

Artistic Exploration in Scientific Research And Technology
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Lecture – 23
Conclusion

Hello friends. In the last class, we have discussed some important points that we have gone through in the course. Today, we will continue it and we will see what are the other important points that we have discussed during the course. So, we were discussing the patterns of few of the folk art that we have done elaborately in the course, we have discussed Madhubani in the last class. Now, let us see what are the other folk paintings that we have discussed in the course.

The next one is Warli. Warli art is a folk art from Maharashtra. It is a tribal folk art of the Warli tribe of Maharashtra.

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- Warli art use basic geometric shapes for depicting symbols of life and the world around. Three basic shapes commonly used are—the circle, the triangle and the square.
- In rare cases the paintings are composed of straight lines, mostly occurs in the form of dots and dashes.
- There is absence of mythological or religious figures.
- The theme of Warli art encompasses social life, nature, death, birth and fertility.
- A common depiction involves circular patterns without any beginning or an end; possibly hinting at eternal life after death.
- Originally these paintings were made on the walls of the huts of the tribal people.
- It was the women who made the paintings.
- They used white paint prepared from rice powder. The paints were made sticky by adding a natural binder. Bamboo sticks were used as brushes. The paint was applied on walls that were made of red, brown or ochre mud.

These are the important features of the Warli art. Warli art use basic geometric shapes for depicting symbols of life and the world around. Three basic shapes commonly used are the circle the triangle and square. In rare cases paintings are composed of straight lines mostly occurs in the form of dots and dashes. There is absence of mythological or religious figures. This is very important that Warli art mostly talks about life round human being, the mundane life unlike other forecast of India, Warli art very rarely

depict gods and goddesses and mythological themes. They talk about the mundane day to day life mostly.

The themes of Warli art encompasses social life, nature, death, birth and fertility. A common depiction involve circular pattern without any beginning or any end possibly hinting at eternal life after that so. As I have been telling that looking at the folk art you can understand the world view of the community. So, this is one pointer that Warli art are mostly circular day, the world the view of the community the value that the community whole this that there is nothing like birth and end, its a eternal cycle. It is afterlife there is death, after death there is life. So, this also talks about the values that the community hold, that life and death is a eternal process. It is a cyclic process.

Originally, this paintings were made on the walls of the huts of the tribal people. It was the women who made the paintings. So, similarly like Madhubani it is also art of the women, women folk of the community. They use white paint prepared from rice powder, the paints were made sticky by adding a natural binder. Bamboo sticks were used as brushes, the paint was applied on walls that we were made of red brown or ochre mud.

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Shapes in Warli Painting

Warli painting are usually done using fewer characters repeated in cascading or continuous patterns. The basic characters used in Warli painting are:

- Circle – representation of the sun and the moon
- Triangle – derived from their observation of hills and mountains
- Square – considered to be a sacred enclosure

Shapes in Warli, this is important; what are the shapes and what do they entail? Warli painting are usually done using fewer characters repeated in cascading or continuous pattern you will see. If you look at a; Warli painting you will sees certain patterns have

being repeated again and again. The basic characters used in Warli painting are circle, representation of the sun and the moon.

Triangle derived from the observation of hills and mountains, the pointed structures. Square considered to be a sacred enclosure. This is thought to be the human edition that human beings make distinction between in space by creating houses, by creating squarish structures. So, this is a human addition to the world; to the environment around them. So, this three shapes are important circles, square and triangle.

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So, these are some examples of Warli painting. You see the repeated patterns, you see depiction of rural life, you see the circles, you see the triangle, you see the square in the hut.

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This is this is another example. Similar depiction, but different execution, different style.

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This is another example showing a wedding scene.

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Then we discussed extensively about the Gond art. Gond art as is a tribal art is a folk art from Madhya Pradesh region.

