Elements of Visual Representation
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Lecture – 40

How to create balance through achromatic value ranges that is our concern now, because all colors that we are talking about that is correspondent to a value. So, if it is a high value color, then it is lighter and if it is a low value color, so it is the darker shade of it. So, when you have a range of perhaps when we take a color like red, red has a range, if we make the red lighter it will become light red, pinkish and at certain point it will turn totally white.

In a same way, if we keep on making the red darker, then after certain point it will become brownish and at the end, it will turn into black. So, this white and black they are the two colors which are actually not colors, but the value which is the highest value and the lowest value that sits at two of the ends and the identity of the particular color is totally depending on how light or how dark the color is.

So, after certain point of darkening or lightening the color will change it is identity. So, red will become pink or brown, but not red and that day after that point the color gets saturated. So, that is our understanding of the color value relationship, now we will also see how we use this no chroma condition, the like the achromatic range of grey. And in our normal eyes we get to see 10 to 12 shades of grey, it is generally 8 to 9 including the white and black.

So, not more than 13, 14 shades of grey it is possible to see in human eye and it is not only seeing them, but also to understand them separately that makes our range higher. So, in a way when we see that in a range in a clear light, we also know that you know this whole range is like we put it in a very gradual order, then how it functions.
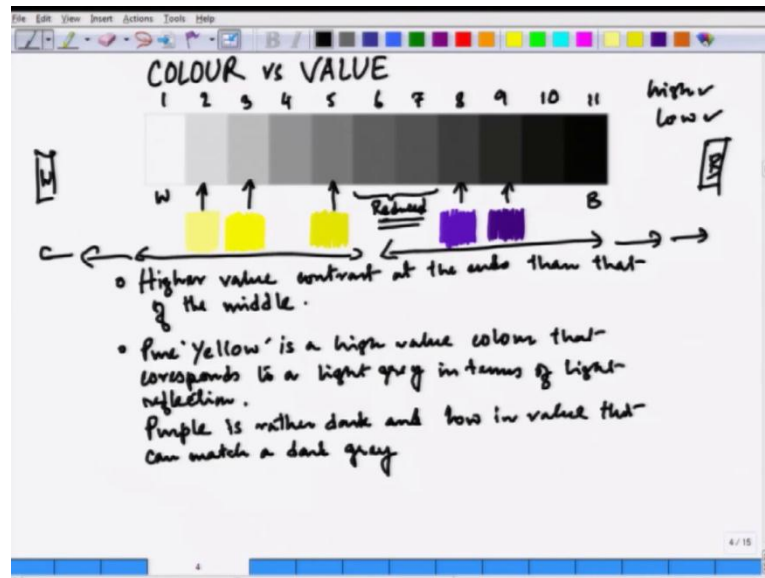
So, in this range where it starts from white and it ends in black; that means, the higher value end and the lower value end that we have and we have 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11, that means 9 greys in a range. Now, here what is happening with this grey is that the higher the value is, the contrast at the ends are more. So, the contrast between 1 and 11 is very high, the contrast between if we put them in number…

So, the contrast between 2 and 10 is also very high, 3 and 9 will also be high and slowly as we come to the center part, the contrast between 6 and 7 will be low. The contrast between 5 and 8 is also comparatively low, but not as low as the 6 and 7. So, as we move to the center, the contrast between the achromatic grey will reduce. So, this is a reduced contrast that we get to see. So, when we replace the achromatic range and we have a chroma here.

For example, when we talk about a chroma which is a yellow, the light yellow will sit somewhere here in correspondence to the 2. Another darker yellow which is a little lower than the value of the 2 will be this, this is a darker low value yellow. So, that will sit somewhere in a 5 approximately, similarly if we pick up another color, where you know the pure yellow that is a high value color, that correspondence to a high a light grey in terms of it is light reflection.

So, yellow will sit somewhere in this range of the achromatic grey whereas, the purple that is a rather dark and low value color. So, that will match a dark grey range, so we will

interpret purple in correspondence to a darker grey. So, all this purple will sit somewhere which is a lighter purple will be there at the range of 8 perhaps and another darker grey like darker purple will be somewhere in the range of 9 and slowly it will also turn into black at the end of it. And the range can be stretched out as much as we want depending on our visual capacity and our knowledge, so it can be extended.

