**Elements of Visual Representation**
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**Lecture – 42**

In our previous lecture, we talked about different uses of color, mainly the local, optical and arbitrary color usage that we discussed thoroughly. When we use a color locally, there also what we see and what we perceive may not match our knowledge. So, every time we are using a color, we go by certain decision making that if we see certain part and we straight away say that, the grass is green and the sky is blue that may not be true that is only partially true that is how we visually perceive things.

When we look at that green, we also find out that if there is another color which is just somewhere nearby, that color can influence that green. Also when we talk about green itself, that is a secondary color that is a mixture of two other primary colors and they are blue and green, so when the blue and yellow. So, when we say something is a green; that means, we are basically talking about two other colors that are blue and yellow.

So, everything is based on our perception, how we see them from where we, which visual distance we view them and that way we decide on certain things. So, talking about local color application is not, you know as simple as we put it that we see some color and we apply that. Or for example, if we say that you know the hair color is black, now it is black, but there are lots of other reflective colors that are constantly interfering that black.

So, when we look at a color it may look brownish, bluish or there are reflective lights that can make it shiny white, if you are sitting underneath the neon, the hair color will change, but that does not also justify that the hair is grey. So, we may get a wrong data from a capture, so is it that we try to show something and authenticated in a picture or there must be other intentions, other motivations behind visual representation.

Like, if we just decide that we want to express things in terms of light color formed on textures and expression is the primary aim for that particular visual making. And that time we may not stick to the authenticity that is somehow, that is adhering the natural norms. So, that way there are different uses of color that we come across and let us see

when we shift a paradigm, we shift from a painted media to the digital media perhaps that is most common now.

How the character of color change is there, in terms of you know the different uses of color and then we cannot put everything under the same category or a same formula cannot be used or implemented for the different reasons. So, we have made all those paradigm shapes as per our need, the need is changing every day, tomorrow who knows what need we will be facing and then we will react as per that need.

So, right now maybe I am not going to talk about digital media in detail. But, there should not be any confusion between the use of color, when we are using it for a monitor or we are using it for a printing purpose or we are painting on a canvas, the characteristics of the use of color are different there. So, let us try and see that with some of the visual images and we will analytically see, how they function and we will just take a general understanding, so that our confusions are clear to certain level.

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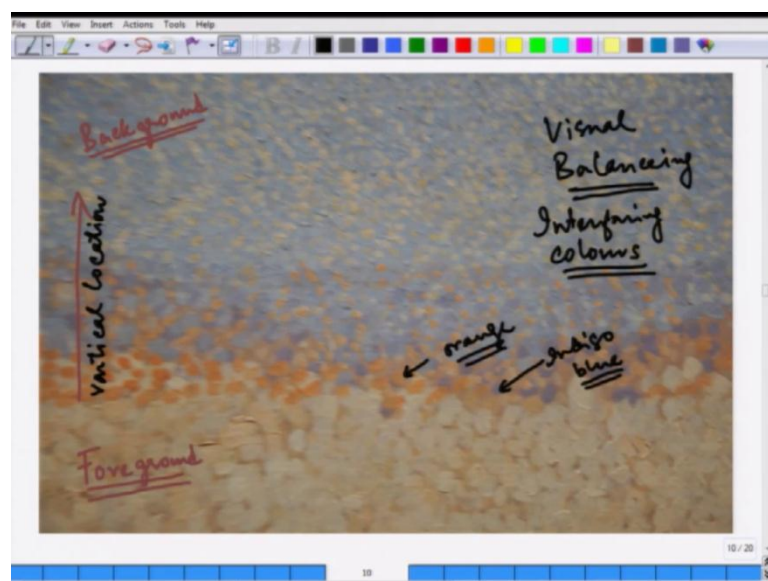


So, this is a piece of a canvas, this is a detail from a painting by Seurat and what we see here is, that there are a different dots or pixels that are gesture pose. So, if we take a view which is like a far way view or a real view, we would not be able to see them separately. So, in this picture what we see is that there are quite a few colors that are placed and there is a particular ratio that is maintained throughout. So, when we look at this upper area which is dominated by blue we cannot call it blue, but we can only say that there is

a blue dominated area whereas, in the lower part the area is dominated by the sand type of color.