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- The history of the Gond community dates back to nearly 1400 years ago. It is believed that the Gond people could just be imitating their ancestors as there are cave paintings in the region that go all the way back to the Mesolithic Period.
- The Gond believe that viewing a good image begets good luck. This belief led them to decorate the walls as well as the floor of their houses with traditional tattoos and motifs.
- According to the Gond belief system, each and everything whether it is a hill, river, rock or a tree is inhabited by a spirit and, consequently, is sacred. So they paint them as a form of respect and reverence. Gond paintings are a reflection of human's close connection with his natural surroundings.
- Gond paintings are described as 'on line work'. The artists draw the inner as well as outer lines with as much care as possible. Lines are used in such a way that it conveys a sense of movement to the still images. Dots and dashes are added to impart a greater sense of movement and increase the amount of detail.
- Gond paintings use bright vivid colours such as white, red, blue and yellow. The paints are usually derived naturally from objects such as charcoal, coloured soil, plant sap, leaves and even cow dung. More specifically, yellow from Chui mitti which is a type of local sand, brown from Gheru mitti which is another type of sand, green is readily procured from leaves while the colour red is obtained from the Hibiscus flower.
- Gond paintings bear a remarkable likeness aboriginal art from Australia as both styles use dots to create the painting.

The history of the Gond community dates back to nearly 1400 years ago. It is believed that the Gond people could just be imitating their ancestors as they there are cave paintings in the region that go back to the Mesolithic period. So, Gond art is thought to be a extension of the cave paintings.

The Gond believe that viewing a good image begets good luck. This belief let them to decorate the walls as well as the floors of the houses with traditional tattoos and motifs. So, this is very important believe that a Gond community holds that looking at a good image will bring you good luck. So, this is why they started painting with their houses with beautiful vibrant colours.

According to the Gond belief system, each and everything whether it is hill, river, rock or a tree is inhabited by a spirit and, consequently, is sacred. So, they paint them as a form of respect and reverence. Gond painting are a reflection of human's close connection with his natural surroundings. So, we will see that in Gond painting you will see trees, you will see animals, you will see rivers, you will see hills. So, this they do because they feel that everything that everything is sacred everything has a spirit in them. And this also tells us how close they are with the nature and how how much of reverence they have for nature.

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Gond paintings bear a remarkable likeness to aboriginal art from Australia as both styles use dot and to create the painting. So, it they have lot of similarity with the aboriginal art of Australia.

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Gond Art

Gond art includes dance, song and painting. Stories are passed on orally through folk song. These can be accompanied by traditional string instruments such as the Kingri and the Bana. Called Dhemse, the songs convey the religious history of the Gonds, their deities and mythology. Stories are also communicated through folk dance. They may be performed at important events such as a birth or wedding and other celebrations and festivals. The Gond people imitate peacocks, bees and other animals in their dancing; this is often accompanied by a percussion instrument such as the Dhol. Rhythm is an important factor in their dancing. Singing often accompanies dancing where impromptu lines may be added to the songs.

Gond paintings are traditionally drawn to the inner and outer walls of homes. They may depict the local flora, fauna, gods and goddesses. Traditional Gond wall paintings use natural materials to create vibrant coloured motifs. Called Gond Pradhan motifs, they are comprised of fine lines, dots and dashes. A central theme of their paintings is the depiction of their mystical beliefs. This is reflected in their use of images depicting: Gods and goddesses, such as Ganesha and Shakti; Hindu rituals and stories of supernatural entities from ancient Hindu texts; and a reverence of natural entities such as spiritually important trees or divine beings – birds and animals that have spiritual significance. The cow, central to the Hindu belief system, is prominent in these images.



Gond art includes dance, song and painting. So, what are the other uniforms of Gond art? It not only entails painting, but they have also are have specific dance and songs. Stories are passed on orally through folk songs. These are can be accompanied by traditional string instruments such as the Kingri and the Bana. Called Dhemse, the song convey the religious history of Gond, their deities and mythologies. So, there are the other forms of Gond art as well as other than Gond painting.

