

**Towards an Ethical Digital Society: From Theory to Practice**  
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**Lecture 02**  
**Technology and Ethics: To Do Good Or To Do No Harm?**

So as the title of my talk says that it I framed it as a question because these are the questions that uh these are the most profound questions that nobody knows that. Are they they all and also this question I think a lot of people who are aware of bioethics or you know questions of ethics in medical practices would be very familiar with this. So to do good and to do no harm they look like they are the same thing right.

That to do good means that to do no harm but they are actually not the same thing when you think of them in practice. So why they are not and this is where I come to so. Chetan's talk was more about the normative notions of ethics what is ethical? What is moral? my question my session would be more about; so I have divided it in three sections. First is about why we need to talk about technology and ethics.

Why that is a relevant topic at all. Secondly I will look at what does it mean to be ethical in every day in our everyday conduct and the third one is of course to think about this everyday understanding of ethics into technology design.

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The slide is titled "Introduction: Why Technology And Ethics?". It features the NPTEL logo in the top right corner. The main content is a bulleted list of references:

- The Fetish of Technology (Harvey 2003)
- Paradoxes of Technology (Feenberg 2010)
  - The Paradox of Action
  - The Paradox of Conquest
- Moral Machines (<https://www.youtube.com/watch?v=jPo6bby-Fcg>)

In the bottom right corner, there is a small video inset showing Bidisha Chaudhuri speaking. The video has a blue overlay with the text "TECH ORTC" and "CITAPP PUBLIC". The IITB logo is visible in the bottom left corner of the slide.

Feel free to stop me at any moment during my conversation. So I want to make it a conversation and not a monologue. So, why we are thinking about uh technology and ethics? So everybody knows what is this term fetish means? Some of my students are here so they might have gone through this drill before but many of you are not. So I will ask this question. Everybody understands what is a fetish?

Obsession with something, okay. Anybody else? Unhealthy obsession with something. Anything else? Any other way you have heard the term fetish. Can you give me an example of fetish? Now that you said it is an obsession, unhealthy obsession with something what does it mean? Give me an example. Do you have a fetish. No, does anybody here have any obsession unhealthy obsession that they are aware of, with anything?

No nobody feels compulsive uh urge to scroll their phones, Instagram? nobody nobody have fetish of shoes, bags uh the most fancy gadgets? Nobody? You are the wrong crowd to be an ethics workshop you have already figured it out. So fetish is basically as she rightly put when fetish has a negative connotation into that word that means when you are obsessing about something which is which you do not need to be.

So when you obsess about something uh for example if I say that it is, I have a fetish for bags let us put it this way. So it is not that I do not have a use of a bag. I do use them and all. But when it becomes a fetish to possess bags become my fetish means they are not a means to an end anymore they are an end in itself. So I am not trying to reach anywhere by possessing these bags. Possessing these bags becomes something that drives me.

So what we see in contemporary times and I do not mean contemporary time by last 10 years our entire modern civilization if you may start from industrial revolution. So if you see that there is this tendency that we have developed about technology that sometimes we forget that technology is supposed to be a means to an end. When they themselves become an end in itself that you need to have the most latest phone.

We need to have the latest technology in transportation we have so that is what I mean by the fetish of technology. And this is there is a very uh very nicely written paper. It is slightly long but it is full of examples by David Harvey he is a Marxist geographer and what he talks about in this paper that what are the causes that goes that why we have such technology fetish in

modern times. And when we have such fetish about technology what are the consequences of it.

I will not go too much into the details of this paper and what are the consequences but to talk about the consequences I will talk about another philosopher called Andrew Finbar in one of his talks in 2010 uh he talks about 10 paradoxes about of technology. Now uh of course there are 10 paradoxes I can talk about them in a whole 90 minute session but I will I chose to talk about here uh two paradoxes that he talks.

One is a paradox of action and the other is paradox of conquest. So before I start on those two anybody who does not know what is a paradox. It is very important that we understand the meaning here. What is the difference between paradox and contradiction? I am asking because I went on talk about talking about them in a class and then end of 45 minutes the student asked me what is a paradox.

So then the whole 45 minutes is wasted right. So that is why I want to... is there anybody who does not understand what is paradox? Please. Okay, now other than her everybody else understand what is paradox can I get a volunteer who will tell me what is a paradox? Deadlock, yeah that is the meaning of contradiction that one something that is supposed to do something does completely opposite to what is the essence of it.

But the there is a very thin line between contradiction and paradox and it is not that I knew it I had to really find exactly what is the difference? And the difference is when contradictions are hidden they become a given thing that we stop seeing the contradiction anymore that is when they become paradox. And that is what Finberg is talking about in this paper and I see it as a consequences of fetishizing about technology.

What is the first so he talks a lot about uh 10 paradoxes. The paradox of action is basically saying that we know from Newtonian law that if when we act on something it reacts with the same force or sometimes even more right. So every action has a reaction if I put it in very simple way. So he is saying that when most of the time when we are building technology we tend to forget this.

How? Can you give me an example? That the things that we have built in the past which we marvelled about that this is such a great I mean it really shows that what Jason was talking about the potential and the capacity of human knowledge and expertise that had a very bad reaction on us. Yes, climate change for example right all these that we are having as a result so it is a reaction of what we have done or what we have built?

So it is not that... so when you think of it this way you basically realize that these are not unintended consequences of things that it just happened by chance. These happen because it is a reaction to the actions that we have taken in the past. And he gives a very uh nice example of that how after building the nuclear bomb how the people who are part of that project what was their reaction.

When they realized what they have made and it was far too late to you know do anything about it and many of them actually were part of this whole lobby many years down the line which is talking about lobbying about nuclear disarmament that is the irony of the whole situation. So the other one is pretty similar to uh the paradox of action and that is why I put them together is a paradox of conquest which means uh initially most of the time science in modern science and technology feels like it is the conquest against different kind of constraints.

So we are progressing, we are going against many constrain and you know things that were not and we are realizing human potential. We can tame the environment, we can do uh we can create artificial mountains and what not. But what he is talking about that but do we only take the good things about this. They also come with a cost what are those cost? And he is saying that just because you are in that position where you also initially get the benefit of all these technologies eventually it will get, going to hit you.

And here uh he uses this term that emperor gets the uh I forgot the term yeah the victor gets the spoil. So you as a victorious person who you who you feel you felt yourself like you are in control of things you would also get this spoil of it. So when climate change happens it is not going to see who is is going to hit. And this is how uh this these are I just wanted to talk about it because these are two ways in which you can think about when we keep fetishizing about technology.

These are the contradictions within our technological systems or actions when we build technologies those get hidden. The consequences of our action today those get those get hidden and eventually they become the paradox. And these are the reasons we need to today talk about technology and ethics that why we need to think about creating technologies which are responsible ethically responsible and also a better understanding of more holistic understanding of our action as human beings with free will and consciousness.

How our actions today are not only going to have an impact in our contemporary times right immediate reactions to what we are doing but how can we project for future. These are the main reasons why we need to think about ethics. Now these are more substantive aspects of talking about ethics and technology. They are also very philosophical they sound very profound while it might not be in everyday life.

