

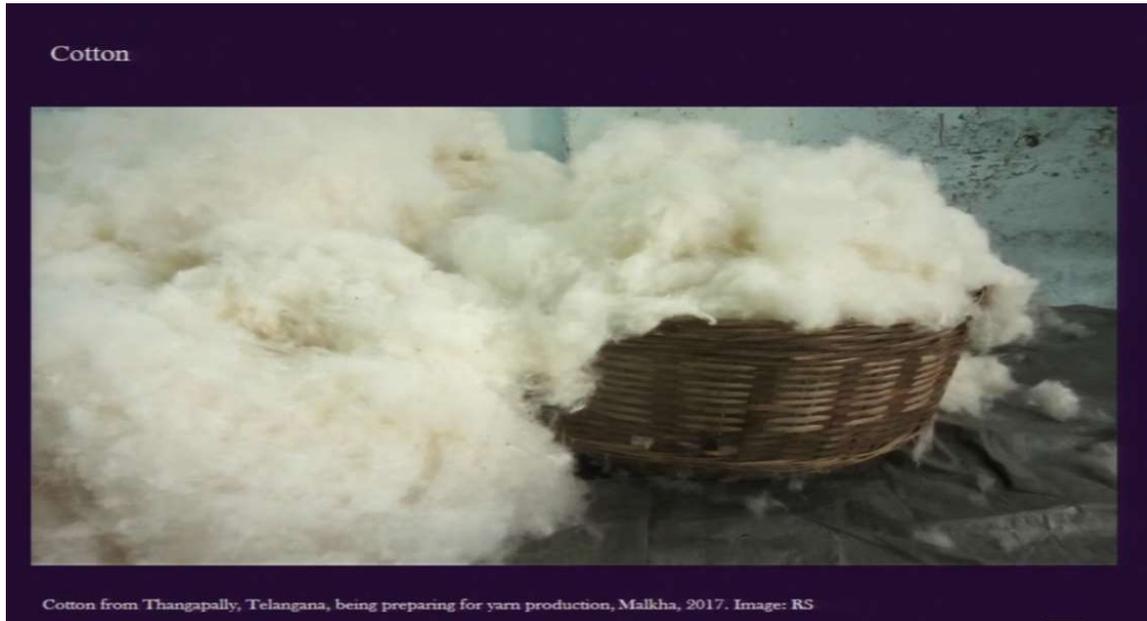
**Threads of Visual Exploration: Textiles and Allied Practices**  
**Dr. Rajarshi Sengupta**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology Kanpur (IITK)**  
**Week - 01**  
**Lecture – 03**

Hello everyone, this is Rajarshi Sengupta, and we are talking about Threads of Visual Exploration, Textiles and Allied Practices. So, we have already spoken about some of the basic parameters of this course, and we have also looked into some of the ideas, for example, why textile is important in terms of understanding the visual culture and so on. And then we have also focused on this one issue, that is why we are looking especially into handmade textiles. After understanding these aspects, I guess I mean right now, it will be important for us to sort of get into the ideas about .....what all different kind of materials are used in making textiles and then why we have to pay attention to the specificity of the material processes and everything else. Now, in India, we do find or as I have already mentioned in the earlier lecture, that when I say India, we are already talking about the Indian subcontinent and not the Indian nation-state that was formed after 1947. So, in India, we find from the for a long period of time that many kinds of fibres are used as I have already mentioned that, there are cellulose fibres, that is, cotton, linen, some kind of like I mean the one that comes from flax and then hemp, nettle and so on.

And then we also have, of course, we also have jute and other things, but those are not extensively used for making textiles. Now, the other kind, the animal-based protein fibres that we have also spoken about those will be wool and, silk and so on. So, what we will try to do today we will look into this cotton and try to understand that what are the kind of criteria for making cotton? How it impacted the material lives and the livelihood? As well as, like, I mean the community lives and everything in the Indian subcontinent. So, as we see on the slide that, there is this one tokri or a basket, and then it is overflowing with cotton.