So, this is one example of Gond painting; the tree of life.

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Tree of Life
Tekam (2015)

https://dspace.flinders.edu.au/xmlui/bitstream/handle/2328/36103/Arur_Exploring_W2016.pdf?sequence=1

So, we now discuss Kalamkari, that we have also discussed elaborately in the previous classes.

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So, we had entire one class did dedicate to the Kalamkari art.

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Kalamkari is an ancient Indian art that originated about 3000 years ago. It was born out of an art of story-telling. In ancient times, people used to travel from village to village and told stories. Some of them even drew it on a canvas. This was how the art of Kalamkari was born. During the Mughal era, this art of Kalamkari got its recognition.

It derives its name from Kalam meaning “pen” and “kari” meaning work, literally meaning pen-work. The artists use bamboo or date palm stick pointed at one end with a bunch of fine hair attached to this pointed end to be used as the brush or pen. Originally these paintings were drawn on cotton fabric only but now they are drawn on silk and other materials as well. The colours used in making these paintings are organic. Most of the colors are prepared using parts of plants – roots, leaves along with mineral salts of iron, tin, copper, alum, etc., which are used as mordants.

This style of painting originated at Kalahasti (north of Chennai) and at Masulipatnam (east of Hyderabad). The Kalamkari tradition chiefly consists of scenes from Hindu mythology. Figures of deities with rich border embellishments were created for the temples. In Masulipatnam, the weavers were involved in the block printing art, while at Kalahasti, the Balojas took to this art.

Muslim rule was prevalent in Golconda hence the Masulipatnam Kalamkari was influenced by Persian motifs and designs with regional variation. The outlines and main features are done using hand carved blocks. The finer details are later done using the pen. Under the British rule the designs as well as the end use of the fabric differed - for garments as well as furnishings. During this period floral designs were popular. The artisans were made to create even portraits of English men. The Kalahasti tradition which developed in the temple region mostly concentrated on themes from Hindu mythology, epics (Ramayana, Mahabharatha), images of Gods and heroes.

Kalamkari is an ancient, as we know that Kalamkari is of popular folk art from the Telangana and Andhra Pradesh region of India. Kalamkari is an ancient art Indian art that originated above 3,000 years ago; it was born out of an art of story-telling. This is very unique that it was born out of another art; it was born out of the art of

storytelling. In ancient times people used to travel from village to village and told stories, some of them even drew it on a canvas. This was how the art of Kalamkari was born. During the Mughal era, this art of Kalamkari got its recognition.

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This style of painting originated at Kalahasti and at Muslipatnam. So, this is the history of where the Kalamkari tradition originated.

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Then we went to another art form from South India that is Chittara.

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Chittara or hase chittara is a folk art practiced by the Deewaru community in Shimoga, Sagara and Uttara kannada district of Karnataka. The walls are colored with red mud found abundantly in the region and designs are drawn in white paint derived from rice paste and white mud. The lines and patterns on these paintings each symbolize an aspect of nature or depict the religious, social agricultural practices of the community. The stylised figures of Chittara painting are generally symbols of brides and grooms, fertility, the sowing of the auspicious paddy, birds, trees, animals etc. Musicians play auspicious music, brides and grooms affect yogic poses or stand in conjugal harmony. The delicacy in its delineation and its repetitiveness. The practice of drawing this art is accompanied by music and singing. Every situation and chore depicted on the wall, has a relevant song.

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Musicians play auspicious music, brides and grooms affect yogic pose or stand in conjugal harmony. The delicacy is in delineation and its repetitiveness. The practice of drawing of this art is accompanied by music and singing. Every situation and chore depicted on the wall has a relevant song. So, this is a very a typical art form from Karnataka and it has its own specificities that I mentioned.