There are also very instrumental reasons that a lot of people and including ourselves that we are talking about uh ethics in the context of technology. And one of them thing is basically creating machines which uh current level of automation that we are talking about. Where machines are also able to think and are also able to make decisions on behalf of the human. So we are delegating human decision making to machine and what kind of dilemma that people who are building such machines that they face.

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So this is what, this is a very concrete problem that they are trying to solve here right they are trying to see that how to transfer human moral code onto a machine. Can machine think like us if they can think like us and they also have other human qualities that you yourself listed in the morning. Empathy, Compassion, Contextual thinking all that and these are the reasons from a very substantive point of view that where are we heading towards.

So here what we see that on a substantive level we are trying to think about what kind of a society we are trying to build. Will it be ethical when we rely more and more on technology and on this other hand what we see the people who are trying to build technology are facing these ethical dialogues on a day-to-day basis in their own work. How to resolve this when we delegate responsibilities between humans and the machine.



So both of these brings us to of course the philosophical understanding of ethics that what historically and philosophically we have looked at as ethical and moral. But it also tries what I will try to do now in the next couple of slides is to problematize this whole understanding of a universal ethics or even very generalized sense. It does not have to be universal but can we even think about something like an Indian ethics. What would be Indian ethics for that matter.

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### Ethics: From Philosophy To Everyday



- Sociology of moral facts: religious ethics: how societal norms and bodily practice powerfully shape moral becoming. (Durkheim 1893/2013)
- Genealogy of ethics: self-forming activity, Caring for Oneself and Knowing Oneself (Foucault 1997)
- Human agency and ethics (Fassin 2014)
- Relational Ethics: the person for whom, from whom, and toward whom, existence (ethical and otherwise) emanates. (Mattingly and Throop 2018)
- Morality and politics:
  - Morality is politically mobilized by various institutions and persons (Mattingly and Throop 2018)
  - The Banality of evils (Arendt 1963)

So we all Indian are supposed to think the same way. Those are the kind of things that we will try to look at. So from philosophy now we move to everyday understanding of ethics. So there are a couple of sociologists here right in this room I forgot who they are but yes you are putting yourself in a spot. So you have to tell me you are familiar I am guessing you are familiar. You have to be familiar with Durkheim this is like sociology 101.

Now you tell me what is according to him a moral fact. He has a whole section which is talking about morality and what is that what is critical here in what Durkham is trying to say. So, his analysis I just put him into context a bit. He is most of his work is about to see the evolution from traditional societies in the wake of industrial revolution to modern societies. And how the social fabric is changing when there is this massive change.

And this is something that he uh tries to study across different domains. One of the domains that he is looking at is uh you know morality of a society. So when the society goes through massive transformation structural transformation that you had a more feudal agriculture based

rural societies which is now moving to large scale industrial production as well as more city based kind of uh you know society social organization.

What does it mean how people cope with that? Do they know anymore that what is moral and what is not that is the kind of question that he is trying to get at. And he is saying irrespective of what kind of society that you are going through it is a society which tells you what is moral or what is immoral? So uh I will uh I did not think that I will talk about it but because he talks about uh distributive justice redistributive justice or the question of justice.

So one of the things that Durkheim talks about that and again you have to take it with a pinch of salt he has a very clear cut uh generalized idea of what is a traditional society and what is a modern society. And as long as you put it in a very time and space context that I am talking he's talking about Western Europe in the wake of industrialization. So first you know industrial revolution.

So if you put that in the context is looking at the difference between traditional and the modern societies. So he is saying in traditional societies your uh what is the notion of crime and how you thought about justice was very different. So there the law would be more uh in the sense it is not corrective it wants to just punish you, right. So laws were more repressive something like you lynch people.

When you know they do something which is not acceptable by the society or you cut people's hand. So the idea is not to correct your behaviour and bring you back into the system. To teach you a lesson which basically you know making you less of a human that was the whole orientation of legal system. But he is saying in modern societies these are the kind of uh system cannot work that is why we move more towards corrective measures.

The whole orientation of law here is to say that how can I correct your behaviour I am not correcting you when I am not trying to change you. How I correct your behaviour and bring you back into the mainstream of what we think as a society is a moral act. Now when we do that how do we decide? So why are we doing this is it that so your immediate reaction could be that he is trying to paint traditional societies in a very negative way that they were uncivilized they were brutal and we are becoming more civilized that is not his intention.

He is saying those kind of corrective uh you know punishment harsh brutal punishment worked in or the depressive law worked because the society operated in a very small scale. So your moral fabric was very strong, there was no ambiguity about it. Because you are operating in a small scale it is more community oriented less anonymous everybody knows everybody and you are not supposed to be mobile.

So you stay in the same society for from your life to death. That means, I am also oversimplifying, forgive me for that, but I would not have time to go on. ah Because of that your moral fabric is very strong and hence any threat to that moral fabric needs to be you know sort of nipped in the bud and hence you go for more repressive mechanisms of justice. Whereas in modern societies uh there are a lot more anonymity, a lot more mobility and there are lot more heterogeneity.

Because of that what is moral is very, very murky field, there are lot of ambiguity. We cannot decide on a day-to-day basis because of this heterogeneity of context, heterogeneity of people, heterogeneity of interactions what exactly is moral? Hence if we go through a very repressive mode of controlling uh what he calls deviance from what is morally accepted that we cannot go by a very repressive way.

Or because we cannot change that because we do not know what is it that we are holding on to. Hence we go after correcting people's behaviour for that particular context. So trying to judge you or evaluate your action in a context of that action and not evaluating you as a person that is the difference between these two kinds of systems. Durkheim also talks a lot about religion as something which underlies uh every kind of morality that every society brings in. uh

And what he also uh you know put in emphasize here and I think that is becomes so the one of the things that he also underlines is this notion that religion brings with it and it is not just Durkheim but other people have also spoke about it is bodily discipline. Most of the religion not just brings a very mental understanding of what is right and wrong. It also brings in certain kind of moral disciplines through bodily exercises.

So uh what I can think of right now is fasting for example every religion prescribes fasting in some way or the other. And these are also you know considered to be something which is



morally good right. uh What when we are thinking about morality here what is operational is a very structural understanding. A sense of morality which is imposed on us where we independently do not decide so and there are many such examples you can think about. um

There are a lot of young people in the room I am sure many of you would have this discussion at some point whether love marriage is good or love marriage is bad right. These are the kind of moral conversations that takes place in our household. Who should have the right to choose your partner your parents or you. So this is where it is not so much about an individual uh you know rational decisions that uh surrounds this question of what is moral.

It is something which we have been doing and something which is socially has been accepted for a long time and hence when you and this is also something I am talking about when you have heterogeneous uh context. That how can I take a decision which is uh so ambiguous that when I take a decision depending on my free will I actually land up hurting people whom my love let say my parents. So is there a moral uh act or not or here ethic would be something which uh brings me to the second point when you look at the history trace it back.

What also Chetan touched upon is this whole understanding of a conscious rational human being with the free will to act. So ethics then that way means that somebody who can reflect upon his or her actions. So here you see a clear contradiction about morality and ethics. If I have to accept things which are socially considered to be moral which are handed down to us through tradition you could call them customs, you could call them habits.

