Lecture – 41
Design Accommodation and Disability

Hello, welcome all of you. Today I am going to converse with Dr. Shilpa Das on "Design, Accommodation and Disability." As a professor of design she is the best person to talk about this remarkable discipline and its connection with disability. Thanks for coming here on board Shilpa.

I am Shilpa Das, hello everyone. I am basically an alumna of JNU and Tata Institute of Social Sciences, Bombay where I did my PhD in social science. For the last 18 years I have been working with the National Institute of Design or NID as it is called, in Ahmedabad and here I look after the PhD program and also what is called the science and liberal arts program which is basically your humanities social science modules and I teach within these two.

I also look after international programs here, thank you, thank you. So, maybe we can begin with a very basic question: what is design education and maybe you can also walk the listeners through the idea of what is your connection with it.

So, basically what happened is that in 1953 after independence the Indian Parliament passed what is called the industrial policy resolution which was conceived by Nehru and it emphasized the need to accelerate industrialization and nurture the growth of both public and cooperative sectors to increase opportunities for improving living standards and working conditions for Indians and also for employment. So, this policy envisaged a process of training and development of technical professionals and managers who would give impetus to nation building with the expansion of the public sector and the development of village and small industries. So, to meet the needs of modern India they felt the need to establish an institute of industrial design in the country.

And they hoped that this institute would help foster an indigenous design movement in the modern sense of the word by initiating design education and training in the country and ultimately providing the foundation for a new profession. So, in 57 the government requested the Ford Foundation to invite the American duo Charles and Ray Eames to visit India and they did and the next year they submitted what is called the India report which defined the underlying spirit that would lead to the founding of NID and the beginning of design education in India.

So, basically they recommended a problem solving design consciousness that linked learning with actual experience and suggested that the designer could serve as a bridge between tradition and modernity. So, based on the recommendations the government with the help of the Ford Foundation set up NID in 1961 at Ahmedabad and Gautam and Gira Sarabhai were siblings of the illustrious scientist Dr. Vikram Sarabhai and they played a major role in its establishment.

The institute revived the philosophy of the Bauhaus movement in Germany which was learning by doing, which informed its unique curriculum and pedagogies. Anyway, to cut a long story short, today NID is deemed an institute of national importance. It offers professional education programs at both bachelor's and master's level. There are 5 faculty streams and 20 diverse design domains which offer these.

We work in education applied research service and advanced training basically. So, basically, you know the overall structure of our program is a combination of theory skills design projects and field experience, which is supported by working essentially in design studios and skill and innovation labs, not just classrooms. Basically, we offer education and applied research service and training in 5 faculty streams, which are industrial design, communication design, textile apparel and lifestyle design, IT integrated and experiential design and what is called interdisciplinary design studies.

So primarily and very simply speaking over the decades there has been a shift from perceiving design as mere problem solving to focusing on other things like service design, human-centred design, systems-level thinking and design and experiential design modes.

Design was always aimed at you know in the service of the country and in the service of society but there has been a very conscious kind of social turn making a change in more socially focused contexts as opposed to entirely commercial kind of domains or realms. And a range of activities and interventions today inform design that makes for a more socially driven form of design which suggests that researchers and practitioners from non-design disciplines should work in close collaboration with designers.

In order to realize this change in different contexts social or cultural, economic or environmental if you please. So, there has been a move from top-down modes of the designer as an expert to more egalitarian and participatory modes of design where the designer is a co-creator with other stakeholders in the design process. So, what is so, problematic about problem-solving thinking? What are the deficits of a problem-solving approach to design?

You see when you when the designer is meant to be a fixer, a troubleshooter of problems willingly it can become hierarchically a very top-down kind of approach where the designer comes in literally as you please like a knight in shining armour with solutions to the problems that stakeholders or you know that the client or whosoever may face. And it is a little less democratic if I may put it that way because you seem to be saying that I am here now and I shall solve your problems.