So, a sand color and a bluish grey color composition is mutually interactive in this particular composition, where we see that there is no blue that is coming on the lower half, which is actually the foreground. So, if we divide it into quite a few parts, we will see this is the foreground due to the vertical location. So, in the foreground we do not see that there is any blue dot that is falling on the foreground.

But, of course there are a lot of dots or patches of the sand tone that is reflected on the blue area. So, this blue area and the area with the sand color is getting integrated or we can call it a visual balancing and this is through the interfering colors. And in the middle, we also have a color which is connecting the two shades that is the orange and the bit of an indigo blue to bring some kind of an expressive quality to it.

So, that is how when we see a close up of the same range in the pointillist artwork, they follow a different range. So, there is something that we see a new approach here, that instead of mixing the color in the palette itself, you prepare the color. For example, if we take a blue and yellow, we mix it we make a green and paint one area with that green that is one possibility and this is more like an alternative to that, that we keep the yellow and blue separate, but what we do is then called a visual color mixing.

So, through the viewers visual capacity and the kind of distance that the viewer is maintaining that is like how far it is from the photograph or the image it that works as a determinant factor for you know how visually it gets mixed up. So, from a particular distance the blue and yellow distribution and the ratio between the two will give us the sensation of green. So, the data that we read there will give us a green data, when we go close we see these two colors.

So, for the previous example we could make out that when we saw a blue which is also not a very pure blue, the impurity was caused by the sudden interference of the sand color. So, the green is getting a different dimension we are not mixing any white or black to lower or heighten the value of the green. But, simply by using some sand color patch here and there, we could heighten the value of blue in that context, let us see some more examples.
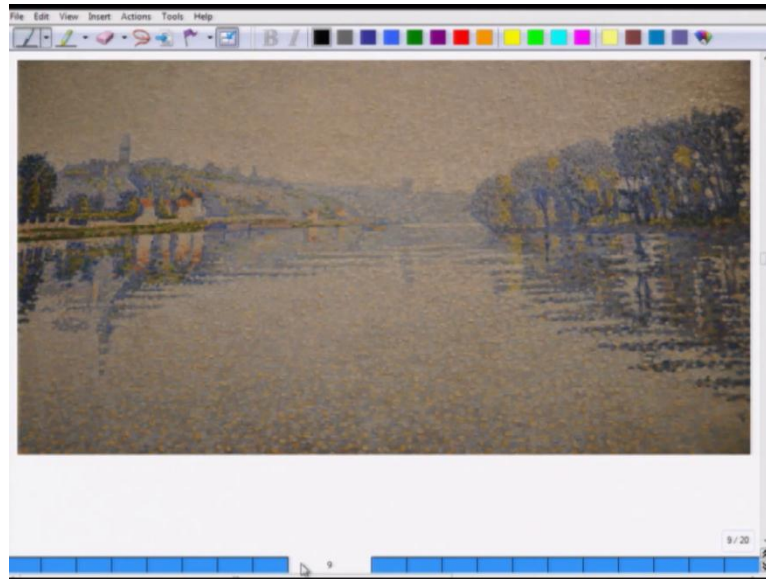
So, here the entire painting is done with the same principle or the ideology. So, you feel that most of the colors are not actually mixed in the palette and applied. But, rather it is a gesture position of different colors that is giving us the sense of the color, this is also enhancing the atmospheric effect to the painting. So, we see the full view and from a distance we just get to see the atmosphere there, it is foggy, the solutes are not very clear and that gives us the ambience of the place that is more impressionistic. So, for many of the post impressionist artworks they followed the same norm and the modern day digital artworks are also following the same norms in a way.
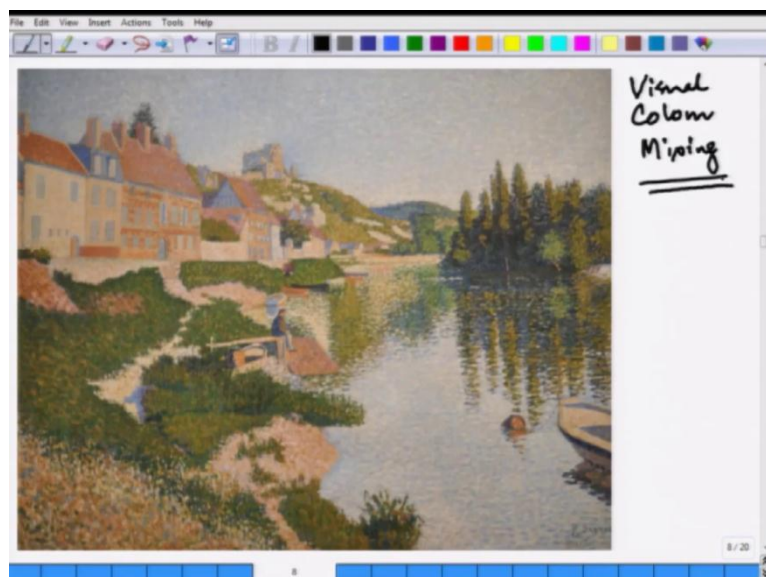
So, let us see some more following the same technique, so what we undergo is experience of visual color mixing.