Do we then stop being that conscious human being who has a act or who has a right to free will or who can act at free will, who can choose. Because here there is a clear contradiction between can I choose or should I choose if I can choose should I choose or not right. So what Foucault is talking about here uh all the reading list would be there at the end of the PowerPoint so do not worry about that.

So what he says that how do we then know how do we then do both the same time understand what the society expects of us and also exercise our choice as a human you know conscious human being. And here he says that what he talks about a process called caring for oneself and caring for others and we are constantly trying to find these balance. How do we do this?

uh There is a process that I do not want to bring in too many jargons but we call this process a process of subjectification.

That means by following certain customs by exposing ourselves to different kinds of practices, different kinds of knowledge system what we try to do we try to internalize those. When we internalize those we have so rather than the society observing us we can observe and evaluate our own action. So not only that we can act we have the will and the agency to act we as human being and this is where I think I would add to your list that we as human being also has the ability to evaluate our action and we do and that is why we are in this room right.

We want to evaluate our actions. So when we evaluate our action what are the parameters by which we value it. So it is not just this ethical dilemma it not only comes at the time when you are taking an action, it can come in the future also. When you try to evaluate what you did. So and this is the parameter by which and this is a parameter where both your human agency and this social moral aspect that come in together.

And the more we fit in in a particular society the more the process of subjectification becomes pronounced that means that we have figured out a way to balance both. If there is we have not figured out that leads to different kind of problem then you become a criminal or you become a mentally disbalanced person. The different kind of disorders that you go through. What Foucault interestingly refers to what psychiatrists do, is there any psychiatrist in the room, because I do not know if you might feel offended or not... what he says that what we do in modern do is we have created a modern discipline out of it but this is what uh priest in the church were doing in the confession box anyway. That was meant to be the talking cure that. You go and relieve your guilt so when you think that you have done something wrong you need to talk to somebody you need to in in psychiatry they call the process of catharsis.

Catharsis can be anything you can cry out loud you can talk to somebody you can write about it. You just want to take these things out of your system. And what he is saying the fact that we go through this kind of guilt is the process of subjectification that means that we can step out of ourselves and look at our actions objectively. So in order to evaluate anybody's action

not just yourself but others you have to have that lens that you can think of yourself as another person.

So now what comes next is the question of human agency to what extent we can think about human agency when we internalize these moral values that are passed on to us. And human agency is one of the most important concept in ethics and I will come back to it when we look at uh you know look at ethics in the context of anthropology but here the important point is that as human beings not only you have free will, the ability to act at free will but also how many choices that are given to you, can you choose between those, are those choices are just there or, and to what extent those choices are differentially distributed within the society, that is the question of human agency.

One of you made a point right that uh do I have a you know if there is so much inequality in the society, do we have the same opportunities and the choices. We might all have the same word as human beings, we all might have the right to choose. We all make conscious decisions but do we have the same opportunities and choices through which we are making those decisions. So, that is the question about human agency that gets connected to question of ethics. There are 2 more things that are important about ethics is that question of relational understanding of ethics. So the question you need to ask is not just about, what is ethical for me is what is ethical for somebody else so for example I would again think that bus conductor example right. Those are the kind of questions, it is not abstract questions that in all cases we may behave this way. But we all take such decisions in relation to a lot of things, to whom, how much, or for example, if the journey, for example, was for three days will he do the same thing. All these questions come into play. So, that is the relational aspect of ethics. So, the last point that I am putting under morality and politics is that sometimes when we are not doing anything ,when we are just being you know inactive, passive when we are not acting, are we being unethical by not acting. So, she talks about banality of evil in... it is a judgement basically which takes place, she writes about it in New York times.

The fact that he did not do anything or he as one of the Nazzi personnel enacted some of those, his duties. let us put it this way whatever the orders he followed order and he acted and take part in all those things that we now call unethical. What how do we judge his actions from an ethical point of view. How do we evaluate it. I think there is also a movie called the

Reader which also talks about exactly in same dilemma. There is this one person, she is being tried. She used to be a security guard.

And they did not let them out even though there was emergency and they all died. So and this thing being heard many years later and all she said in her defense and she...and it also shows the grayness of the whole situation...would not that be unethical if I refuse to follow the orders of my boss. This is where the procedural justice that we were talking about that I followed due procedure processes, due diligence. Then how is it an unethical act? But what we are evaluating that action many years later and this is what Hannah Arendt called the banality of evil that means that by not saying things when you say that I focus only on procedural justice, I will not think about the consequences of it, my actions that is not my you know duty to think about it. So will I become an immoral person, do I become an evil.

So sometimes following moral codes of our time may lead us to be evil when our actions are judged many years later. You talked about slavery I am talking about holocaust and there are many such examples and I can think of examples right now that when we just sit and let things happen because they are normal. They are they look like they are legitimate in the current context they follow all processes and we do not speak up.

Because that is not our; what we think is something that we need to speak about because there is nothing illegitimate happening right. So uh so that means yes, oh maybe you can think about uh like you talked about dams right. So when we are thinking about dams the fact that there is a uh a vast majority of population is displaced uh and their livelihood is in fact; so not that they are displaced uh why cannot and if we let that happen by saying that there is certain group of people and we need that.

So can we just and this is you know we also say this that these dams are required because we need to progress. And uh when we do not see that point when we say that you know if you are talking about this you are actually halting the progress. You are talking against development so then that becomes a question that do we then suspend morality for that point? We do not think about these consequences, let us focus at this right now.

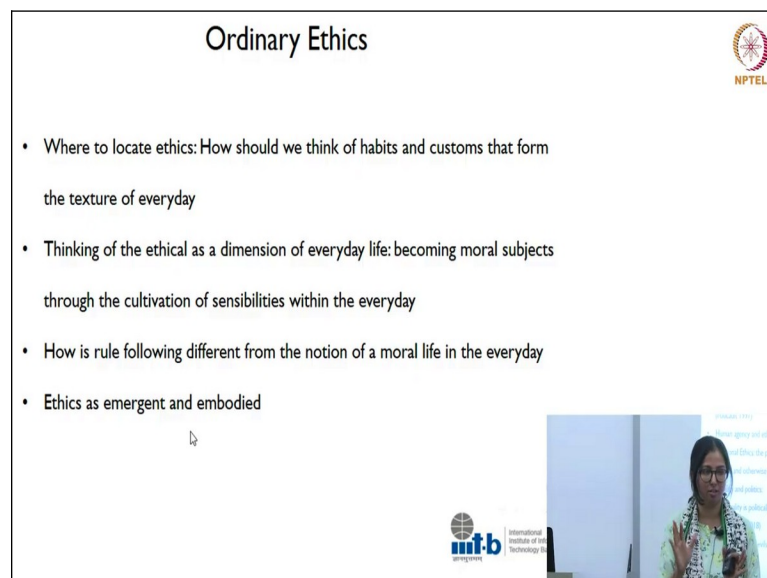
I come to it and also there are other political instances which came to my mind but I do not know how controversial they would be so I will maybe talk about it offline. uh uh So here the

point how it is morality that is political is that there is a chance that people who are powerful in the society and there are institutions which are powerful in the society which has because we have many institutions.

