Digital And The Everyday: From Codes To Cloud
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Lecture – 02
Introduction to the Winter School

Welcome I am Bidisha good morning everyone, so what I am going to do here is do an introduction of the winter school and what you are going to do next three days. And once we do that after that we can maybe have a small round of introduction of ourselves right.

So, the first thing is why this name right digital and every day from codes to cloud like, what does it even mean right? So, 1 thing that we thought of doing here is that how our everyday life have become sort of a series of digital interactions and communications right and we do not think of them as digital interactions, it is pretty much what we do every day. So, it is not that we think that oh we are going to use a technology or we are going to use digital technologies, it is pretty much a part of what we do.

So, how we can think if digital technologies have become such an integral part of our life, how do we can go ahead and understand why these technologies work, how do they work and why they do not work if they do not work right.

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So, 1 of the things that we thought that the changes that we are trying to capture here that, we are moving from looking at technology as a tool to looking at technology as more of an experience right. So, we essentially do not understand when your use of technology starts right, it is already part of your life part of what you are doing as I said.

And another point is that how do we understand the relationship between technology and society. Where the technology starts and the society ends or where the technology ends and society starts right; how do we analytically separate them or can we at all separate them right. Maybe when we are talking about technologies which are like just let me ask you when I say technology what comes to your mind like in general, like I think professor Swami Manohar did a great job of talking about technologies that we do not usually think about these days, so what comes to your mind sorry.

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 No I am just talking about what is a technology that comes to your mind in the sense what is the name of the technology?

Student: Internet.

Internet what else computer, what else?

Student: Cell phones, Smartphone's.

So, you always think of it as something that you poses there is a tangible aspect to it right internet might not have that tangible aspect to it, but again when you do things in internet what exactly you are doing on the internet? it is not you are going to the internet to use internet per say, you are going there to do something else right and internet is just a mediation of your social communications or any other activity that you want to engage in.

So, what we are going to do in these 3 days, trying to look at how these 2 boundaries are sort of very nebulous, the boundaries between technology and society and with you know increasing use of digital technologies, with increasing entanglement of digital technologies in our life, we need to understand how this this nebulousness is very important right; to analytically understand the potential the positive impacts of technology in shaping our society and also what Professor Manohar was talking about

the negative consequences that it might have right. So, for that what we will try and do here is to look at digital and the everyday not something as a social experience or as a technological experience, what we will try to understand how it is a socio technical experience.

I will come to it in a bit what I mean by socio technical, but why we want to look at it as a socio technical experience is because and that I will talk about, but before what is the implication of looking at it as a socio technical experience. Things we are making not so, we are not just looking at impact of technology in society, we are trying to understand technology in all phases. So, design of technology, deployment of technology and also use of technology. How all of these are a socio technical processes and how then all of these has a very complex nature that we need to understand right; to see how each of these stages unfolds in their communication or in their interaction with the society.

So, what the call for the application also mentioned it. So, we are looking at it from a very interdisciplinary you know disciplinary point of view and we have a program which is called masters of science in digital society which is a 2 year masters program, which tries to look at some of these issues in a you know proper course structured coursework program. But in the winter school what we did last year also and we are trying to do it this year that we try and see to take out some of the themes that we talked about in the digital society program and give you a snapshot of how this program is taught, how you learn through this program about interdisciplinary approaches to understand digital technologies in a 3 day sort of a crash course right.

So, now coming back to a bit about what is a socio technical assemblage?

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Sociotechnical Assemblage

"An **open-ended** gathering of several different, and sometimes in contrast, elements that can range from **material artefacts**, to **texts**, to **people** or **organizations**, and that can also include for example cities or biological or linguistic elements."

"The relations between the elements of the assemblage are **non-linear**, **complex** and **never predictable**, but nonetheless these heterogeneous elements can find an **alliance**, that makes them gather together"

Di Paoli, and Kerr. 2009

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So, it is an open ended gathering of several different and sometimes contradictory elements right. So, we are talking about material artefacts, we are talking about text, we are talking about people, we are talking about organization.