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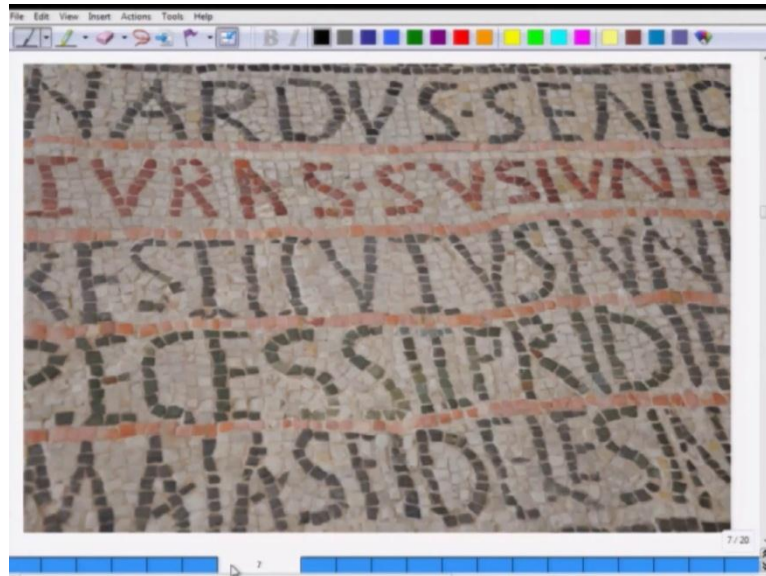