For example state is an example of it where the power relations are very skewed. The state has for example the state has a monopoly of violence. They are legally uh we have given them the right to exercise violence legally. If need be. the fact that we all all the states modern states have an army that is uh the testimony to the fact. So then the question is when there are powerful institutions and powerful groups of people who can then decide what is moral or what is morally correct or what is legitimate.

Then how is that what sort of shapes power relations within the society and then how we being conscious human being reflect upon those moralities that exist in the society right now that is how I make the distinction.

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The slide is titled "Ordinary Ethics" and features the NPTEL logo in the top right corner. It contains four bullet points:

- Where to locate ethics: How should we think of habits and customs that form the texture of everyday
- Thinking of the ethical as a dimension of everyday life: becoming moral subjects through the cultivation of sensibilities within the everyday
- How is rule following different from the notion of a moral life in the everyday
- Ethics as emergent and embodied

In the bottom right corner, there is a small video inset showing a woman speaking. At the bottom of the slide, there are logos for "iit.b" (International Institute of Technology) and "NPTEL".

Any question so I will move on. Now this is where now when we want to do that when we want to be ethical that means that we want to reflect upon what is moral? What is considered to be moral at this moment? How do we reflect on those where do we locate ethics. And here I draw on mostly from anthropologists who have looked at this version of ethics. And one of the things that anthropologist focuses on that how do we become moral subjects.

That means how we human beings imbibe this morality. Is it just the... the first uh the video that we saw is it just talking about a cultural understanding of ethics. Does morality also

changes depending on my social location. So, for example in India when we are talking about dalits; what kind of moral frame that we are talking about dalits with. So now bringing in this kind of questions and how should we think about habits? How we should think about our custom? How we should think about conventions and then evaluate them.

Do we want to continue with them or we need to change. You gave an example of slavery. At some point in time in history we decided that it is not appropriate, that moral fabric had to change. In India there are many example, what comes to my mind now is for example is Sati. At some point in time we decided that it was not correct we cannot use, that is not ethical, that is not morally correct. So, then how that changes and what make us change those moral values and one of the things that we also need to focus here then that understanding is what we consider as moral behaviour or ethical behaviour in different contexts.

So uh this there is a book uh actually called Ordinary Ethics by a social anthropologist, Veena Das and she mostly works in the Delhi slums. She says that, she is an anthropologists, so she writes this beautiful description with much nuances built into it. She talks about that how women in a slum quarrel about very littel things in life, like who threw waste in front of whose house, at every day lives what language we use in others' presence. Body language, what kind of gestures we use with different kind of people in different context and our actual actions of throwing things at people, So they constantly quarrel and constanly being physical with each other. She observe that towards the evening they uh when the husband is supposed to come back they actually create a very serene environment like they do not fight anymore.

And there are also ways of symbolizing that the fight is not over I will come back to it tomorrow. So they said they would put different kinds of like they would put buckets because they fought about whole bucket business they would go and put the bucket in front of somebody's house just to make them understand the fight is not over I am coming back to it right. So she is saying here I am using that to continue the fight but I am making a balance here because my duty as a wife to give a serene and peaceful home to my husband.

There is another side to it. So is it that I am doing out of morality or ethics or is it that I am just doing it out of pure self preservation? That means, because the context that she is talking about is also a place of acute domestic violence. See if I do not fulfill my duty as a wife then

what are going to be the consequences of this action. So how then all these questions I am just as uh Prof. Sadagopan has started the day saying our job is to confuse you. So that is what I am trying to do right now.

I am trying to show you all the grey shades in which we can think about it. uh So there is another example she gave just saying that uh during my fieldwork she referred to somebody else here that uh she is a researcher and she is doing fieldwork... one of her respondents and she is interacting with her respondents and one of the person, the common friend has passed away and they want to discuss about it. And because you know these are anthropologists you can notice everything.

So she says that very interestingly before he starts to tell me how this person died he said let me finish this glass of milk. I do not want to talk about death before I drink this because once I start talking about it I would not be able to drink it. These are very small examples that how our every day, there is no rule here right that you cannot drink uh your tea or milk the after uh talking about somebody who died.

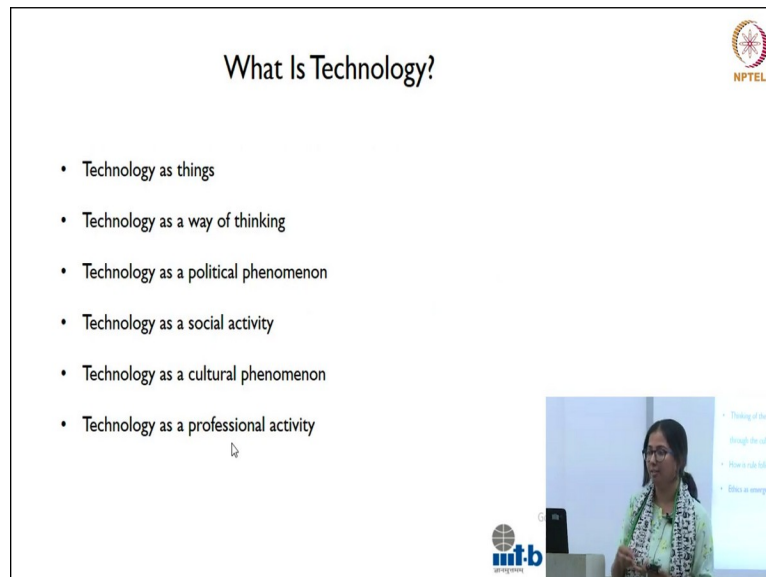
But it is a very moral choice that you are making that you are doing a little sacrifice that once I do that I may not be mine may not be right to drink that you know glass of milk. So let me do that before and then I will talk about it. So what is the point to talk about these examples that what she arrives at which is talking about ordinary ethics is that you cannot have a very predefined notion of ethics and what is ethical.

These are constantly emergent in a context and they are very embodied that means that we with our body with our experiences have come to you know sort of imbibe them. And how we practice them is very unpredictable. And this is the dilemma that the for the video that they are talking about that they only could establish certain correlations that you know they just added up the data points and they figured that people in certain contexts valued uh women more than men. They do not know the explanation because these are very unpredictable.

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## What Is Technology?

- Technology as things
- Technology as a way of thinking
- Technology as a political phenomenon
- Technology as a social activity
- Technology as a cultural phenomenon
- Technology as a professional activity



So you cannot figure out why people are behaving this way and they are constantly emergent in a particular context of action. With that I have to now talk about technology here. Then how are these grey area is talked about so far. Do they become even more grey when we think about applying them in the context of technology? Do you have any questions so far. I am making a switch of section that's why...So, before we apply all these concepts of ethics or ethical entire quandry, first is important to understand what do you mean by technology, how do we understand technology?