Whereas you know when the modes and approaches and the perceptions have shifted, so, that the designer today will say well look we are all on this path together and we are all co-creators. So, whatever it is that we are looking at we are all going to work together. Coming up with whatever it is that we need to do in order to arrive at our desired goals. So you know it is a more it is more equalizing not just in its approach but also in the methodologies that you sort of deploy. So, in a sense user-driven and it is not about the user's problems but about the user's experience of design say a keyboard or a house or a or gadget and so on.

Well, can you say more I mean what is not what did I not understand in this scheme of things? See I will be able to better explain this you know when I can actually talk about say disability and design yeah. So, for example, if you were to look at a sort of you know the link between say

let us just say aids and appliances and I am later going to be talking about it I presume in some detail. A typical way to look at it earlier would have been to say that all right for disability what we have to offer are aids and appliances you know as though merely giving aids and appliances and prosthetics and orthotics or whatever is going to fix the issues that say disabled people may face. You also need to pay attention to the lifestyle aspirations that a community may have. You also need to keep your ears to the ground to listen to what is coming from the community itself in terms of how they perceive what you have to offer. So, is it enough to just offer design the next best wheelchair or crutch? Where is the aesthetics in the scheme of things? I think these also tend to declare or put problem-solving on a pedestal in such a way that is rather oppressive to disabled people.

Because as I said it is as if they have nothing to do with their lifestyle aspirations with aesthetics or even with trends in what may be fashionable or current contemporary. I mean why should these not look stylish or elegant you know why should if I am a person with polio and if I have to use callipers, why should it be a heavy cumbersome you know ugly calliper which also functionally sort of restricts me from a full movement of the limb. And here is where I see a problem, it is a huge and highly insensitive kind of oversight in the mainstream design, this failure to consider the aspirations of disabled people or their market potential as consumers and as meriting attention, that is very very important in my opinion, certainly.

Actually, it is interesting that you talk about it I am remembering my adventures with Braille watch some time ago. Braille watches tend to be very large, very rugged looking as though all you need is to touch and feel the time but you know it is much more than that. I mean people want to wear watches because it looks good on them or they want to wear watches which look good on them. And such choices were never available those days but thanks to fashion thinking Braille watch design is catching up yes certainly it rings a bell to me too. I have seen a huge change if I may add to what you just said because in the early 90s when I saw Braille watches they looked rather different very conspicuously you know "blindy" if you like, unattractive yes. And today there are options available out there, price would be a factor though you know, but you do have a choice. So, this choice becomes very very important and critical.

What about medical fixing? I mean because when it came to designing for people with a disability one of the major mediators is medicine. Because a lot of design stuff about callipers, wheelchairs, other prosthetics, artificial limb, mobility cane, hearing aids, all this paraphernalia gadgetry and devices they are designed and deployed and given under the close supervision of medicine. So medicine by and large is about remedy solving problems. But is medicine also evolving thanks to design shifts?

Yeah sure, you know and before I answer this pointedly I would like to also here quickly first mention you know those of us who work within the area of disability studies, tend to start with these models of disability rights. So, we know that we have these individualistic models like the charity morality model which is in a sense no different from the medical model that the purpose is to do good for disabled individuals. But which also like the morality model looks at them as having defective minds and bodies, disability as suffering as being a burden on society as a stigma. This view has permeated all our language and media representations and cultural beliefs. So, the medical model you know it has while it supplanted in a sense the traditional model or it went hand in hand with it looks at disability as a pathological condition.

So when it designs with this sort of perspective there will be a problem. And who are the people who construct and sustain this medical you know paradigmatic approach that we are told we need or who are part of this paradigm like doctors, rehabilitators, policymakers, psychologists, sociologists, biological scientists and people like that who actually give you your disability certificate and therefore you know they are the most authoritative sort of definers of disability the official definers of disability by law.