Now, this is another example of tiles that is known as tessera that is a term that is used for the colored tiles or the colored marbles. In fact, these are the small marble pieces, the marble chips that are used as one unit and they are repeated. So, these are from the Roman, the floor patterns where they used this as mosaic on wall, on floors and it has a lot of longevity. Because, marble is durable and small marble pieces are often the chips which are like, you know it comes out after a big curving. So, they have made a very good use of it and the colored marbles are varied in their colors by positioning them in a strategic way. The artist could produce a lot of interesting images which are the following, we will see more.
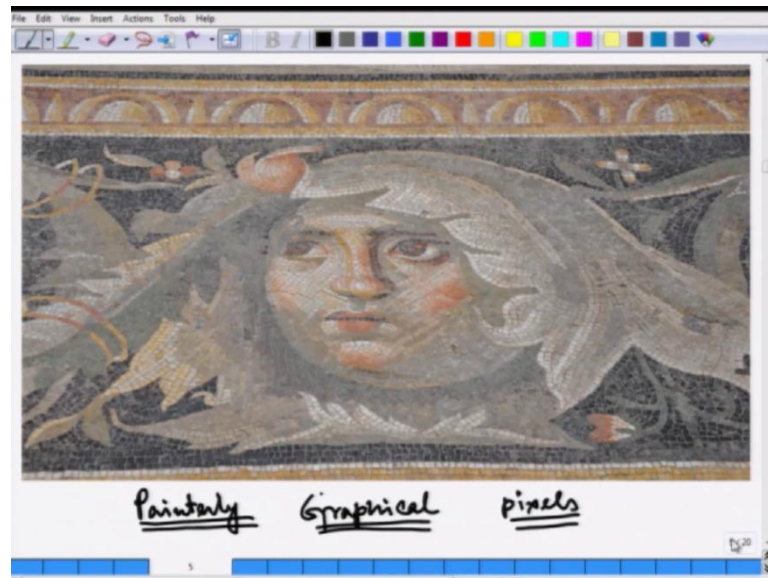
So, we get a sense of naturalistic portrait through the volume the value differences, that is there. And they are not mixed in palette that you can make out it they look very painterly, it has a painterly look or approach, but this is also very, very graphical. Because, each and every part and pixels are well calculated, it is very well planned and then it also gives us a sense of a volumes. So, there had been lots of this monochromatic radiance that had been used and we got amazing result out of that another one.
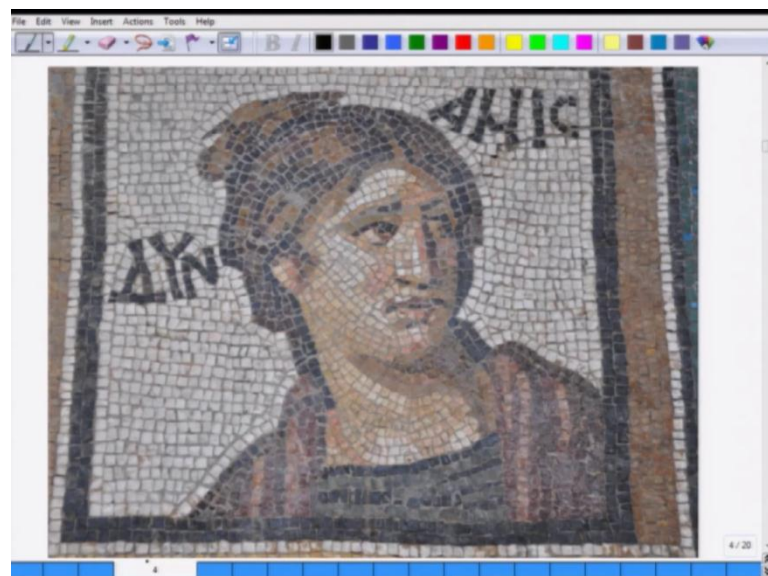
So, the gap between the white marbles and because of the natural components that we have on marble, the colors are changing certainly. So, that gives us a monochromatic feel or there are less contrast that is getting generated, but it gives us a soft volume throughout. So, from here let us try to understand the use of color that we do for a digital image making, this is something if not totally similar. But, it is more like there we cannot mix a color or prepare the color on palate and apply it.

Because, you know monitor works in a different way, the printing media will also work in it is own way, like you know we just take the difference which is very important in our context that when we talked about color wheel you know previous lectures. We have seen that how the color will actually scientifically work and also the primary, secondary color relationship the tertiary colors, how they are coming in between and giving us some analogous or split complementary, triad kind of combinations that are like successful examples of color mixing.