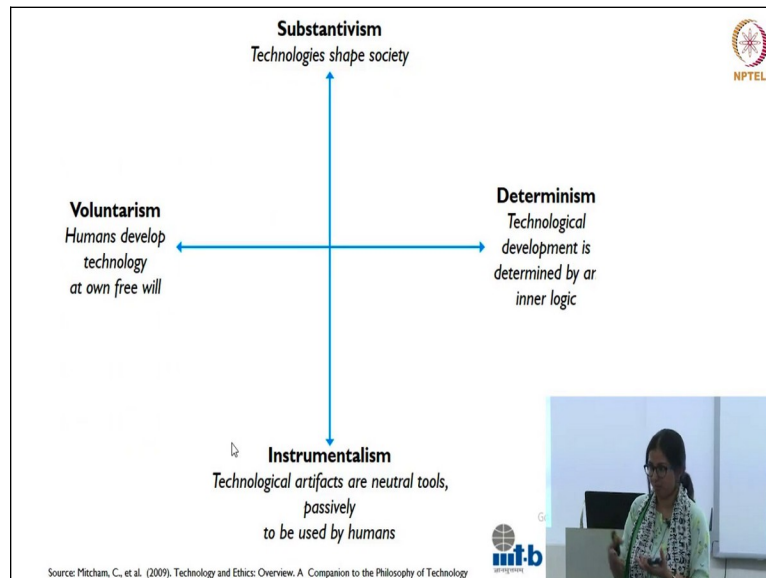
So I will go around and ask which one you would do pick.. So I would agree and that I would put as a social activity because even that profit making social activity in that so you have a particular need. So what I meant why I put this these are not exhaustive list there are many different ways in which people have thought about technology. And if you think of so it depends what kind of ethical position you would take will also be shaped by how you viewed technology.

So whatever your views might be as I said you are free to choose what is the view that you are taking but your ethical questions and how would you approach ethics would actually change depending on what uh which particular definition that you think about. So for example if you think that if the culture which will shape technology you would have a different disposition towards ethical technology.



Whereas if you think that technological, technologies as a way of thinking which could be a way of problem solving. Problem solving is a fundamental way of thinking about what defines technological thinking. And also if you think about technological thinking as something which you need to control or to shape right uh so and if you look at the history of technology as a term you would see that this orientation this way of thinking itself has changed.

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So not to say that technological way of thinking is a static way of thinking it itself changes what you know as technology itself evolves. uh So this is just one way of trying to map this relationship. So on the left hand side what you see is voluntarism that we voluntarily what uh Chetan had said that we as human beings we get together and we make certain conscious choices and that is how technologies get developed right.

So it is like human voluntary action which put technologies into existence. The other side of it is determinism which is also a very prominent way of thinking about technology. That the technology has an internal logic to which through which it will develop by itself. So for example if you have hand mills next are going to be uh what is that Marx had said...hand mills lead to steam mills, right. So it has its own internal logic or if you think about Moore's law that every 18 months or 12 months?

The 18 months you know the capacity of the chip is going to increase right. So when you put it this way you are basically saying that technology has its internal logic and there is minimal

human control over it so it will keep following that there is a coherence to it the way technology develops and it will coherently follow that trajectory that is what uh determinism means. Then on the y axis what we have that technology shapes society.

And the other axis you have the technologies are just tools uh it only at when they are released to be used that it will decide what kind of an impact it is going to have. So that means the onus here do not lie, so there is a very important point here. So when we think of technology shape society that means that you have to be very conscious. So if you think of yourself falling on this quadrant right.

That it is a product of conscious human choices and it will also have a you know impact on the society if that is your position then your ethical dispositions are going to be very different. Whereas if you think that I might choose it if you are in this quadrant if you think it is my choice how I build and design the technology. But ultimately I cannot control how it is going to be used. So there are good human beings who will use it in a good way there are bad human beings who are going to use it in a bad way right.

So then your ethical dispositions are going to be very different how you ethically think about technology design are going to be very different. So can you think of an example of these two? So for example in the first one if we put ourselves here on the first quadrant should we make a nuclear bomb to begin with? Because we know what kind of we have to think right that it is going to shape society.

So if we think about the consequences already in advance then we most probably will not make it. Yes yeah that is also an ethical...so then you are in that case not making an you are making a very clear ethical choice we do not want to be ethical or the ethics here is to kill people. Like that is our moral stance right. Whereas if you are on this most of the time what would you say that nuclear bomb or nuclear energy not the bomb.

Nuclear energy has a lot of potential which can benefit human society it is only bad people who use it to make it a bomb and then put you know put that bomb on other human beings. So it is just uh bad people who you know make bad use of technologies which itself does not have any potential. So this then brings a very critical question just as uh what Aquinas says

that human beings has certain potential can we also think of technologies as having certain potential.

And how those potential can be actualized then becomes the main ethical question. To understand what is the potential of your technology and what are the context in which if this potential is fully actualized, what could be the implications of that. So then you would not be thinking of technology as just tools or as some things right which we use. So that is uh now let us think about this side.

If technology has its own logic, so it will follow its own trajectory of development and it will also have uh it in it like it changes the way we think, it changes the way we do things I mean we do not write postcards anymore right. If we can bring in the postcard example again uh I write postcards only when I am travelling to a new place. I want to send it to my parents to just say that this is the place I have been too.

But I do not use postcards anymore to communicate with people essentially. So that means uh what technologies that has replaced was not replaced but that has come in place. How that has shaped my decisions to communicate how do I communicate. So if we and we could say that now that we have emails the next would be uh Whatsapp after that there would be something else right. uh Maybe we will have teleport uh communications.

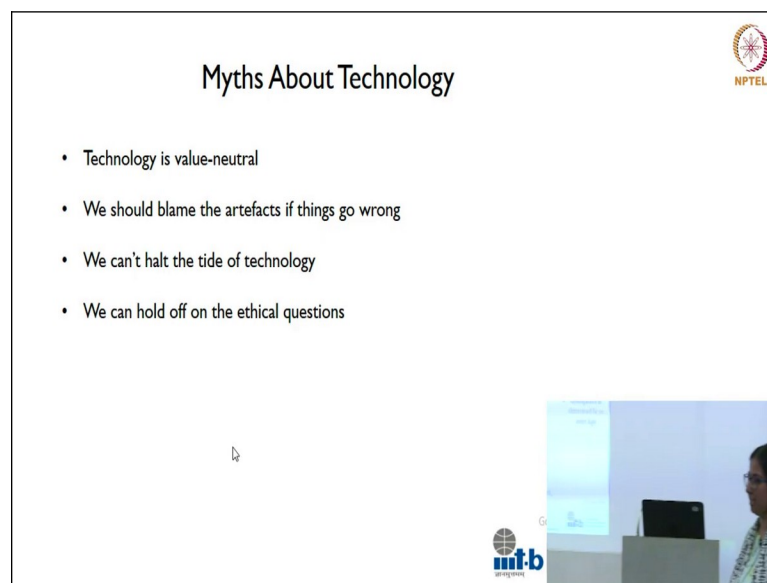
We do not know because technology follows its own trajectory so we would not be able to make that decision that is what this side means. So if we put ourselves here then you actually what you try to do here? That you are trying to put the onus on technology itself you are saying we as human beings do not control what would be the next technology. There is a trajectory it is on its own path right.

So then what kind of society that follows from here what kind of societies we will have will be decided by the next technology that comes our way. So we will decide then about the ethical questions because anyway it is not in our, you know uh sphere of action. If you think about this one uh when you are trying to be deterministic and instrumental this is the most.. this is what I am speaking about the last one because this is the most contradictory quote.