Now there is also the social model way of looking at it or the social oppression way of looking at disability, which is important in order to talk about design for disability where we say that as you know the disability has nothing to do with the body but it is a social construct. And that it results from dominant social, political and economic ideologies in different social barriers and disabling environments which include things like an inaccessible barrier-ridden built environment to public transportation that may not be accessible or usable to you know the absence of a universal design

code. To segregate education work arrangements that are not flexible you know or accommodating of the requirements of people with disabilities.

And besides these structural things also the social model speaks out about the invisible and salient aspects of society and culture. Like communication barriers, prejudice, institutional discrimination and society's unrealistic expectations about bodily norms and lack of appropriate information. The social model tells us that because these sorts of conditions exist they exclude disabled people from the mainstream in every way possible leading to fundamental inequities you know which is correct just keep them in isolation. Socially, vocationally, economically and educationally you isolate them and this is often what is called a situation of handicap. There is also something which imports a model which is important for designers. It was given by Erlandson in 2008. He gave us what is called the systems model, where he is saying that stakeholders, whether they are individuals or communities, must take up responsibility for those elements over which they can exercise some control. For example, whatever resources are available to you in your environment like schools transportation, you take advantage of them but at the same time, society and governments need to you know take the onus. They need to ensure that individuals get these resources and opportunities in the first place so that they can maximize their functional capabilities within the given environment and that culture, society and governments need to remove those barriers and provide alternatives for personal action and personal choices. So, what happens is that these models you know whether it is the medical model that you mentioned the social model or the systems model. They all take action in very different ways.

Now because the medical model looks at disability as a pathological problem it looks for ways and means to restore the person's functional ability through assistive aids and appliances prosthetics and orthotics corrective surgery, yeah. The social model which lays the blame at the door of society and the environment surrounding disabled people it urges us to use products facilities and services that are based on accessible design principles to reduce or remove accessibility barriers.

And the systems model that I just mentioned it advocates using universal design as a way to increase accessibility for everyone. Now the universal design model is less stigmatizing than other approaches but we can talk about it later. So, to come to your point about aids and appliances, I would say that the entire medical rehabilitation paradigm is problematic even though it has good intentions to remove or alleviate the physical experience of disability. What is problematic is the way it looks at what it calls the normal body and the way it deems the disabled body as abnormal. And seen in that light assistive design or all your aids and appliances are oppressive of disabled people and they can be perceived as a design against disability.

So all your, you know artificial limbs and braces or digital sound synthesizers for those with visual impairments or reading machines that transform speech to text and so on and so forth. These are all products that are used to increase maintain or improve the functional capabilities of individuals with disabilities. But what happens is that design practice which results from design education as I said earlier does not look at lifestyle aspirations, it clubs it under a category called designs for special needs. And these products are not affordable in a country like ours you know with other factors sort of complicating the scenario. Turnover and profitability are low, investment in design is also poor and so, we have very poor quality aids and appliances as we discussed earlier. And because of low expectations, the design of products also are meant to cater to those lowered expectations. Sometimes designers also say that if I do this design innovation it will hike up the price. So, that is sometimes offered as a reason, but the main problem to me is all about the clinical aspects of disability on which it focuses you know. Rather people's bodily pluralities or cultural corporeal sort of realities and also aesthetics and aesthetics.

So, whatever your age, gender, other differences they will just look at people in the community through the same lens and the same prosthesis or wheelchairs or whatever communication devices are offered to people with a particular impairment. Like one size fits all. But the other thing is that culturally speaking you know I mean you need to consider other aspects such as how do people relate to the use of these processes. So, studies have indicated that for example, you know parents in India are apprehensive when their disabled children use tricycles on the roads because our traffic is so, bad and the roads are not really you know friendly that way. Or mothers and women in India do not like to use prosthetic hands because they are heavy and because if

they are mothers and they have to hold their child they would not want that hard prosthetic to sort of hold the child. So, again young girls are seen not to use wheelchairs too much because they find the way they are designed in India they find them difficult to use. So, if you design considering that the design of the disabled community is homogeneous then you will actually end up designing for nobody you know. So, you need to consult disabled people in the design process. You need to know how they perceive these products vis-a-vis their body image and self-concept. You need to as you said consider aesthetics, the visual appeal they should not send out signals of poor quality in colour, form, style. Because then people will abandon them they will be embarrassed to use them or they will not want to catch unwanted attention and also because many times people with disabilities have said that they become stigmatizing, they mark my disability and I lose respect for myself and I sometimes feel embarrassed, I feel ashamed and this is oppressive of disabled people.