But, make sure that white remains at one end and the black should be at the other end. So, that is how we create the range of color and we try to measure all colors on the basis of that. Now, purple and yellow when we keep a contrast and if we want to create a harmonious combination with purple and yellow, which are otherwise opposite colors that we discussed in the previous lecture, that you know they sit right opposite in a color wheel.

So, when we pick up a yellow and purple as a color combination, if we have a complete expression with the help of just purple and yellow, which we discussed that you know yellow is a low value color, yellow is a high value color where purple is a low value color. So, if we create combination with these two colors, we also need to judge their characteristic and how these two colors are related to each other in the color wheel.

So, what we discussed in like they the earlier color wheel and color combination, we will again make use of that knowledge that these are two colors that sit right opposite in the color wheel. So, they have a nature which is very opposite, now how to create a harmonious color combination through these two contrasts. We need to choose the right yellow and the right purple from the range of grey and that is our task then we cannot just pick up any yellow and any purple to get harmonious color combination.

So, we can choose contrast, we can choose opposite colors provided we know which value we are choosing there. Because, we do not want to strain our eyes and as we talked about visual balance, we can go radical. But we need to take care of the visual comfort and that is essential for any kind of visual expression, because our eyes functions in a very different manner, if we are not comfortable with the combination then we simply refuse to see it for a long time.

So, the decision is the viewer's, the choice is the viewer's, so when we are going for a color combination we need to be extra careful for that let us realize that with a magical experiment or a very interesting example in the next slide.
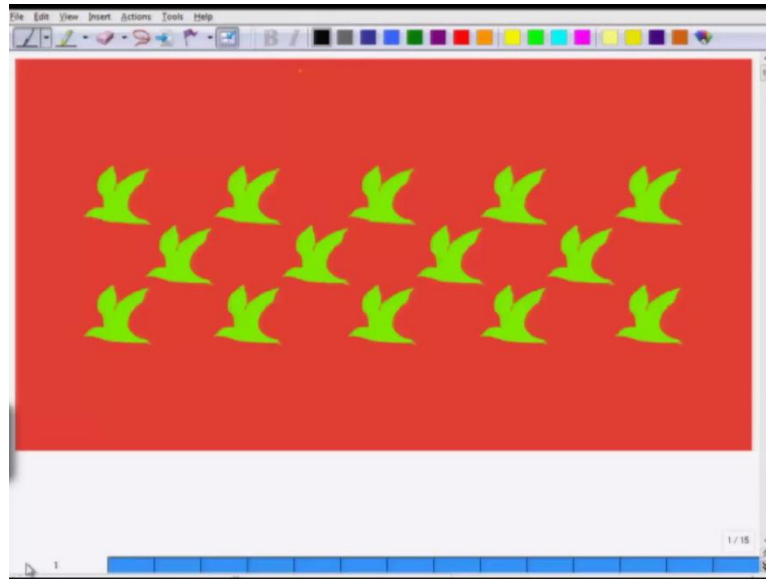
So, what we see here is a contrasted color combination, where we have this red and green both are quite bright and luminous and they are placed in a contrast. So, one is working as a background, the other one is a foreground. Now, when we kept looking at this particular visual for a prolonged time what we see is that we develop some kind of a visual fatigue, because of the brightness, the luminance of this particular color.

Now, you can look at it for some times give a pause and then you do it yourself that you turn your head and look at a white wall and see what appears there, you get to see the same color or you see something like this, it will just happen that will get to see this particular thing and that is there in your memory. So, let us see why it happens, there must be other reasons, why you know we this kind of things happens, we are familiar with this that we keep watching one color for a prolonged period and then when we turn our eye from there we see some other color there.

But, the shapes are unchanged and we need to know why all this things happens, we call it a after image or the effect is that you see something and you carry the memory of something else. So, let us see how our eye works, it is more like it is very funny that we have this two cells in our retina and that is a rod cell and the cone cell. Now, rod cells are responsible to see the light and dark whereas, cone cells are there to identify colors, like you know red, green, blue and all we can make difference whenever cone cells are active and then we give it a name and express it that way.

So, all this cells are like this two cells work together, sometimes if they are not functioning well then we cannot read the color properly. So, cone cells are very important to give us the difference between two colors. So, that way we identify the number of colors that we come across. So, anyway if like when we look at anything the two cells they get very active, if we over activate them by too much of a bright sensation. So, it passes a lot of sensation and then what happen is two cells they develop some sort of a fatigue and it really happens there.