And we also know that how the value change, saturation, intensity and all other factors they work. But, they may not work in the same way for digital media, because it is another paradigm that we talked about. But, the result what we need has to be the same, because you know as per our choices the demand of the visual image does not change. So, you one needs to be flexible in handling those mediums, so the difference between a printing, a print media and a web media must be that you know the monitor will always release a light and that is something what we see as a color.

Whereas, when we look at you know the printing like that is done on paper, the whole colors are the coming as light and it gets absorbed by the paper. So, they also work differently, so the print media and a web media has their different approach of appearance also we do a lot of economy when we do it for the web media. Because, there if you are just watching the images you are viewing them, but you are not taking a printout of that on a paper, then we may not go for a resolution which is very high because that will do some economy to the medium.

Now, by talking about resolution this is more like the proximity, the closeness between two pixels that we are taking into account. So, if we have a higher resolution; that means, then a size of pigments are smaller and they are also close to each other. So, when we expand the thing, if we think in terms of the difference between a vector image and do

some kind of a bitmap image, there is a lot of difference. Let us explain that in our very simplistic manner, and then we will go back and see how the colors respond to that.

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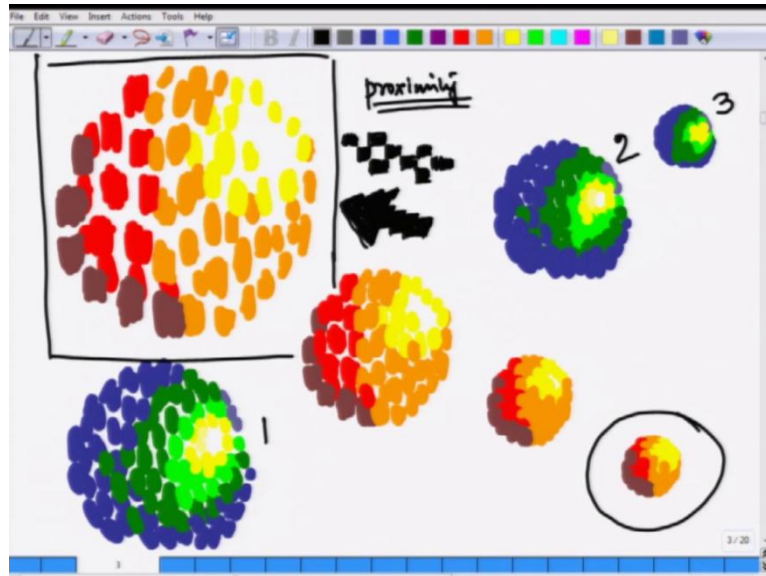


So, let us see what is kind of resolution, so when we talk about resolution it also indicates a certain point that is the proximity between two colors and two patches how they are arrange. So, when we see it in this enlarge from, we get to see the gaps that is more like the how we look at the bitmap images, if we make an arrow in a bitmap format with the help of some regular block, we cannot keep it straight rather we will have to tilt it to give a arrow like formation.

So, when things are pixilated it looks like that whereas, if you want one area which is having a high resolution, whether it is tilted or not the edges are clear there. So, you do not need to look at an edge in terms of the steps which is very different when we look at the bitmap images. However, when we decrease the size and see it in a closer proximity it gets clear to our mind.