On one hand what you are saying you are giving too much agency to the technology that it can develop on its own whether the human feel will are minimal. But at the same time you are saying once they are developed then suddenly human will comes in then it is not anymore dependent on the potential of the technology it is completely dependent on human action. So now as users it is up to us how we put it to use that is the most contradictory uh way and that is where uh I mean I can think of many technologies uh which follow into that.

So that is sort of it that is why because you with most of the time unwillingly, consciously unconsciously we fall into that quadrant this is what, what leads to paradox of technology that I talked about. That we are unsure where the human will is and where is the technological potential we keep changing our positions. Okay? I do not know no technology point of you know or maybe after like a point of you know moksha you do not need anything. No human beings, no society either. Yes then you are asking the same question..

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The slide is titled "Myths About Technology" and features the NPTEL logo in the top right corner. It lists four bullet points:

- Technology is value-neutral
- We should blame the artefacts if things go wrong
- We can't halt the tide of technology
- We can hold off on the ethical questions

In the bottom right corner, there is a small inset video showing a person speaking at a podium. The video has a logo for "mitb" (MIT Business School) and "NPTEL" in the bottom left corner.

Like in the last session what is the correct behaviour in that, you have to take that position yourself. So here for example then if I am talking about so these are the myths that I am trying to sort of get at that. First one is technologies are value neutral: Definitely technology is not value-neutral. It has a potential once it is built or when it is getting built by act of human choices we are giving it a certain potential right.

So then they are not neutral they are not just merely tools right. Yes I have to know I do not know what are the ground rules. So you have to take each of these ground rules and to see that where would you place them. Like what kind of so this mapping is basically to say there

are different ways in which you can think about the relationship between human beings. If I put it in very crude terms human beings and machine or what we call choose to call technological objects or systems.

And this is different ways in which we think of that relationship where is the balance and accordingly depending on what is our position we try and take an ethical uh position in thinking about those technologies. So to answer your questions you have to go back to those principles and see where do they come from right. So the four myths that uh I am trying to get at here that first of all technology is not value neutral you with human conscious choices you put in certain potential you built in those potential in the technology.

And when should we then blame the technology? So here the operative word we put those potential in the technology right so when things go wrong it is not that you know it is the fault of the technology also. So nuclear bomb is supposed to kill it will kill right. And there are so here both the people who build the bomb and both the people both the group of people who choose to use the bomb they are on the same ethical position.

So you cannot say that we just build a technology it is up to the army who will now decide whether we should use the bomb or not. And this is you would find in the writings many people who are part of the Manhattan project they have actually wrote about this ethical conundrum that they themselves have gone through as individuals. Then so basically who is responsible when technologies fail.

Then the other one is again following from the previous slide that we cannot control technology will follow its own course. So we just have to figure out how to cope up with it right so we cannot control. uh We cannot and many a time this is the most tough myth to burst that many times people will tell you that we will think about the ethical questions when we come to it right.

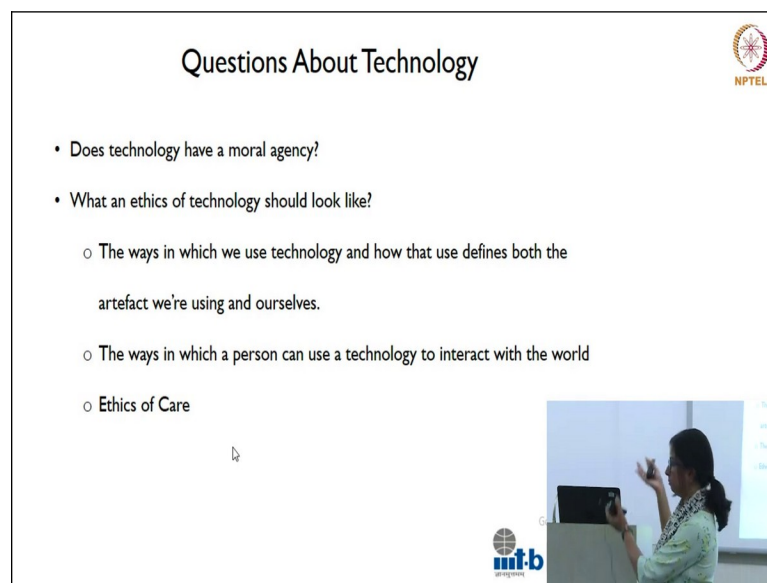
Let us build it now because we can build it and we do not know what those ethical questions are going to be so we will deal with them when they come that is another myth. You can always project what those ethical questions are going to be you might not be sure as we as I just said that they are unpredictable they are emergent in a context. But still you as human

beings because you can imagine you should be able to project what are going to be those consequences.

Then the question is; so uh the ways in which; so first of all the questions and fundamental questions that we are asking is that do then technology can get a moral agency? what do you think? Yes or no; what is not uh moral you would know you took a whole session on morality. So agency is basically that uh your uh you know ability to act and your ability to act by choosing. So you can make a decision it is a conscious decision making process.

So if I give you three options you can do that, yes so the technical does the technology can ha or can the technology have an ability to make a decision taking ethical consideration or moral consideration in mind just the way human beings always do.

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The slide is titled "Questions About Technology" and features the NPTEL logo in the top right corner. It contains a list of questions and topics:

- Does technology have a moral agency?
- What an ethics of technology should look like?
  - The ways in which we use technology and how that use defines both the artefact we're using and ourselves.
  - The ways in which a person can use a technology to interact with the world
  - Ethics of Care

In the bottom right corner, there is a small inset image showing a woman in a light green patterned top standing at a podium, gesturing towards a screen. The MIT logo is visible in the bottom left corner of the slide area.

So what they are talking about here or you know most of the readings are talking about here it is not just whether these decisions are uh what you are thinking about the articles like you know self-driving car and all. They are saying when you are building a technology you are giving it certain potentials and we always create that if these are the situations you have to take this decision. So even at a very nascent stage that is we constantly try to do.

So, every level of automation that means that every level of delegation of human responsibility to a machine, however nascent you might call it, is in a way our attempt to

transfer that moral agency that means when the machine is faced with three choices it will go with one. You might have pre-programmed it that to predict that which choice it will take but that means there is an agency and they can choose between options.

So second one then what an ethics and coming I have 15 minutes what an ethics of technology should look like? Now the question is how do we understand if we are talking about the first or the fourth quadrant or the first quadrant in sorry second one uh that we there are conscious human choices that we are making and uh also the fact that uh technology in a way has a potential to shape the way we you know experience different things.

If that is the point that we are taking then what are the ways we think about this ethical technology. So the first thing is saying that most of the time we when hereby we I mean the people who are trying to for whom we are making this uh you know points the people who build have the are in that position to make decisions about how technology should look like. So, for them many of the times we try to fix a purpose of the technology that it is going to what you said one of you said right the technology has a problem solving way of approaching the world.

That means that we want to give a particular artefact a purpose so we say the purpose of this is to write, right. What they are saying here the first one this is again it comes from a school of social philosophy I did not use the term because people just again get like this is truth there is uh what they call themselves phenomenologist that means that when we use technology that when not only that we do things that are asked to do in a way we both shape each other.