So, this is the whole sort of complex you know tissue well. So, in that case, what are the diverse ways of looking at design when it comes to disability? For example, people talk about notions such as inclusive design, universal design, adaptive design. I mean if we have to look at them as separate categories.

Basically you see if you go by the textbook then adaptable design just means making modifications, I see. Suppose you are a recent entrance to disability and you now have to use a wheelchair, yes what sort of modifications will you make around yourself for example in the car that you drive. So, that you can take your wheelchair inside or in your kitchen by lowering the height of the platform you know. They are not usually mandated by law that is adaptable design.

Accessible design is another sort of terminology that is used here you know the barriers are removed access is allowed but the design is geared towards a specific group that is people with disabilities. Now if I can give you examples from say Apple and Microsoft they both have accessibility features today you know all our iPhones, our computers have accessibility features in their operating systems. So, all that the designers from these two organizations did was they worked with representatives from the disabled community to understand their requirements and the problems that they faced in the interface to create designs that truly address their real needs. So, these firsthand experiences actually led to you know this personal experience led to deeper

insights if I may put it that way. If we look at the models we spoke about earlier then from a social theory perspective accessibility basically enables a shifting to the social model of disability and away from the individualized approaches which consider the individual as a locus for disability. But the more important thing about accessible design is that they lend disabled people the opportunity of independent living of dignity and the right to full participation in education, civic affairs, economic, social, cultural and other spheres of life you know as equal citizens of a country. Also when the non-disabled world sees people with disabilities going about, going to school, going to college, working, commuting, marrying, running households, having children, having a regular kind of social community life and carrying out their daily lives in a dignified manner, it enables the stigma of disability to be diminished substantially in a way because they seem to have positive social identities.

Inclusive design is a term that is used primarily in Europe and Japan. Universal design is a term that is used in the US. It seeks to mainstream design and make it accessible to everyone. Like Apple that you mentioned, because Apple phones, they for example the one that I use you can activate different accessibility features based on your disability or condition. Here in a sense you are also catering to individual needs. That is the challenge of inclusivity you match the product or environment to its users. So, basically for example you know the universal design principles amad, equity, flexibility of use they say that it should be simple and intuitive to use. So, anyone who sees it will not have to spend time figuring out what keystrokes to use and so on and you need no physical effort. Basically, you would see how your design benefits the highest common factor. So, probably tablets are examples of that as anybody can just connect to it intuitively without understanding the nuance. For example, you would be designing for the elderly, for the disabled, for children, for pregnant women, a very tall person, a very short person, through the same design. And we see today in IT and telecommunications this is sort of exemplified where UD (Universal Design) is making significant change through software architecture and so on. Now you just look at ATMs today which have many accessibility requirements. The early ATMs did not have that speech sort of the voice called voice recognition. So computers and the internet also support independent living today.

And now all these computers as we mentioned come with pre-installed accessibility software that you mentioned earlier. So, it will benefit individuals with both visual disabilities and hearing disabilities. Screen magnifiers, screen reading software, speech recognition software, text communication software such as instant messaging anyone who has a computer or smartphone can do that right. And they are not only for people with these disabilities but also for elderly population. Probably something like an elevator is also an example of this asl it benefits a wider audience. So, you try to devise this kinds of products with inbuilt intelligence. Products today with embedded sensors are also newer opportunities for more universally designed products.