Now this can also include things like cities. So, for example when you are talking about smart cities right, again you are sort of making the boundary between what is the technology aspect and what is the city and the planning aspect in it by calling it a smart city or biological and linguistic elements. The relations between these elements of the assemblage are non-linear, complex and never predictable. But this heterogeneous elements that we are talking about which might sometimes be in actually in contradiction to each other, do form an alliance for a technology to work or for a technology to be appropriated.

So, if this that is why we need to understand how these alliances are formed between these different kinds of actors right and the you know the importance of looking at it as socio technical assemblage, is that you give equal agency are equally important to human and non-human actors, who build this complex systems that forms the fundamentals of our digital interactions or digital lives every day. So, moving forward I just give a small example I think I have still have time that I can use, of how socio technical assemblage are usually analysed or how it is very much part of it is an analytical tool, but how it is very much part of our living existence every day.

So, 1 of the readings that are mentioned in this power point you will see later, will also talk about talks about different kinds of ways technologies are appropriated or technologies are deployed. One of the examples that I want to talk about here is electrification project in Ivory Coast in Africa, it is also known as coted Ivoire that is a French name for it because it was a French colony till 1960.

So, until recently a villages in Ivory Coast was the village property, they did not have a sense of private property or individual property rights, so the village had the entitlement of the land and they distributed it and the elders in the village. Distributed it amongst the members of the village depending on their need and this distribution also was not permanent it was a transitory understanding. So, if your need changes your usage of land will also change. So, there was no concept of private property. So, when authorities in Ivory Coast and this is in 1980s, I am not talking about a very far of historical moment.

So, in 1980s when the authorities started to electrify started thinking about electrifying the entire country and especially in the villages, what they thought then they need to break this because, they need needed to have a lot of land which is stable, the prop the ownership of the land is stable they are not transitory. So, what they thought that they need to introduce this whole concept of private property, which is not a village owning this prop land, but individuals right.

So, in the process of course you can read this paper in details which talks about, but what I want to emphasize here is that in this whole process in this acquiring of land, how they build it was? Of course, as you can see if you are trying to change somebody's concept of what is public and what is private right it is not going to be easy. So, what they did they actually got people from the villages who are migrated to cities to come back a spokesperson of how good electricity is and how it is going to change and improve their life and not just having access to electricity, but what are going to be the you know spill over effects your education your health, your you know daily quality of life your cooking and all these things can be improved.

So, this people the spokesperson as the article talks about played a very crucial role in convincing villagers to make such a fundamental change right. You are into I I do not even know if we all of us can understand what does it mean to not have any private entitlement to assets that we have, because we think about it in a very individualistic

way. So, what happens then in the process they succeeded to do that, and when they did it also the entire land that was acquired just not was used for electrification of the villages, but also used for road and other utility services that are you know that comes with that requires this vast piece of public and stable ownership of land.

Now, what happened in the process the impact of it, this is the process through which. So, this is the design and deployment which is a socio technical process. Now if I come to use how it is a socio technical process or assemblage in this whole process. So, in our notion that how do we see that we are citizen of India, because as an individual the state acknowledges my existence right. So, it is my relationship my individual relationship with the state that makes me a citizen of India right.

So, in this whole process what happens then in the villages for the first time this whole notion of individual citizenship right was created, because now by owning land as a private property, you are recognized directly by your state not as a village but as an individual and this whole process of building this citizenship and the relationship between the state and the individual was actually mediated through cables, transmitters and meter right and why instead of because in in villages in Ivory Coast a lot of people did not were not salaried people. So, they did not pay income tax right. So, your electricity bill becomes the space, where your citizenship rights right are recognized.

So, that becomes a material artefact through which you can claim citizenship from the state right. So, in this entire so I like this example because, it is sort of elaborates how both design deployment and use of technology is not purely a technical or nor purely social, it is more of a socio technical experience or what I am going to call socio technical assemblage.