So, because of that fatigue after a while the cells they simply refuse to see those colors and they see colors which are far away from those colors, they choose something which is a very opposite of those colors, it is not that you know they are sitting right opposite in the color wheel. But they will choose something, but the earlier color, so that is how it works. So, let us see that how you know they choose color from the color wheel and that will also justify the scientific use of a color wheel, color wheel is very scientific it is not arbitrary at all the way we put the ranges of color there they function just accordingly.

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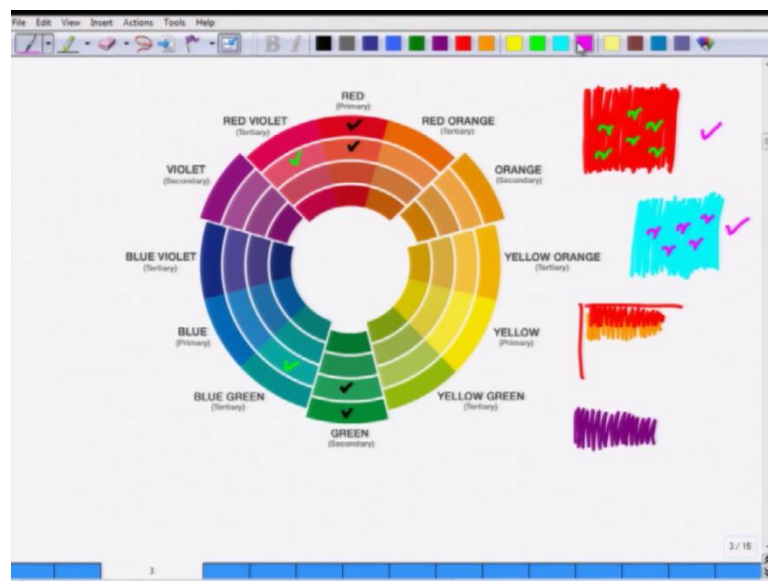
So, let us see what is happening here, what is seen in the picture is that there was a contrast between these two colors. So, we had this red sky and the green birds on it, in fact the sky was very bright and the green was also quite lighter. Now, what happens this kind of a contrast is giving us some kind of a restlessness. So, what we see here is a red background with some green in it. So, after a while what happens that as we said the

cone cell and the rod cell they refuse to this and then they shift to the other color. So, they choose something from this range and they also choose something from this range.

So, this is like a refusal you do not see this and what you see is a something very different that you have this color to replace the background and this two colors are hardly having any relationship, and then you choose another color to replace the other images and that is how it works. The knowledge of this after image formation also helps us in solving a lot of practical problems in terms of the design problem solving.

So, when we take up a project for example, if we want to make a logo with the contrasted color and we also want the log to be memorable. Because, you know whenever we are making a sign or a symbol we are forming certain things with a more than one color or even when we a take color contrast maybe in the black background or in the white background, whatever it is we have this thing in our mind that it has to be in the mind of the viewer for a prolonged time and we do not want them to carry some other sensation.

So, unless we choose a particular shade what will happen that you know the you will see something and will carry the memory of a very different thing. So, that would not serve the purpose that like when we say that we are using a color combination which is memorable that simply means that you carry that message for a long time, for after image formation the problem is that you cannot carry that memory. And in fact, like the dangerous part is that what you carry is the opposite of it or something very different from it which is not desirable at all.

So, while choosing a color combination we need to keep in mind whether we want our viewer to carry that memory or carry some other memory that is connected to that in a very diverse manner. So, in that way the knowledge of after image formation is very important. Now, with that we will also address another issue that is the unity in color, how to create the uniformity or coherence and then that leads to rhythm and balance through color.

Now, when we use a monochromatic color range for example, we have like we pick up a single color, we will see that from the range here that you are picking up a color that is orange. So, you paint a picture the whole picture with different oranges there, moreover like you can take something you know which is close to this orange. But mostly the

whole picture is made out of different shades of orange or you pick up a color like, purple and you paint the whole picture with different shades of purple.

So, those are the different kind of possibilities that you have different purple a grayish purple or anything and that gives you a range of purple or maybe a green and many other greens. So, that is a color combination which is known as the monochromatic color combination. So, you choose it from any of this part of the wheel, what you get is a range that is a monochromatic range. So, we have a whole composition based on this four colors or four or more and there as we say that this is a replacement of a achromatic grey range ((Refer Time: 16:54)).