So, cotton that is something that we see here; it is something that comes from the seed pod. So, cotton is something that is understood as cash crop, which is harvested alongside ... which has been harvested alongside many other food crops. So, it is not something that is

exclusively just harvested in a land where no other food crop or anything else cannot be harvested. However, that kind of harvesting we have seen in the indigenous agricultural



setup. However, after industrialization, we do see that I mean there are dedicated places where cotton farming is encouraged.

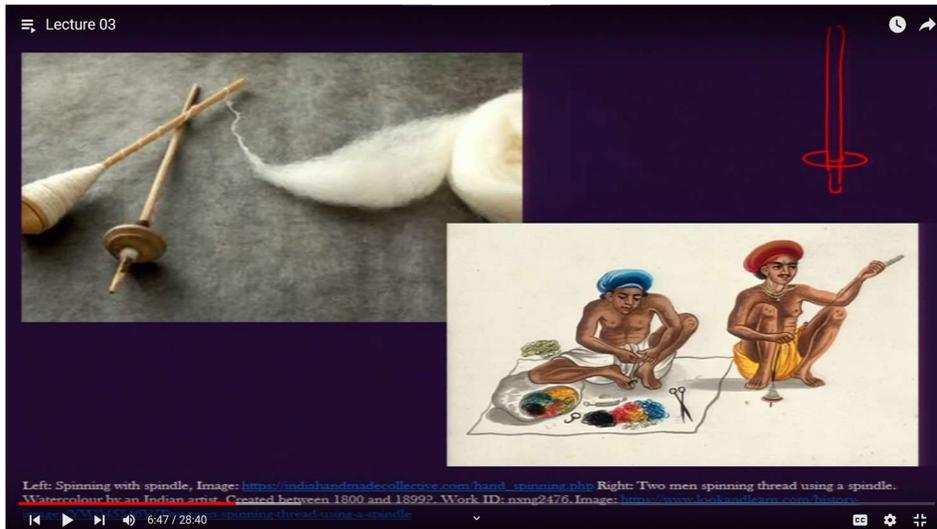
And then today, we do see a lot of the cotton seeds, which are not really the desi or the indigenous qualities of cotton. In the historic times, we do have a lot of varieties of cotton even today, if we try to understand cotton, as also we see it on screen, it is.... it looks like cloud, it looks like white cloud. But the thing is, if we get into the depth of this fiber, then we will also see that I mean, it is not something that is homogeneous all across the Indian subcontinent, that there are different kinds of cotton. There are cotton which has much shorter fiber, then there are cotton which will have like I mean much longer fiber and both kind of cotton would be used for different kind of purposes. Now, apart from that, what we also find that I mean the cotton fabric fragments were also found from some of the Indus valley sites like in Mohenjo-Daro and Harappa. And then there are also clear signs of how cotton textiles, those were woven in the Indian subcontinent, were traded to other places in the Middle East and so on in Mesopotamia and Egypt and so on.

So, that also gives us a sense about that, I mean how for that least for the last three millennia or so, people in the Indian subcontinent know about making or harvesting cotton and

making use of it for making textiles and so on. So, this is one of the things we find that we also see that there are different kind of processes in which, like I mean, from the seed pod cotton is extracted. So, in the seed pod of the cotton after, like, I mean the cotton, you know, this... this... reaches its mature phase, then we find in the seed pod there are seeds and then like around the seed there is this cloud like a fiber formation that we have on screen there. And the thing is that, I mean, once that is harvested, we do not really see it the same way that is there on screen. So, it needs to go through a longer process for sort of, like, I mean, its separation from the seeds and the other kind of dust particle and then impurities and then we find that, I mean how it sort of like I mean reaches to this point where we can see only this cloud like formation and nothing else.



So, for example, we have different kinds of processes involved in cleaning the seeds, cleaning fiber. So, in the seed pod, when we have the seed and around that, the layers of this cotton that is called lint. So, lint is something that is then sort of separated from the seeds and through the process of cleaning and ginning and after ginning we find that only the lint is there and then like the seeds and the impurities, dust and everything else are separated from this lint or like the cotton fiber. Now, once this lint is there, we find that there are processes in which, like I mean, that is spun into a yarn. So, for spinning, we have different kind of processes, and in one of them, we will find in which, like I mean, a form like a spindle is used.