So for example instead of writing with this if I use this to hurt somebody right. So in a way I discover a new use case for this or if this one is if it is a permanent marker and I realize that I only write that cannot be erased the way I will use it to change the way I will look at it will change in the way we try to use it will also change. So how we understand that that there is no one use case that we can fix about a technology it constant constantly shape gets shaped in use.

And the second point comes from something called affordance theory which again talks about uh in a similar way that they are saying that either you think of technology or you think about human beings you have to think about it in relation. Just give me a moment so when we

think about in relation that means that what are the opportunities that I have to use a technology? What is the environment in which I will be using the technology? Who else would be there?

So meaning of a pen in a classroom and meaning of a pen in a place where you do not have a piece of paper or the board change you cannot write or maybe you can write on your hand. So then how would you use a particular artefact will change and that change will come from who will who are you interacting with what is the context of your interaction that means for example I face this in my class.

I have one student who is visually impaired so every time I take it for granted right that I want to talk about something I immediately go and write. When I write I realize every time I teach him I realize I have to spell out what exactly I am writing. I cannot assume that everybody can access what I am writing of course language is another barrier that we have to think about. So how then thinking about technologies is ways of affording the world what does the technology allow me to do rather than dictating how the technology should be used.

And this also brings to the last this is not my last slide but uh it also brings me to the question of ethics of care that means uh in the you know in one of the slightly talked about ethics is also about not just taking care of ourselves but taking care of others. And this is not something grounded in morality but we think that as human society when we are talking about human ethics we need to care for ourselves and we need to care for others.

Now when we think about that way technologies are things that we are building they surround us constantly do we care for them. And this has a very specific connotations for the context of climate change. Are we building technologies which are just use and throw or we need to think about recycling. How do we think about repairing? How do we think about reusing technology if you see most of our mobile phones in last five six years have increasingly become using and throw model.

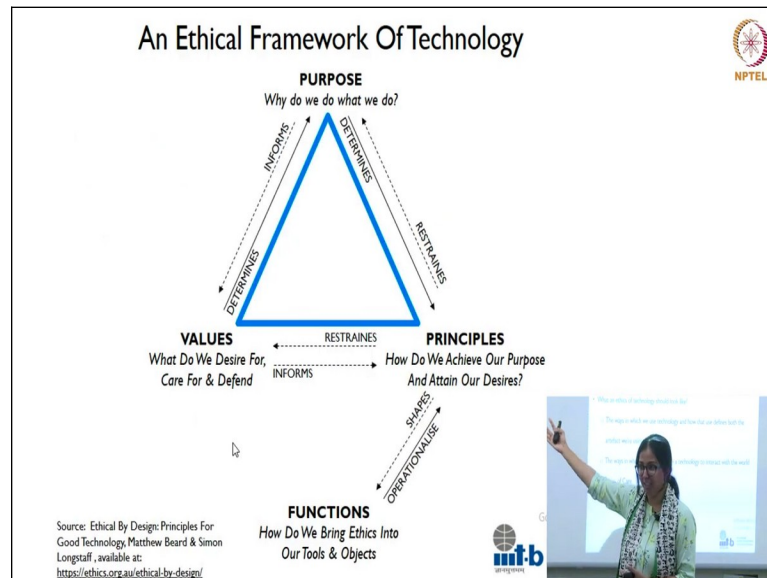
You cannot even like I remember the first Nokia phones if something went wrong with it you could literally dismantle it and then fix it and then put it. There are very few repair shops of phones who can actually, especially and um I hope there are nobody would take offense but if you look at apple phones right. They discourage people to repair so the point is that why



should not I be able to repair it what does it mean so then what kind of ethics that we are building for our technologies.

If those are the things that we build and those are the things that we use and those are the things that surround us and help us shape our society.

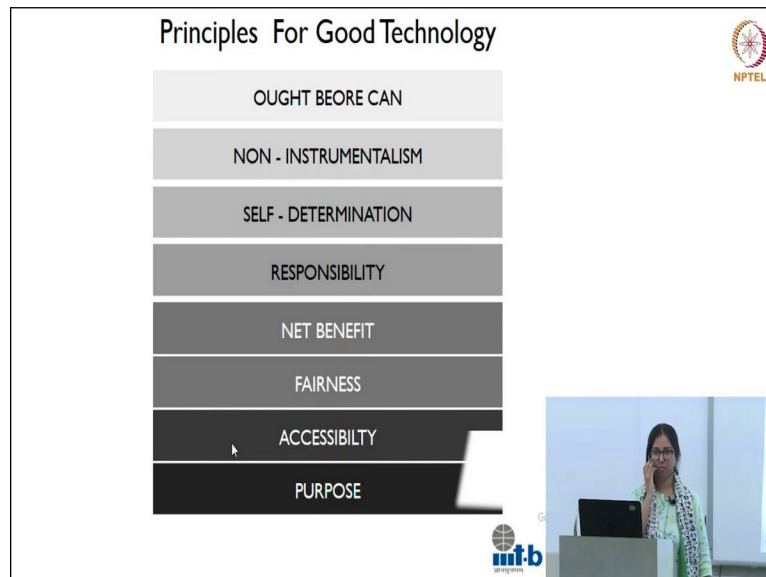
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Do not we need to care for them and how do we care for them that is the question. So this is one this is what I am saying it is not the ethical uh framework of technology. I found this useful so I put it here. It is uh available online you can I mean it is a booklet I think it is a 60 60 page booklet uh they built on all the things what is ethics and then go on. So they are saying that every technological or ethical framework need to have a clear sense of this that what is the purpose so why do you want to build in the first place what do you want to achieve by building this like what is the goal of it and what are the principles by which you would try to achieve these goals. And they definitely have a recursive relationship with each other so it is a two-way relationship. And what do we get out of this is that a very operational understanding of how do we bring ethics into our tools and into our designs and our objects.

So here is there any question this is a pretty simple uh framing, everybody can read what is there? Everybody is clear what is the difference between purpose and value?

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No confusion at all, okay, so I move on. So first so um so this is what we saw the principles right, I mean you look at the... I thought it is a very good, pragmatic uh model of uh thinking about ethics first one just because we can do something does not mean we should do it. So that means that just because we have the wherewithal to build certain technology does not always mean that we should build that technology, why not?

Because then we have to think about are we being so this is where you stop before the can question first you ask the should question should we build this? Then the second one is that why if you decide that I should how do you go about it then the first one is non-instrumentalism and this is this is again thinking about in a non-instrumentalist way. So technologies are not just things which will be built and then you can save it is up to the users how they choose to use it.

But you have to think about it that these are things you are building with potential. So how they would go and try to you know fulfill those potentials is something that you have to think about. And one of the points that make here that many of the times we say that uh and this is also kind of talks to that whole question of technology as a way of thinking that many of the times when we think about in a very instrumental way we try to and this is where I started that whole fetish concept we try to see everything with their instrumental value Chetan gave a very nice example of people being forced into doing engineering many students because we stop seeing education as something which brings us more than a job.

So it is just a piece of paper that I need to show to get a job so it is just an instrumental value that you keep focusing on. You forget that there is other things that education can do to you. So um one of the key ways operational ways of think about non-instrumentalism is that what is the role of human beings in your design that means or the environment in your design? Are you looking at human beings just as mere source or as a tool.

