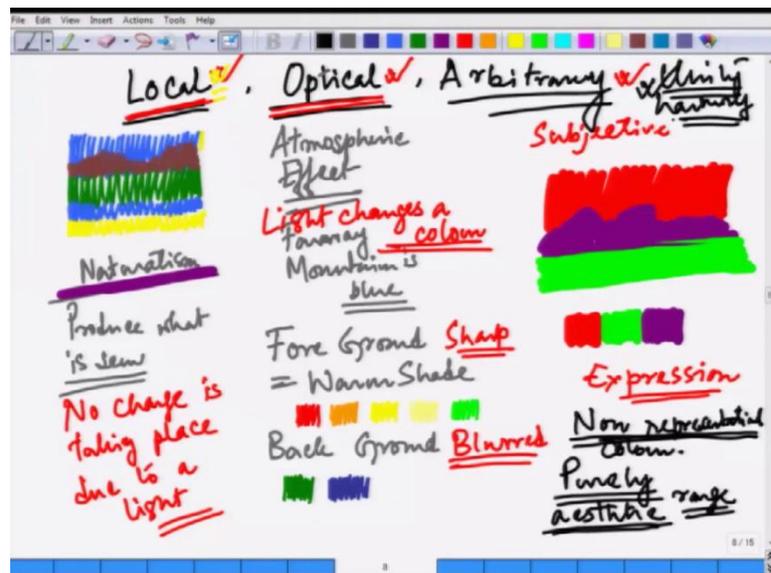


**Elements of Visual Representation**  
**Prof. Shatarupa Thakurta Roy**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology, Kanpur**

**Lecture – 41**

So, let us discuss the different uses of colors in our painting or anything that we are producing as a visual design. So, in a visual arrangement when we are choosing colors, there is one thing that we have realized so far that we need to consider their values very, very meticulously, we cannot ignore that. So, not all reds are similar not all greens are similar, and we need to choose the right value to match with the right value when more than one color is present in a composition the more include colors, more we need to be careful about whether ((Refer Time: 00:54)) there being in unity or not. Because if there are too many colors that can also get different focal points, some colors may create a focal point which can divert us from the rest of the color feel. So, the way we arrange the thing the way we organize our composition is totally dependent on how to make use of our color. So, let us theorize it little bit, what are the different types of color that we use in a general term.

(Refer Slide Time: 01:36)



So, we basically have this three uses of color; one is the local color and then optical color, and then arbitrary color. So, we have combinations of ~~this~~ these three kinds; local combinations optical, combinations, and arbitrary color combination and what are they.

Local color is something that we understand that you know when the term is somehow it refers to a conditions, where we identify colors of an object under the normal daylight.

So, in the normal daylight, the sky looks blue, the jungle looks green, the mountain looks brown or white if its covered by snow, then we can have water, we may have some other color for a close by foliage, but that is something which is to ordinary and how we look at things, but you know it can even be more real in the use of local color combinations. And most of the time we want to be as accurate as possible. So, that gives us a photographic reality something, you know what is also connected to naturalism perhaps. So, we are producing what we see? So, optical color is related to another effect that is the atmospheric effect. And what is that atmospheric effect? That is related to the aerial perspective, that is related to the atmospheric perspective that we have discussed in our earlier chapters.

So, here the optical formation is something where you know the examples would be like the faraway mountain is blue. So, you have a warm color range are the fore ground, we have warm shades like red, orange, yellow, light yellow, light green, and so on and then in the background. We will have cooler green, cooler blues, the foreground will be sharp, focused the background will be blurred,—\_out of focus. So, that is the optical color that we get to see and that can also give it is a atmosphere effect, that is that may visually changed the local color radically. Far away object will look different than this. So, anything at the background will look different than its real color. So, even if the faraway object has warm color, it will turns slightly cooler in this optical color combination principle.

So, how we see that you know light changes color, that your examples of optical color. So, we depend on light that changes a color, here a light is there we see little objects for local colors, we cannot see anything unless there is a light, but no changes taking place due to a light or due to the changing nature of light. So, these are the difference between local color combination, and the optical color combination. And then comes something which is more radical then that, that is the arbitrary color combination. So, color choices are subjective here, we are free to make a red sky and a purple mountain with green river. So, what we have our mind not the objects and how a locally the colors are used rather we are depending on the color combination here. So, if you feel to combine this

three colors together, it is secondary how locally use their, how natural they are that become less important here.