So, all this white, yellow, orange, red and the dark red or brown they come together. So, as it reduces in size, the sensation this data sensation will be very different. So, the kind of output that we get from the step like 1, 2 and 3; they are more integrated and thus they are different.
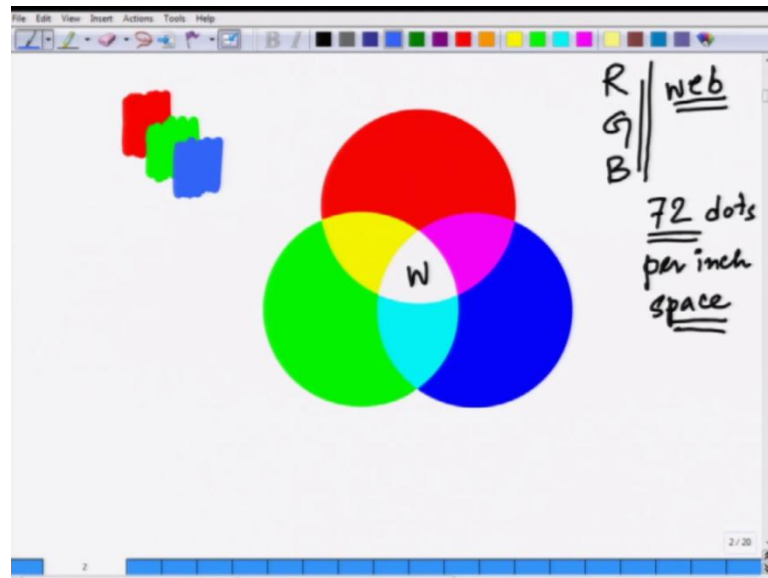
So, let us now understand how they work as we said that the color in a digital media they react differently. So, when we think of some colors like Red, Green and Blue that is commonly known as the RGB range that is most suitable for web media, because the kind of light that they release are very different. So, when we look at this color scheme which is meant for the web media use, what we see that you can put a resolution that is perhaps 72 dots in one end and that will make it visible.

But, then the thing is that the green, blue, light will have a different characteristics, so by the overlapping red and green what we are getting is a very difference sensation, we are getting a yellow in between. When we overlap all the colors in the middle what we get is, the light which is like you know this spectrum is formed that all colors when they are reflecting, they are getting released or they are emitting that time what we get is a sensation of white.

So, what we get in between is the white which is a mixture of all color, so this is a when the color is not getting absorbed. But getting reflected or released, so that is one characteristic that we understand, now that is suitable for the monitors, when we see it as per the light.
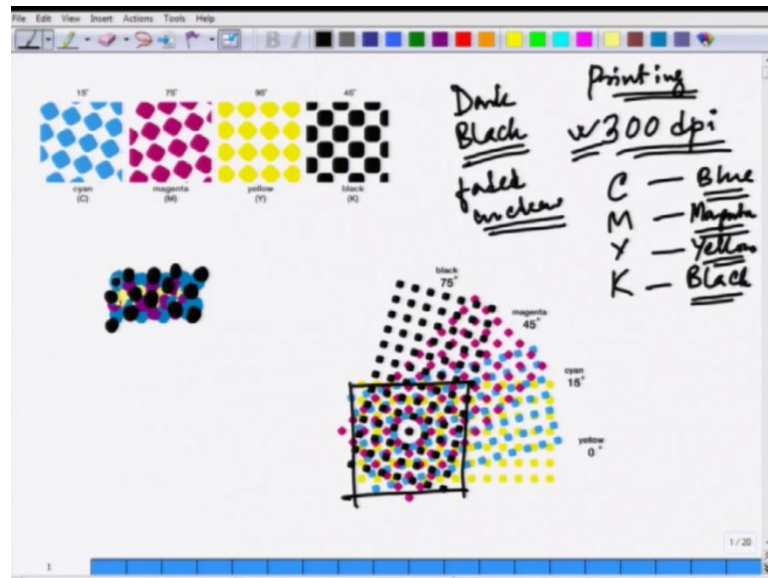
And then there is a variation that is another color combination that we used for the print media, specially on paper or cloth and there we fix a resolution, as we said resolution is the closeness, the close proximities that we see. Because, if the resolution is not very high, then will get the color in a very high value sensation. So, it will become lighter and more than lighter it will become unclear.

So, the resolution that we usually set for printing for that is usually like you know around 300 d p i that is how we count the unit. And we also use another palette that is not RGB, but CMYK that is the Blue, Magenta, Yellow and Black and then by overlapping them. Because, as we discussed earlier also that you cannot mix them together in a pallet and we should not think in terms of the color pigments, but the kind of absorption that the print media will provide us with.