Somebody said you know I was reading in a book and I am not sure who said it but one of these design scholars said that smartphones are like the 21st-century Swiss army knife with a range of features and which is having such a transformative effect on society and culture, revolutionizing the way we live, work, study and play.

So, designers, are we alert to the diversity of users or ought to be with their different physical, sensory, motor and cognitive abilities and skills. So, these are some ways and what happens here is that in a sense by catering to the needs of different users in one system you are inclusive, you are socially conscientious in your approach design process and outcomes. Additionally, to a large extent you are able to make differences in terms of what you might call abilities unnoticeable, correct. Which otherwise would have remained you know nullified, I mean even with accessible design it would have been seen but here it is like you are able to transcend that. So, because you are working on generalizing grounds you are as if disembodying the body that it can be anybody that is in focus or an ageing body. A short stage of body, a child's body, a pregnant body and so on a disabled body and therefore it can help raise self-esteem, it can erase disability as difference to a great degree and the stigmatization would decrease. So, it may work to a greater or a lesser extent and it is also context-specific and they need not be expensive gadgetry. Sometimes you know a simple you know sensitive approach to a table layout can be universally useful in that context it does not have to be always gadgetry and gizmos that are expensive. So, what I was saying is that the solutions need not always be. So, for example if you have a staircase and a wheelchair ramp next to each other, it is still a way of you know making the wheel the ramp conspicuous when everybody is using the staircase and one person is using the ramp. But I was

in Switzerland two years ago and I think one or two public buildings in India are beginning to look at this I found that a particular museum had devised a wonderful way to integrate the staircase with the ramp I wish I could describe it. So, it was you know as the ramp went about a sort of circuitous kind of path to the main door. So, did the steps so, that everybody is using the same and it was I cannot tell you it was such a wonderful example you know of true integration, integration inclusion in the real sense you know.

I have also found that within the same kind of disability also people may require different things. For example, take two people with polio one uses crutches and another uses a wheelchair. Now for the person using the wheelchair escalators will be of no use a person will have to use an elevator. For the person using crutches also elevators can be a risky proposition. And I have heard many people say that oh elevators were quite problematic because I am not sure whether I can maintain my balance. But somebody else may find the escalator more convenient than walking down to where the elevator is.

So, we know that within the same kind of disability also different people have different requirements and apart from the diversity of usage adaptability also diversifies you know based on people's you know disabilities and other orientations.

This thing about special needs and disability designing, see I know what is special needs in a broader sense of education. But I do realize that design thinking is also linked to what people call special needs. You will agree with me you know even say there are so many terms that can be substituted for disability that are in currency. Some are specially-abled, physically challenged, mentally challenged a lot of euphemisms differently-abled you know lots of euphemisms which are patronizing some sound benevolent and so on and so forth. And I think even the same way designed for special needs I have a big issue with the terminology and the nomenclature itself of design for special needs you know. Often design institutes have this module which is called design for special needs which actually subsumes not just disability but also other kinds of identities such as the ageing identity and so on designing for children and so on.

But it is still so, patronizing benevolent some might call it philanthropic. I prefer some other term like designing for diversity or for divergent needs or something like that. So, that you are accommodating a broad spectrum of difference because when you name something you know you it can make all the difference to how the people being named or the community that is included in that naming perceives itself as we likely know.

Between perpetuating the stigma in the oppression inadvertently between making for an agency you know because disabled people end up defining themselves and perceiving themselves through the eyes of the non-disabled world more often than not. So, everyone has gone through I mean everyone in the community knows what I am talking about because you go down that path and you know and then you realize what is happening.

So, design for special needs is a highly contentious scene from that light. There is a problem with the very sort of the naming of it you know if I may put it like that. Well then where do we go from there, I mean what are your, what will be your recommendation for a design engineer or a design professor; how do we understand disability from a design thinking perspective? How aware they should be and where do we go what are your main recommendations?