So, when we created the range of achroma, where there is no chroma present this is the range and we can replace it with a single color. For example, if I pick up red then it has to be white, light red, lighter red, darker red, darker red and then it is red in low contrast and then it will become brownish. So, in this range it is a lighter red and this is a range of a brown and what we get will be the chromatic range of a red.

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So, these are two of the examples in the same range, where we see that there is a monochromatic formation that is taking place. So, this is near monochromatic, in this color combination we know that this is a range of brown we have a bit of a contract which is orange with the not too contrasted. So, we can either use the shades of a

particular color that we have seen earlier or we can just use a close color that is very close to it.

So, these are something which is like near monochromatic or semi monochromatic, here what we see is that we have a black colors are the different shades of yellow. So, these are the monochromes and monochrome gives us harmony, because there is less contrast, the lesser the contrast is the more voluminous it is. So, the volume or the gradient naturally balanced there. So, this is one decision and then we will also try to understand another thing where we go by tonality.

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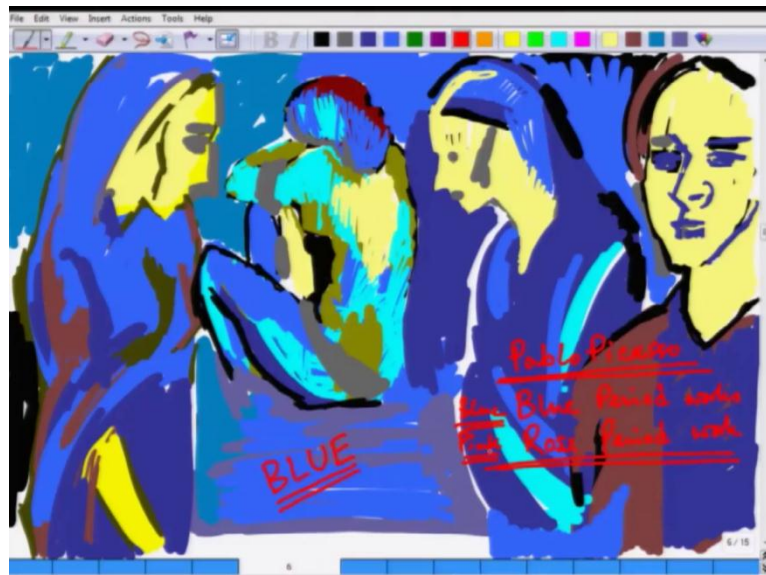
So, when we say that we get to see a some image which is tonal in it is character, what we mean by that if we say that this is a tonal painting and the tones are some color, then the first color that will come to our mind is blue, other than all other colors. So, this painting this whole composition is a blue and we will call it a composition made out of blue chroma. Because, there are other colors present there, so we cannot call it a monochromatic painting.

So, the color unity is defined by another term we often speak of tonality of a design or a planning. Tonality refers to a dominance of a single color or the visual importance of a hue that seems to pervade the whole color structure despite the presence of other colors. So, that is a different from what we discussed about monochrome, a monochrome is the

condition where there is just one hue that is present and it is only they can change in value.

So, we have a single color in it is highest to lowest value in that range, it can be high contrast, it can be lesser contrasted. But tonal paintings are different from it, because in a tonal painting we get to see that there are other colors which are present it is not just one tone. So, it is not a single tone, but there are multiple tone, but their ratio is highly contrasted. So, when we come back to an example like this, what we find there is that there are many other colors present in this picture.

Like for example, we have a brown that is present here, we also have yellow, we have some greenish, darkish, blue present here. But most of the parts are occupied by one color that is blue. A very appropriate example of this tonal painting is the artwork of Picasso of his blue period and rose period. So, in the rose period the tonal paintings were done in dominance of pink and the blue period it was blue.

And then there are color discords that is opposite of color harmony, so the moment we have a clear idea about what is color harmony, we can choose colors which are not in a harmonious state and that will generate some discarded color. We discussed some of those examples in the previous lecture at the end of it that we have we choose colors, like pink and orange combination or light purple and light green combination, they have no harmony.

But, they can also give us some memorable color combinations and they have their own uses with that we will also need to discuss some other aspects of color. So, in our next lecture we are going to talk about the different use of color, which is like when we use colors locally it comes with a different characteristic. Whereas, we have some optical colors that create some illusion that is not the real color, but how we see them and then there are arbitrary color combination. So, we will discuss all this things in our next lecture.