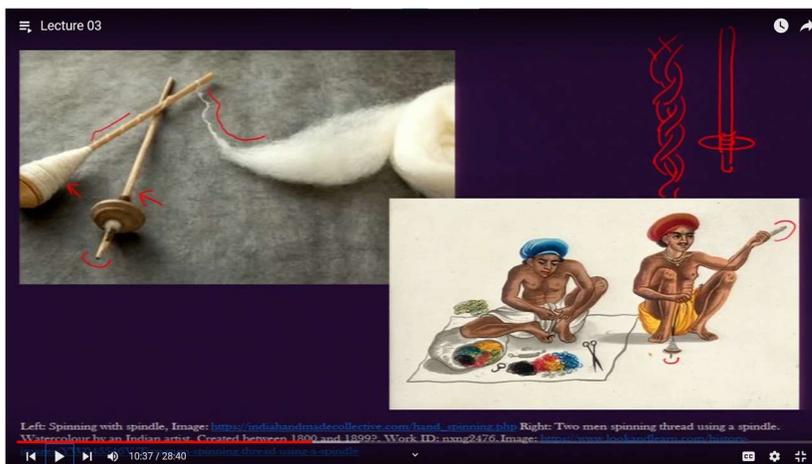
So, something that we can see in the left side of the screen this image in which there is a very simple formation in which there is

a stick-like form, and in the stick-like form, we also have something circular like a disc on the bottom of it. So, in this one, what happens once you can, like I mean keep this see once you can keep this.... this stick like form on the horizontal plane and then like I mean what happens it needs to be moved and then like I mean when one end of the fiber is sort of like I mean tied this stick and then like I mean once it once you spin it and then like I mean the fibers sort of like I mean connect to the other parts of this blob of the lint and then slowly the fibers get extracted. And then, like, I mean through this process of twisting and turning, then like I mean the tension between the, you know this this this fiber production, like I mean, how this yarn is being produced and then like, I mean the entire lint and that is how like I mean this....this slight tension that needs to be there for like I mean extracting or like pulling the fiber out of the lint is something that is done by this spindle. And here in this image, we can also see that I mean, there is this one simple spindle, and then here is also one where we can see that how this yarn is something that is extracted out of this thread right and which also leads to the this this blob of the cotton. So, this is how cotton fiber is produced, and this is one of the simplest mean of making cotton fiber cotton yarn and, but there are also some of the other devices or like I mean tools we can find and then, of course, we also have the spindle and.... And.... and like I mean a charkha.

So, those... those ones we also find them to be there which are also much useful for... for extracting this.... this cotton yarn out of the lint. Now so, here in the in the right side of this image, there is this one image from around like 19th century and where we find that

there is an image of two men sitting there, and one person is clearly using a spindle, which we see here and then like I mean how this..... this spindle is held vertically on the horizontal plane and then this.....this man also holds a.....a bit of like I mean cotton fiber and through the tension of it like I mean by holding like I mean this fiber in two hands and then like I mean slowly like sort of extracting the fibers out of it and then sort of like I mean you know twisting it on the spindle that is how like I mean the entire this yarn production takes place. It is one of the simplest means of yarn production, as I have already mentioned, and then we find that I mean, once these yarns are produced, then there are many different ways in which, like I mean, these yarns are ..... these yarns are colored sometimes like I mean these yarns would be like I mean dyed, or sometimes we can also find them to be undyed and in all depends on like I mean how it is meant to be used. So, all those different kind of things we definitely find them to be there. Now, about the making of the yarn - then what is this difference between we can understand that the hand spinning and if the spinning is done by in a factory setup.

Now, what happens in the hand spinning, as we can see that I mean it is a very delicate process in which, like, I mean, a person would be holding like the cotton lint and in one hand perhaps like I mean somewhere connected to the spindle and then like I mean slowly pulling the thread, but also like I mean you know applying the required tension in it. So, that, like, I mean, the thread pulling is seamless. So, through this process, what we find that



I mean the twisting of the fibers for which sort of, like, I mean, binds into the thread. So, for example, if we think about twisting in this way, so this is how, like I mean how the fiber formations

would be done, and so if this is one of the ways in which like we find the twisted fibers that sort of like I mean appears in the hand spinning process. In the factory setup, if it is

extracted by in the mechanized production we find that I mean this the twisting is much more rigorous and that is usually done for much more stability.