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Types

While the designs on the paintings are common across the entire community the paintings are divided in to three types according to the use of colours. They are:

bili hase: Use of white colour (rice flour)

kappu hase: Use of red colour (red mud)

kemmannu hase: Use of black colour (charcoal)

So, what are the types of Chittara painting? While the designs on the paintings are common across the entire community the paintings are divided in to three types, according to the use of colours. So, the use of colour gives it is a give each painting its distinct in a distinctiveness.

So, bili hase, use of white colour, when a painting is made of white colour only that is rice flour it is called bili hase. Kappu hase, use of red colour, when it is made of red mud it is called kappu hase. And when it is made with charcoal it is called kemmannu hase, use of black colour. So, it might be of three different variety depending upon the colour used.

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So, these are some of the examples of Chittara painting, very intricate lines.

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This is another one.

Now, let us go to another art that we have discussed in the previous class in a elaborately.

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Sohrai

Sohrai.

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The women of farming communities of Hazaribagh district of Jharkhand keep alive a vibrant tradition of mural painting, practiced as a ritual art form known as Sohrai. Sohrai is the art of harvest festival in autumn, using red, black, yellow and white earth. In Hazaribagh within a small distance there are strikingly different painted village houses. Each village belongs to a different community or tribe. Hence their motifs and style of drawings are different

Large images are painted with twigs on the walls - bulls, horses with riders, wild animals, trees, lotuses, peacocks, and horned deities. Sohrai paintings are considered to be good luck paintings.

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with riders, wild animals, trees, lotuses, peacocks and horned deities. Sohrai paintings are considered to be good luck painting.

So, as we have we have seen already seen in Gond that even the Sohrai paintings are considered to be bringing good luck; Sohrai painted to bring auspiciousness to bring good luck.

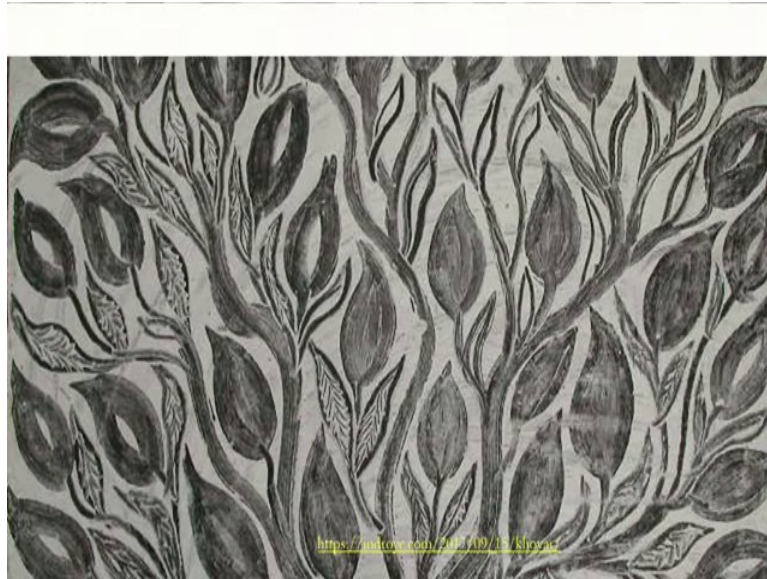
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Styles

There are two major stylistic divisions based on the marriage and harvest seasons, while the four major painting techniques include scraping with four fingers, scraping with broken pieces of combs, twig-brush and cloth swab.

Styles there are two major stylistic division based on the marriage and harvest season, while the four major painting techniques includes scraping with four fingers, scraping with broken piece of comb, twig-brush and cloth swap. So, there two distinctive style, one is done during marriage and one is done during harvest. And there are four techniques of doing it, like a scraping with four fingers, scraping with broken pieces of comb, with brush and cloth swabs.

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So, these are the different styles.