Who would play a part in that story that you are trying to build for example are we just looking at human beings now as data subjects. People I need to get data from to build better machines, to build better predictions or there is something more. And similarly are we looking at when we are building a dam are we just looking at a river from the point of view what can it give us rather than thinking about that the river is part of some human beings lives.

It is not just what it can give us that it has been part of our environment. So if we take it away what other things can happen. So you think of it in a more as a chain of reactions that will come about when you make one changes and that you will not be able to understand if you look at things in a very instrumental lens that what can I get out of this. This person, this river, this tree you know and many of this comes when we think about uh you know things I will come to that later.

Third one is self-determinism that means how much human agency gets built into your system. So how much choices you are giving to human being when we move to digital currency or digital money do we tell people that you do not have the choice anymore to use cash and when we make that when we push human beings to do that you are actually curtailing human agency because you are not giving them any choice.

So does your technology design restrict people's choices or increase people's choices that is the question you need to ask when you are thinking about technology. so one better way to think about it that you think they think of the technology as an affordance that allows you to do things in a different ways rather than creating one dimensional purpose of a technology or you want to list out so these are the things that the technology can do. uh

Responsibility is again thinking about potential harms that do not transfer the responsibility to user that people can you know we build guns. Guns kill people guns protect also people

that kind of a logic. So do not transfer the responsibility to the users take the responsibility yourself and say that what it will do? What kind of potential harm trying to project harms. net benefit this is the title of my talk that what is the net benefit?

Of course there are every technology will have certain benefits but how many people are benefiting from it and how many people are losing out of it. And so it is not just a number here that we are trying to compare what we are saying that if there are so many people are benefiting is that intensity of their benefit equivalent to the loss. So for example I think Amit will talk about in the afternoon session that when we are talking about that we can save so much money by having a Adhaar like platform.

Then some people might not get their food right. So is that we say oh there are only 40 people who are not getting their food or we think about that how much money we are saving is that comparable to people lose you know people's right to food. So how do we compare these two things? So here what they said and this is also relates to the next uh point of fairness that in time sometimes when you think about justice and being fair you we have a tendency to treat everybody equally.

And that is what leads to unfairness that means that first your technology design should think about the most vulnerable section first. You start from there then how my technology is going to affect people who are already at a vulnerable position. And if you cannot answer that question then the question before is already kind of redundant. So they are pretty much connected. The last one um the second last one is the question of accessibility that how inclusive you are how many people you want to include in what way you want to include.

Do you have a sense that when I want to include again these are all related. So if I want to include more people uh of a certain kind do I lose people of another kind? So if I have if I try to be caste neutral let us say you know when I am developing a particular technology or class neutral, we say that we have built in universal technology it works on irrespective of what is your gender what is your race uh what is your caste.

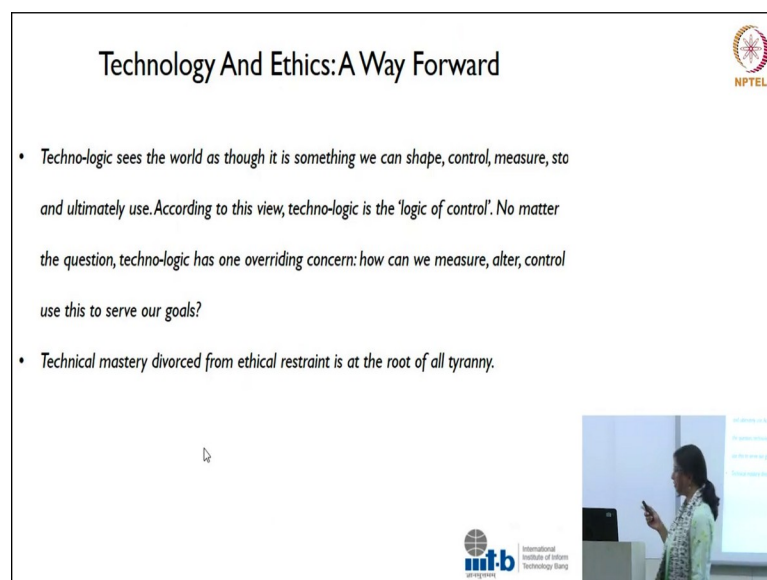
It works exactly the same way you might be making a statement which you can prove but we are not looking at the context in which that would be used. What they can afford so what is their context what is their environment what are the different use cases they can come up

with. So here you are not even thinking about accessibility. So it you will not be accessible as I give an example right if you think about this boards and writing on the boards it meant for people who are visually abled.

If I do not have somebody actually telling you what is written on the board then we cannot this is not an inclusive one. Using you know if I just take a blackboard and a chalk as a technology as an example of technology are we being inclusive here. Then we are expecting that our classrooms would be homogenous they would have a certain kind of people and this is where the last one this is not a hierarchy.

So you should look at all of them at the same time the purpose that what is the purpose for which what is what is it that you are trying to achieve. So here your, this is where brings to professional ethics of the people who build technology are you being responsible enough. Are you reflecting as a thinking conscious human being who can choose and who has the right to make decisions, are you being responsible are you thinking about these questions reflecting on your choices, are you evaluating each of your choices that you are making while building these technologies.

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The slide is titled "Technology And Ethics: A Way Forward" and features the NPTEL logo in the top right corner. It contains two bullet points:

- *Techno-logic sees the world as though it is something we can shape, control, measure, sto and ultimately use. According to this view, techno-logic is the 'logic of control'. No matter the question, techno-logic has one overriding concern: how can we measure, alter, control use this to serve our goals?*
- *Technical mastery divorced from ethical restraint is at the root of all tyranny.*

In the bottom right corner, there is a small inset image of a woman in a white patterned top standing next to a screen, holding a device. At the bottom center, there is a logo for "nit.b International Institute of Information Technology Bangalore".

I will just end with these two quotes they were part of this uh you know the brochure that where the framework comes from the technology. First one talks about how technological way of thinking has evolved in modern times. First one takes that you know it sort of brings with it a logic of control and this logic of control comes from this ability to think that we can.


We can create an artificial mountain that means that we can create I mean there is a in middle east they have built an artificial mountain right.

That we talked about in class that took control climate or control uh rainfall basically that is what you are trying to do so that makes you think that we are progressing that we can hence we should the question is that is this logic of control something which actually takes you to a very ethical path always because as we know from human beings control becomes something that we fetishize about.

We become obsessed with if we can we then start to control. So the second point that follows from here the technical mastery divorced from ethical restraint is at the root of all tyranny. So that means that this control becomes the only way of thinking about technology and technological progress that we can control human behaviour, we can predict human behaviour. We can you know change the way rainfall happens and we have been trying to do that.


So rather than trying to think of how technologies enhance human capabilities we our technological way of thinking has become something which is of control and not thinking about human capabilities. So I will end here if you have any questions I suggest uh you can ask here but I suggest we can catch up over lunch also because I crossed 5 minutes, thank you.

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### Reading List

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This is the reading list and all the PPT's are we are putting it here uh on a folder so they will all be available here so you can take it at the end of the day.