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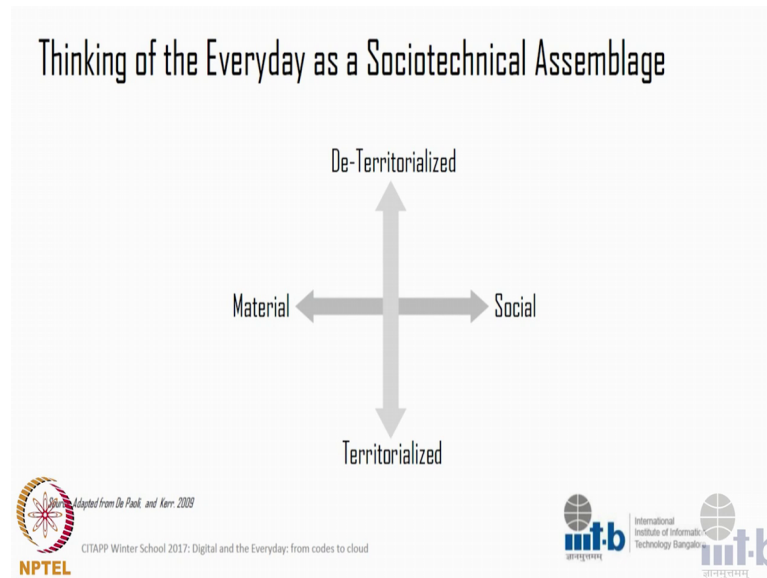
Now thinking of every day that is the theme of our winter school right; so thinking of every day as a socio technical assemblage.

This is adapted from a source so they had something else. So, I changed it a bit, so what we are going to do here. So, this is the sort of access through which we are going to understand, how the socio technicality of everyday works out. So, one side I have kept material and the other is the social and they do influence each other and they are symmetrical in their importance in this framework. So, neither is more important than the other right, so in this way what. So, how do how do we think of material, so what would be a material in your understanding the smartphones right?

So and the social; social is basically the norms and the framework, the beliefs, norms and the customs that we have with which we operate right, we interact with other human beings. Now the material when a material is added to that you sort of changes those norms a bit right. So, I will give you an example of Facebook; you are friends with people offline you are friends with people on Facebook and sometimes they are same people they are overlapping right. But your nature of relationship with those people or the so called friendship, it is very different offline and on Facebook the way you interact the way you talk to each other.

But at the same time it is not completely a social right we call them social communication platform or social media right, because they appropriate some

understanding of the social norms and the way social relationships are supposed to be like how friends should talk right. So, it is the interaction between the material and the social that sort of shapes our digital and the everyday and the other axis which is territorialisation and the deterritorialisation which is very crucial to understand when we talking about digital technologies even more right, why because territorialisation which is not purely a spatial concept.

So, there is of course a space like a face to face interaction would be something territorial, what it does it also brings homogeneity right, amongst people or the group that are interacting on that with that technology, you have some sort of connection and you have some sort of connections which are stable and some sort of homogeneity. With digital technologies that homogeneity is sort of destabilized. So, you might have 750 friends on your Facebook and they might be from all over the world and there might be a lot more heterogeneity between you and your friends than maybe your friends in the classroom right.

So, that is why territory like this axis is very important when we try to understand how the digital and the social sort of interact and this because if you see this the you know the arrow between or the relationship between this y axis is fraught because, when we make such transitions there is, of course contestations that will take place right; because as soon as more and more heterogeneity creeps in more and more your social networks are destabilized which the way you knew right.

There will be more space for confrontations more spaces of contestations and it also then makes this place a place where there are inbuilt power relations and there are more and new power relations that will emerge out of these this axis right and that is where we are talking about it from a social technical point of view. When I said that there are multiple actors and these actors are not always in agreement, but still they do form an alliance and for a technology to work this alliance has to be built. If this alliance does not exist technologies will not function or they will not sustain.

So, this is the framework within which we are trying to understand who are these multiple actors, so these are the key questions that we are going to look at.

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So, who are these actors which shapes are digital and the everyday and what are their interest what is the relationship between these actors, how are they related to each other are they part are they all equal or there are different kinds of power relations that exist between these actors, then one has more voice over the other and what are their motivations? If they have conflicting motivations, how these motivations are or interest are negotiated and then stabilized for a technology to actually take some form right.