However, what happens for that is that I mean the fibers might become much more stiffer compared to the ones which are done in hand spinning because, in hand spinning, we are not really twisting the fiber too much, but it kind of like, I mean twisting to the to the extent that I mean it sort of like I mean stays together as a fiber..... I mean as a yarn. So, for that reason what happens at least what textile activist and scholar Archana Shah also argues that for that reason, we find that the hand-spun fabric or like the hand spun yarn would have much more softer or like I mean suppler quality compared to the ones which are which are like I mean extracted through a mechanized process. Now, the other thing also that I mean what Archana Shah proposes that with this what happens is that with the regular use of hand-spun fabric then, the twisted fibers in the hand-spun yarn that also slowly unfolds little bit. I mean, when I say unfolding, I do not mean that I mean is disintegrates completely but slightly unfolds, and for this unfolding what happens it also makes room for more kind of like I mean supple or like I mean, you know sort of much more in an elastic quality it sort of develops and for that reason, it also allows more air into the body and so on and which also leads to like I mean comfort of the wearer. So, those kinds of aspects we definitely find them to be ingrained in the process of spinning.

So, even though when we look at textiles, we do not think about whether the textiles are hand spun or not like I mean, for example, whatever we see around us but the thing is that if we pay this close attention to these things and then the fiber formation and everything else, then we find that I mean even in the process in which yarn is produced that can make a huge deal of difference in terms of how this textile would fit in the wearer's body and what kind of comfort or discomfort it might provide to the wearer. So, these are some of the aspects we can find that I mean how the making of it, the production process of it and step by step understanding of the entire process can lead us to a much better and critical appreciation of textiles.

Now, with this, I mean we cannot really deny the another part of the textiles or, especially, the cotton textiles, and that would be something that would have something to do with complicated history of colonialism. In the 17th century and later on we find that I mean with the arrival of the Western European traders there was a huge demand for initially the cotton textiles those are made in India and of course that I mean we find that India has exported I mean or like I mean the traders in India have exported cotton textiles of various kinds for at least for the last three millennia as I have already mentioned that I mean the textiles which are produced in the Indus Valley sites in Harappa, Mohenjo-Daro and places like that those were traded to Middle East and so on and that kind of trade continued with the Roman Empire part of Southeast Asia part of Eastern Asia and Middle East and so on. Now with the arrival of the Western Europeans in the Indian subcontinent what we find that there was a different kind of trade relations that started shaping up and through this trade relation, there was more kind of a stress or more kind of interest towards like I mean procuring the raw materials such as cotton and all and then sending it back to Western Europe for making textiles in a mechanized setup and then sending them back to this colonized countries for making larger profit and which was which also like I mean provided a large amount of resources for the colonial governments.

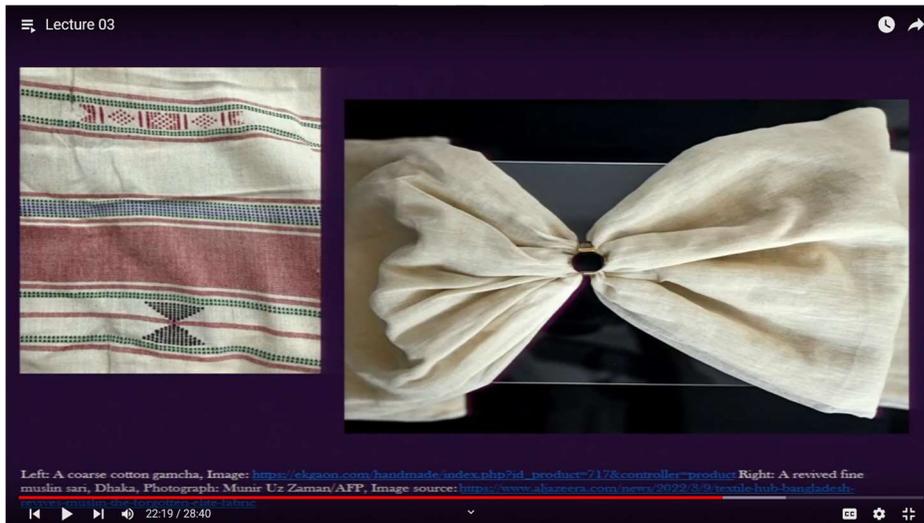
So, this kind of issues we find that I mean even though textile is something we usually consider to be seemingly harmless but it also sort of like I mean folds into this larger history of inequality and also at the same time that how discrimination also like the colonial rule and everything that all started or like I mean perhaps strengthened with time with the use of textile with the exploitation of the makers and so on. So, that part of the history of textiles is also something we find that to be integrally connected to making an appreciation of cotton. Now, if we see that I mean this is one of the aspects of the cotton textile production that how cotton was also a very important or perhaps like I mean one of the crucial material which was responsible for the colonial rule, then we also find that the same material was also used for the anti-colonial resistance at least in the 20th century. So, during the... during 1905 during the partition of Bengal we find that I mean there were some of the early traces of the of the nationalists they claimed that I mean there was a need for making a hand spun hand woven fabric in the locally and not really prioritizing the as fancy