So, what we do is we overlap them in a certain percentage, for here maybe we have made a standard, where this whole 300 d p i will be counted, like d p i is maybe when we are saying 300 d p i that is the maximum that we are trying to have. Because, you know if we want a very bright or maybe the darkest black with no reflective light, then we cannot do without this 300 d p i; otherwise, it will look faded and unclear.

So, we have a ratio which is like you know maybe some yellow, with some percentage of magenta, some percentage of cyan or blue and black and we overlap them it is more like a gesture position that we are talking about. So, instead of mixing them as per their

pigment and you know the color component, we take a visual turn and then we overlap them and we see it in this condition.

So, what we get from this whole data is one area, even if we bring them close then we will get some kind of a sensation which is like by varying their percentage and the proximity accordingly and the close they are the darker and clear they will be. So, if you want something very dark and also clear, we need to increase the resolution of the whole image ((Refer Time: 23:17)). So, unlike the RGB which is Red, Green and Blue we are getting a sensation which is different here.

So, as we have seen earlier that you know as the light that gets released from the monitor from you know those kind of a digital screen, what happens that you know in the middle where all the colors are getting overlapped, you get a data that is a combination of the whole spectrum and that is white. Now, for the print media we think in terms of black, so the mixture of all colors are producing blacks.

So, it is actually following the same principle, it is about whether you are going to the lowest of value or you are going to highest of the value. But, their black and white they are solving the same purpose in one area, in one context it is getting absorbed the other context it is getting reflected. So, let us see that with another diagram.

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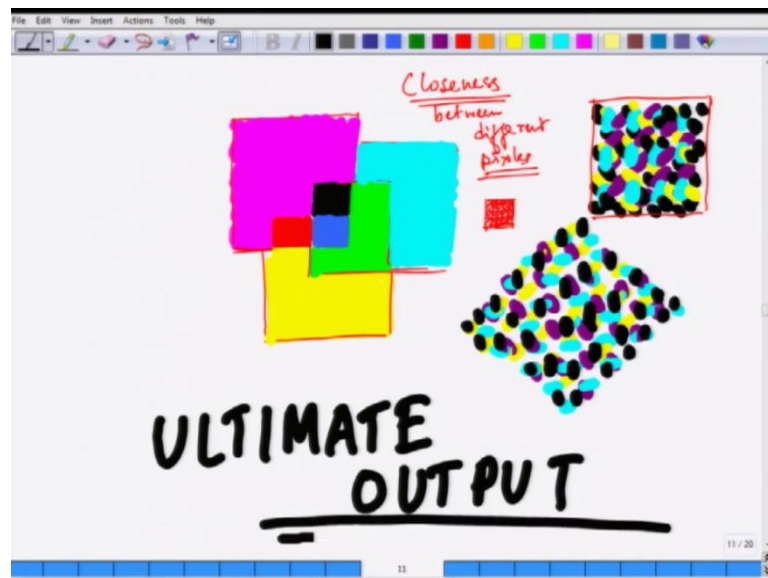
So, when we have these three patches of color and they are reflected in between we get different sensations. So, this is the area and the kind of transparency that is counted through the resolution or the visual proximity how close the pixels are, so the closeness between different pixels in a small area. So, it also changes it is order to make it darker. So, when we create one area like this which is otherwise enlarge, we can also decrease the size and see how it works you bring it is very close, it almost looks black, decrease the size from all direction it will convert into a black dot.

So, it is all about the visual proximity and nothing else, so let us make another one and see how they work. So, we will have to constantly change the direction of the color indicators. So, if it is going this way, the yellow, the magenta should follow another order to maintain the resolution that all this images should be present there nothing should get lost through overlapping, let us change the order. And finally, the black and that works as the determining factor for a color sensation that is our ultimate output. So, a designer unlike a painter has to be very, very flexible and shift from one paradigm to another paradigm frequently and flexibly to use the mediums to their most effective possibilities.