So, for the example I get from Ivory Coast, the spokespersons become very crucial for the technology electrification process to stabilize; otherwise it was getting difficult for you know authorities coming from outside and trying to convince a bunch of villagers that, what you known as you know as a village property you have to give up that. So, you are giving up your autonomy on the way your villages are run ok.

So, that is these are the main questions I think most of the sessions in the winter school will be talking about, I will not take you know a lot more time I will just talk about the last slide, we will be talking a little bit about what these talks are and how we are sort of organized this is the looking at these major themes which run cut across our interactions on the digital every day.

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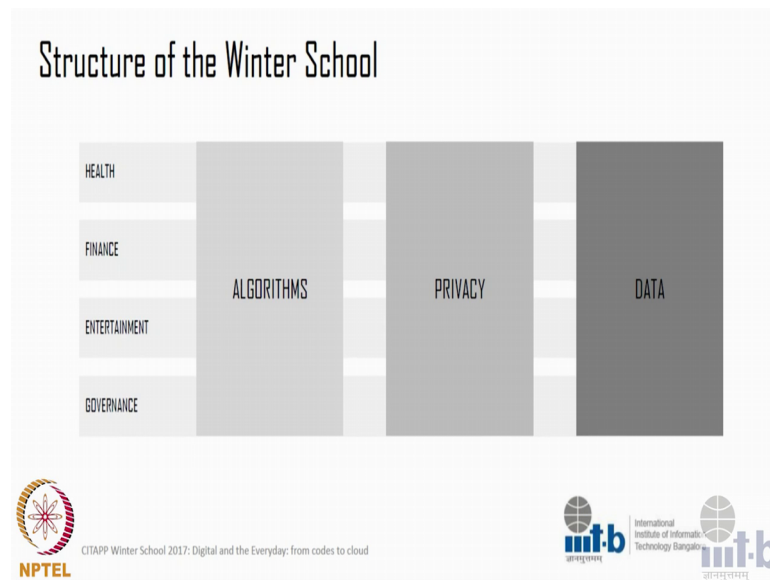
Which is algorithm privacy and data and this will be done in a way that it touches upon this you know this boundary sort of or touches upon or transcended this boundary let me put it this way. Transcend the boundary between the social and the technical in through each of these themes this. So, this is what we call the foundations or the basis of our winter school through which we are going to start and the second half of it we are going to look at how these 3 these algorithms data privacy, privacy or you know regulatory framework in general. How this 3 are sort of manifested or in experienced when we are talking about them in specific domains such as health, finance, entertainment or governance.

I will give a couple of examples here. So, the first talk let us say on algorithms, we talks about how you know what algorithms are what are their you know biases that are involved in algorithms and the consequences of algorithms and also how it should work in a certain kind of policy framework right. So, what are the policy implications for our you know increasing reliance on algorithm to do anything and from that we are trying to the second talk will then move on to talking about, how what are what do we mean by privacy, what are the ways in which this can be ensured and what are the ways in which this is also sort of has become a concern for us right and the last one in this thematic one is called data and data driven identity, where we are looking at this relationship of again how the you know the way we consume and produce data right ourselves. How does that have an implication for our identity and who we are in this digital age?

In the domain for example, the health we will look at how you know machine learning algorithms are used for diagnostics, then it will also talk about the question of patient data or questions of a data aggregation, question of privacy and anonymity of patient data, in the finance it will be the talk will focus on credit scoring algorithms and how the trade off between credit history and privacy are sort of you know achieved or decided upon.

The one on entertainment will look at how this whole recommendation system that works and you know how this news bubbles the photos all this data, and how algorithms are sort of working in this social media platforms, and how does that sort of take care of all these three themes that we are talking about. And the last one which is on governance which will look at how we interact with the state on a daily basis and how these data algorithms and regulatory frameworks sort of shape those interactions that we have on our interaction with the state right. So, this is pretty much the introduction to the winter school.

Thank you for listening and welcome you all to the winter school.