happens we also find that I mean since it is sort of extracted by human hand then there are also much chances of making the thread or the thread being slightly irregular in its linear density. So, those kinds of characteristics we definitely find that to be very much there in the hand-spun yarn and then this hand-spun yarn then dyed with natural dyes, the ones we see here on screen and then like the dyed yarn and the undyed yarn and then like I mean they are they are set as the warp in which and then like I mean and then the white yarn is again used for making the weft of this fabric, and that is how this entire fabric is woven.

So, these are some of the examples of what we find that what kind of fabric we are talking about and then even though there are certain things about the technicalities about hand spinning hand dyeing or hand weaving, we see that that there are also that there are underlying significances of all of these processes that this is not something that is just about celebrating the handmade but it was about like denying the mechanized wiener production which was not really doing any good for the people in the Indian subcontinent and also about self-sustainment that if we are thinking in terms of like production in many of the places in India then different kind of technologies might not be available to many of the rural sectors and if that was true some 75 years back we still find that to be true to a large extent even today. So, this kind of factor we find that, I mean if someone is much more reliant on particular kind of technologies for making textiles then there are like, I mean considerable amount of push towards going for the mechanized mean of production and only in particular sites. But it cannot be distributed everywhere it can also be like I mean it might also have the danger of losing out its diversity which has been inherent in them. So, those are the kinds of things we find that even in the smaller means of production, if hand spinning, hand weaving and dyeing with the locally available resources and so on those things can be done then that has a different kind of significance in terms of practicing this local knowledge also at the same time how the sustainability and then self-sufficiency this.. these things can be promoted even to the grassroot level. Now when we talk about the cotton fabric and something that we have been talking about it that how Gandhiji had proposed, and then like I mean of course he had spearheaded the Khadi movement in the 1920s, and the effect of it we still have in our country today.

So, those..... those aspects we will be touching upon in the later modules. However, what I wanted to show it here is that cotton is again something that is tremendously diverse in its nature and based on the geographical location where cotton is produced, we find that



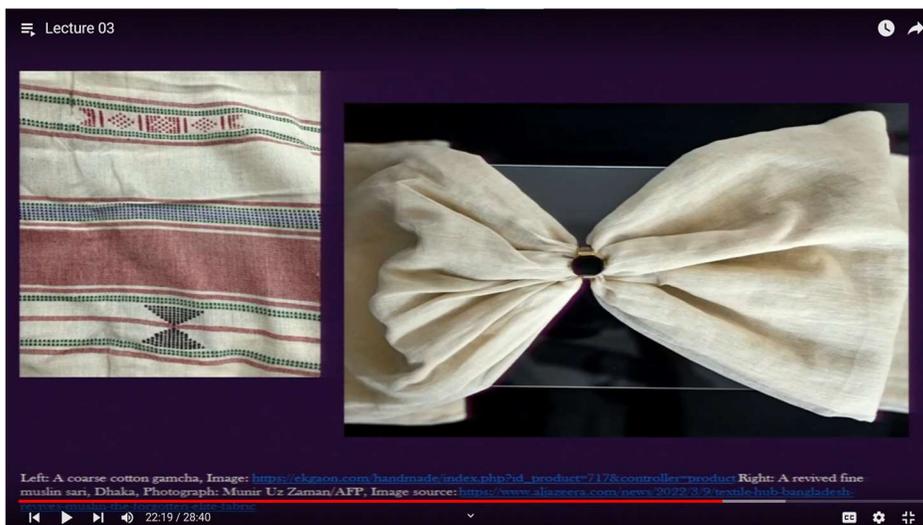
many different kinds of variety of the fiber and the yarn those are there. So, for example in the left side of the screen we have a coarse cotton Gamcha or a