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is getting connected and issues also getting connected. This was of figure release by the world economic forum. In its report in global risk in 2014 which shows the dependence of each issues with one and another. Few talk about biodiversity loss and ecosystem collapse as in here, as in here you will see how it is connected to climate change, this correct to manmade environmental catastrophes, natural catastrophes, this in in turn is connected to extreme whether events, it is again connected to climate change. So, biodiversity loss is also connected to failure in critical infrastructure. So, this everything is connected to one and other.

And you cannot have a complete a very effective picture if we do not consider the entire issues related to them. So, it is said that you should have a very interdisciplinary kind of approach, you should have a very open, approach to understand any problem effectively.

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M. Nissani (1997) and M. Appleby (2015):

- More meaningful learning experience
- New opportunities resulting from cross-overs between two disciplines
- Demonstrating real life applications
- Varied perspectives
- Flexibility in problem solving
- Bridge the communication gap between professionals
- Critical thinking
- Building confidence
- Greater creativity
- Transferable skills

So, these are few things few points that Nissani and Appleby had pointed out; why interdisciplinary kind of approach is required, more so in the present times. More meaningful learning experience, a interdisciplinary approach gives you more discipline in a learning experience in comparison to a specialized very specific kind of learning. If you have a interdisciplinary kind of approach it gives you a more holistic, more meaningful kind of learning experience.

New opportunities resulting from crossovers between two disciplines. We have already discussed that at the frontiers of knowledge they create new kinds of disciplines, they mean they create new kinds of knowledges and new kinds of opportunities.

Demonstrating real life applications, varied perspectives, flexibility in problem solving, bridge to communication gap between professions. This is very important that profession hardly talk with each other because they have nothing in common, what we need have a interdisciplinary kind of aptitude? You tend to take interest in different aspects and the exchange between them, the boring and sharing between them increases. It also at anchor is critical thinking, if you are more apt to think critically, your more apt to think in a more depth manner; building confidence, greater creativity, transferable skills.

So, these are some of the points that the scholars have mentioned having it is interdisciplinary kind of approach, what are the advantages of having interdisciplinary kind of approach.

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So, what is the need of incorporating folk art in our education or what is the need or what is the importance of taking folk art seriously? So, I have pointed out three things, three important things that why we should be taking the folk arts seriously, why should be considered a folk art as significant?

First is identity, folk art and tells the identity of a community it which is very important. Now, with globalization or more so, in the present times identities of the community are eroding, they are dying, they fading away, but the folk art gives them alive. The art talks about the vibrant diverse communities. So, it carries the significant identity markers.

Close to one heart so, I am sure you must be having art in your own community and you must be think, considering them as important to you as close to your heart, it is you are very emotional about them. So, everyones the heart from their community the costumes, the cuisines, the probably the artifact the basketries, the painting, they all close to one's heart they are very emotional about them.

Vast area of traditional knowledge, these are just not things that have cropped up suddenly, they have been there since a long time, they have been passed on from generations to the generation. That is why it is a kind of a traditional knowledge that has to be preserved, that has to be paid importance too.

Then we came to the most important point of this course looking at Art vis-a-vis Science and Technology.

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Art vis-à-vis Science and Technology

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Art and Science are functionally interdependent

Art and science interact through their functional inter-dependence. Art is present as creative imagination in science; science provides reality testing or rationality for art. Although the function of art is to produce imaginary worlds and the function of science is to test theories for contact with reality, these functions are interdependent. Science prompts art to create new visions; art provides science with visions for articulating and testing.

According to Karl Popper's view of scientific discovery, new theories are discovered through creative acts of intuition. There is no logic or rationality in discovery, only in testing or criticism. The logic of testing helps us determine whether our creative insights have any bearing on reality. Creative insight provides theories for testing. Thus, in science, rationality and imagination are functionally interrelated. Rationality plays a destructive, or critical, role: it examines the products of our imagination and may destroy them by finding they fall short of reality. Imagination, or creative intuition, plays a constructive role: it presents novel ideas about reality as possible solutions to the problems of science.

