push towards more direct control of workers over the things they work on, especially on technology. I think that is an excellent point. Somebody else please.

You have also, they have also, but more people, more ideas. I would not give you an Andrew Yang answer, right. I would try to give you a more sophisticated answer than that. UBI has been in discussion for a while among various people. I think it is interesting in the way that it at least acknowledges that, you know people deserve some degree of economic freedom. And I respect that.

However, the major criticism of UBI is that it does not change that thing, who owns what. Like the companies are still monopolies. It is just that they have spread some of the wealth to make people consume more or live happier, etc. I think there needs to be

a balance. I think we need some form of universal basic income, as our economies grow, and India is nowhere near that right now, in the future.

But we also need to steadily work towards direct worker interference in how companies are run. And I think they are complementary in the sense, because if you have some UBI, like we saw in Finland with their UBI experiments, that how do people spend the money? The idea was that people will waste their money, they would spend it on stupid things, etc.

But no, they had their children educated better, and they fix their houses, etc. So UBI does create a sort of a buffer where you have more breathing space. And in that breathing space, I think workers will have more sort of leverage to argue for more control over their work. So in that sense, I think UBI is a good starting point. But that is not all we should be looking at. Like welfare is important.

But welfare cannot be all there is. And UBI is a sophisticated form of welfare. So I am not a welfarist in that sense but yeah, it should by the way. Because one problem was in India, then they were saying they would replace and I was like, yeah, do not yeah that line would not run. So okay, that is a good line.

And also there is a lot of like the debate on UBI, there are like very well founded critiques of UBI, where the fear is that you know that you make the working class so comfortable that they would try to get far in the working spaces. I do not actually agree with that. I think you actually need some breathing space right now. Like people are not that easily made complacent.

I think people only by more education will they be able to fight better for control, actual control. And if we can see that happening in of all places, America, which is like such a ideologically polarized country, I think we can have it at other places as well. I mean we can have but it does not exist yet so we need to like lobby for that is my answer. Like you need to also push for, like you mentioned right, right of communities where the data is coming from, and protection according to that.

And that imagination lacks because even the imagination we have on commons that is a bit flawed, and it does not like take into account collective well, collective equity, for example. And I think anything which talks about protecting data needs to have that. But right now in the Indian policy sphere, we we have a very warped version of commons. And we do not have that thing precisely.

So we need to sort of, you know somebody once told me that if you want these things to actually end up becoming bills and laws, you and your academic friends need to sit down write a mock bill, and then send it to like, you know these circles because that is the only way things get done easily. You need to sit down and write a law and like.