towel or a shoulder cloth whatever we call it is there and in this one we can see that I mean how this the coarse nature of the cotton fabric is reflected on the slight bent of it and how this the you know one can almost see the fiber I mean one can almost see like I mean the yarn those are passing through here like I mean how the white yarn and then like I mean when it is intersecting with the red yarn with one can almost see the almost like a pixelated formation that one can see it there. So, that kind of thing we can see that I mean this is for the coarse cotton which made this kind of like visibility possible. So, when we are also looking at cotton fabric no matter where it is then, we need to keep in mind that what kind of yarn that is being used there. Now one of the things that we find that that is that is usually sort of like, I mean sort of employed for understanding the coarseness or thinness of the of the cotton yarn is something that is called the thread count and thread count is something that is usually the linear density of the of the yarn.

So, it is usually that 840 yards of 840 yards of the length of the fiber is something that needs to that that that weighs around one pound, and we are still talking about like I mean pound and yarn and everything else right. So, ... so, this 840 yards of the length of the fiber that sort of weighs around one pound if we say that 30 count that means like 30 such fibers

would be weighing around one pound. Now the 30 count that means like I mean the fibers would be much more thicker in intensity and they are much more coarse. So, like 30 fiber can actually 30 yarn can actually weigh around like one pound. So, that is the sort of like the measurement.

Now what happens that in terms of, like I mean cotton production we find that 30 count if that is used for the cotton that is used on daily basis and mostly in many different parts of the Indian subcontinent we find that the cotton fabric which is employed by.... utilized by people who would be working in the fields or like I mean working as labors and so on. Coarse cotton fabric is something that is much more sort of easily available to people. But that said that we also find that there are different kinds of cotton right. So, in one of the varieties we will find that is muslin which was extracted and which was produced in parts of eastern India now that is in Bangladesh mostly and part of West Bengal and in which we find in this very damp moist climate that particular kind of cotton production also like I mean a particular kind of spinning enabled the count go up to 500 and some claim that I mean there were also like I mean there was also like I mean this kind of production where the thread count might go up to 1000. So, that means we are talking about cotton yarn, which is super fine which is almost like invisible and that is the reason muslin is something that is called as “woven air”.



Now the right side of the screen we have a muslin cloth woven recently in Bangladesh and the thread count here almost goes up to 350 or so

and one of the characters of this muslin cloth that had been there for centuries that I mean

an entire fabric when it is folded it can be passed through a ring and that is what we find there in the image as well that how this fabric can be like I mean folded and then like once it is twisted, it can actually sort of pass through a ring. So, we are talking about fabric which is almost like air and that is the reason like I mean we can see this kind of flexibility of the fabric that is enabled and if we compare it to the one that we have on the left side of the screen the coarse cotton textile cannot have this kind of character that we have for muslin.

Here is another example that we find here, that how when we are looking into the coarse cotton the fine cotton, then



what kind of difference we might actually find there. So, in the right side of the screen, we have this another representation of this recently woven muslin in Dhaka in Bangladesh, and in this one, we can see that how the sheer quality the diaphanous quality of the fabric is sort of projected and by putting a hand in the inner layer of this fabric and one can see that I mean how the this diaphanous quality of this woven fabric is almost that you can one can see all the layers which is underneath. So, those kind of characteristics we find that to be there in the muslin cloth, and that is something we will also find that how that comes back to the paintings or like, I mean, the different kind of visual representations we see.

So, we will come to the visual representation in the next lecture. Thank you.