This view of imagination and rationality interacting within science can be applied to analyze the way art and science interact with each other.

We have seen that art and science are functionally inter-dependent. Art and science interact through their functional inter-dependence. Art is present as creative imagination in science; science provides reality testing or rationality for art. Although the function of an art is to produce imaginary worlds and the function of science is to test theories for contact with reality, these functions are interdependent. Science prompts art to create new visions; art provides science with visions for articulating and testing.

So, these are the things that even scholars from the past have also considered art and science as two very important domains and the need for them to be dependent on each other or to have certain things that they can share with each other.

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FOLK ART A POTENT MEDIUM OF COMMUNICATION

Then we discuss about folk art as a potent medium of communication.

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Characteristics of traditional folk media:

1. They have sustained the onslaught of time
2. They have sustained by changing with the changing times
3. Any person is always a participant in the performance, never an audience.
4. It is spontaneous.
5. It is flexible.
6. It is cost effective and therefore has enhanced repeatability.
7. It has immediate feedback and increased attentiveness.
8. It is performed in a common language promoting intelligibility.
9. It is direct and personal.

http://www.kkhsou.in/main/masscom/traditional_folkmedia.html

We discussed it folk art, the characteristics of folk art. They have sustained the onslaught of time, that we have seen that folk art are very they have been passed on from generation to generation. So, they have seen a long period of time.

They have staid by changing with the changing times. So, this is very important sometimes we tend to think that folk art are something from the past, but they are actually not, they have changed themselves that is why they have sustain the onslaught

of time. Any person is always a participant in the performance, never an audience. It is spontaneous, it is flexible, it is cost effective and therefore, has enhanced repeatability. It has immediate feedback and increased attentiveness. It is performed in a common language promoting individuality. It is direct and personal. So, these are the certain advantages of a folk media in communicating an idea, ok.

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Representation of Science and Technology with Indian Folk Art

So, then we saw representation of science and technology using Indian Folk Art.

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Scope

- Organic
- Wide acceptance
- Large vocabulary
- Easy mode of communication
- Low cost
- Diverse and vibrant



So, what are the scope? Does Indian folk art have the ability to represent science and technology effectively? Does it have the required vocabulary, the required capacity to have a dialogue with science and technology? So, we had discussed that. So, what are the scope? Folk art are organic, as we have seen there from the community themselves, they born from the community themselves.

It has wide acceptance because they have born from the community themselves, they have wide acceptance. They have large vocabulary; we have seen they are able to represent many topics effectively. Easy mode of communication; it is not complex; it is a very lucid. It is low cost, diverse and vibrant.

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Narrative: easily comprehensible, many times they are explanatory, few narrative art such as riddles and idioms encapsulates deep philosophy in short precise manner. They are lucid and relatable.

Performative: They are vibrant and captivating. These art forms are enchanting and easily reproducible.

Visual: Often are appealing, the vocabulary contain large scope of representing

So, then we have discussed the different types of folk art and what are their strength. So, we have seen that there are three types of folk art, that one is narrative, the other is performative and the last one is visual. And what are the different strength? Narrative art easily comprehensible, many times they are explanatory few narrative art such as riddles and idioms encapsulates deep philosophy in short precise manner.

They are lucid and relatable; they are so, these are the strength of narrative art. Performative, they are vibrant and captivating. These art forms are enchanting and easily reproducible. Visual, often are appealing the vocabulary contain large group of representing.

So, friends, today was the last class and we have seen some of the important points that we have discussed during the course. I hope you had a very lively experience going through the course. I hope it has open up certain windows in your in your mind and I hope it will enable you to think more in a more holistic manner, in a more creative manner, in a more inter disciplinary manner.

So, please go through the slides once again, and see I am sure it will inspire you to do things that are not even discuss in the course, it will inspire you to think differently than you have been thinking since your childhood.

So, goodbye friends.