See you know at the outset in a nation like ours this matrix of universal design which seems to be like a solution also becomes problematic and becomes more complex because we have other oppressive realities, like poverty or illiteracy or overpopulation and so on. And then again we have a range of cultural, linguistic, religious and ethnic diversities which preclude any kind of proper design intervention. Then sometimes these and the lack of infrastructure also make universal design solutions difficult to implement. Similarly visual communication design solutions also falter many a times because their success depends on visual literacy among the vast target audience.

For example, many years ago we were I was working on an outreach project for NID with a few other colleagues from NID and we were to design a strategic systematic communication campaign against disability prevention and care in 9 rural districts of Fujira and we went (this was for the government of Gujarat and handicapped international.) So, what we realized first we

thought that oh we will go out there and we will design this wonderful campaign and you know what an opportunity. But when we move to the field we realize that even the way people looked at disability differed on the field. People did not look at disability as we might. So, for example, somewhere I remember the fact that somebody and of course there is a deployment of disability metaphors there. But someone said that I do not have a job and I am disabled or somebody said that I cannot you know we didn't perceive disability the way one would. At the same time when one of our deliverables were these posters so, we did a whole lot of deliverables like stickers wall graffiti, calendars posters, booklets that people in the PhD's and CSCS could use you know at the cluster level and district level we also made a television, for television public service announcements for radio we did a number of 15-minute plays 5-minute skits we did interviews. So, it was a huge sort of campaign in terms of scale.

But when we did those posters and we thought that let us go and test it out on the field. Let me give you one example you know we had this poster where the foreground has a man carrying a child on one of his shoulders, an infant. And in the background there is a building with a red cross. So, obviously it is a dispensary or a hospital or something. So, when we showed it to this bunch of people in this district we thought they will know that the child needs treatment. But the person did not. Later we found out when we were talking to the person to our utter surprise it was not a red cross that he identified it was because in their culture when a child is ill he or she is carried on one shoulder when a child dies he or she is carried on the other shoulder.

So, visual literacy how target audiences understand what it is you wish to communicate can also be a thing that can throw a spanner. To come back to your point there is a dire need for the disability model to shift from these medical, therapeutic, functional models to one of social inclusion. And there is also a need to study systems at large for a holistic approach.

And serrvice design is an area that could be engaged with intensively. For example, the exam the one I mentioned earlier. How sensitively are these public health services reaching out. Then the approach itself if the user or disabled person would be the expert and not the medical practitioner public health expert or the designer then this kind of a conceptual shift would be greatly empowering of disabled people.

And interestingly when you see design solutions that meet the needs of people with disabilities it would result in a better overall systems design which will benefit not just people with disabilities but also those without. Like the elderly or children or people with different kinds of bodies, you know not necessarily termed as disabilities. So, I think designers when they are working on these, they need not necessarily be catering to a project that is for the disabled.

I should keep certain ethical kinds of questions in mind that who are you representing in your project in your work who is being left out, why is a certain disability-related initiative being undertaken, what responsibilities arise for you as the designer? Are the perspectives of disabled people or other people incorporated or are they filtered out? How are you dealing with conflicts of interest and then are you challenging the forms of oppression that people with disabilities experience you know how can you design an alternative paradigm, reproduce the status quo of domination or does it challenge it? And is it liberating for the disabled person? But most important I think and the key is how are you representing that identity. How are disabled people represented through your work or imagined when you or imagine that is the litmus test.

So, many layers you walked us through for example the idea of visual literacy about you know what constitutes movement and action and connectivity among people they experience lifestyle choices, representation, symbolism, and you know and real experience with all pushes and pulls of power. These things have to be understood and design is not just a problem solution approach.

Importantly and I think as a last word I would say that you know you the whole hegemony of the power structures that operate even within designing for disability need to be questioned, yes. Above all, we are able to do that and initiate a discussion and generate a debate pay with disable with people with disabilities driving these discussions you know then I think we would be doing the right thing. truly liberating discourses will open up. But thank you so much. Thank you so much, feel so enriched, thank you.