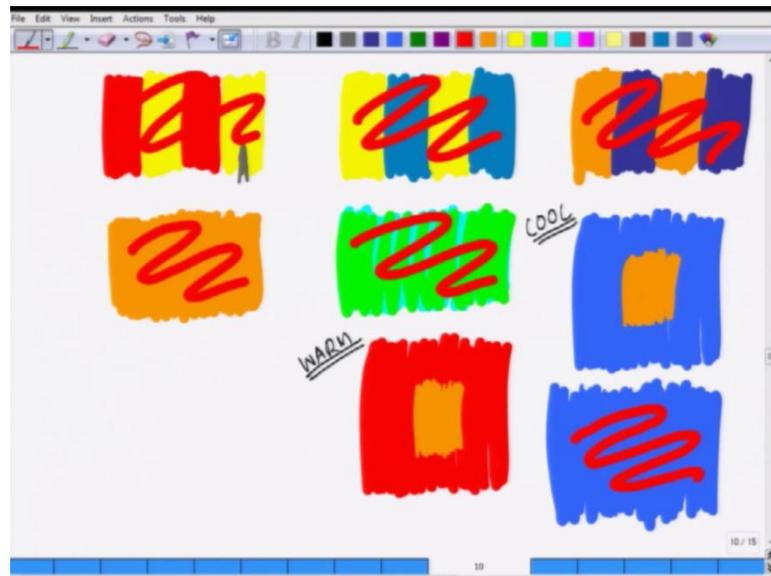
So, that is the arbitrary color combination. So, in non objective art forms or when we see artworks from abstract expressionism for the seek of expressions we use this kind of color combination. So, maybe there not real on natural, but they are expressive. So, we use it for expression. So, in expressionistic artwork we see emphasis of arbitrary color combination, this is very popular. So, in a non objective art form or something you know which is more abstract or non representational, we have no reference to natural objects. So, the color is also without reference, the colors are non representational in nature. So, in non representational or non objective colors are shown there. So, what we have is a purely aesthetic range of color. So, here color wheel ((Refer Time: 08:18)) very important role when we go by the arbitrary color formation, because of the reason that the unity or harmony is rule, whether we go local optical or arbitrary, we can choose any of this design principles, but unity and harmony has to be maintained compulsorily.

So, we choose the right color whether they are matching with the local color or not, there matching something you know with that has a some similarity in nature or not, but we make to make sure that the color combination has some harmony, and that goes with the subject matters. So, again the consideration of a form and content relationship in correspondence to harmony that decides the whole objective. And there are other formations also that we cannot avoid to discuss here, and we can either put it in the category of local color nor in the optical color combination or it may neither be arbitrary.

So, those color combinations are caused by some visual color mixing. And that is also another aspect that we are going to discuss in our next lecture, but right now let us understand it in a different term. So, may be that something, what is operating the modern printing technology, the offset concept totally that we have two colors that position side by side, and we what forget the sensation will be a different color which is produced in the mixture of that, and they are not actually mixed. So, the pigments are not basically mixed what is mixed is the message that it gives you. So, the kind of mixing that takes place when we view an object, that is also dependent on the visual distance, that is there.

So, if we see the ~~gesture~~ ((Refer Time: 10:34)) position of a yellow and red from close proximity it look like color which is combined. So, that is the yellow and red to warm colors their combined there, two primary colors and those are our understanding, but if we put them ~~it then too~~ far. So, optically that will look different, and that will gives us a sensation of oranges something. So, we cannot see or read a yellow and red separately there, what we see is a completely different color, that is orange. And we will see from some of the examples how they work.

(Refer Slide Time: 11:18)



So, a red and yellow from a distance if they are coming repeatedly as pick cells from a closer proximity, but we see them separately, but as we go far we-they may appear with different, they may look like a orange. It is a quite common for colors like yellow and blue, when pasted ~~aced~~ side by side from a distance that can give us ~~(refer: time: 12:00)~~ a sensation of a brighter green.

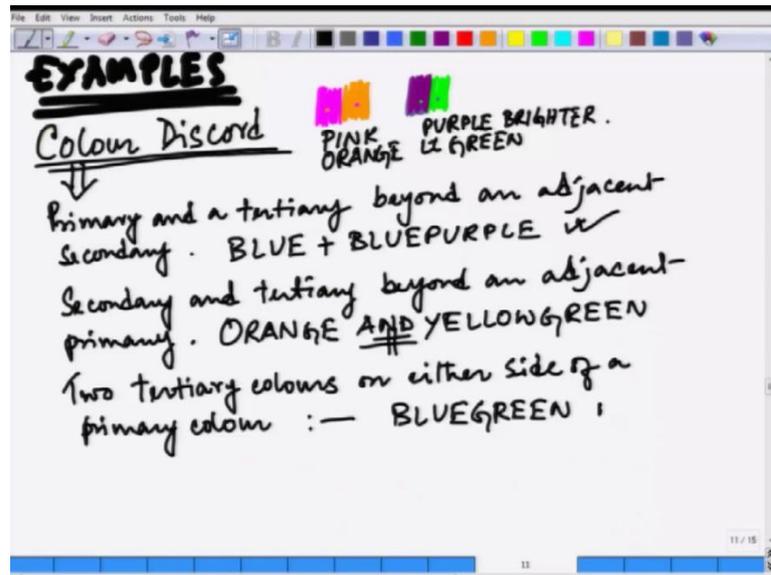
So, theseis are the optical color mixing that takes place in hour,s because of the visual distance, but what about thæt colors that do not mix with each other, like you know here we can steel feel that this two will give us a sensation of something you know, it-which is greenish, but then there are colors that do not get mix even from a distance. So, what will happen with all thoseis kind of colors. Let us see that in some example that you know if we pickup colors like orange, indigo blue; they are the color which are opposite,

and they would not give us a sensation of a particular color from a far away distance. ~~(refer: time: 13:00).~~

So, what we will see that they have a high contrasted ed effect, and other edge we will get a flickering effect in that. Like you know if we use it in a different term when we have a combination of maybe, we are choosing a blue as a background, we are choosing the same background in red. So, ~~there is~~ same in the size and there is no difference, but this is a cool color or this is what? Now, let us pick a color, which is like orange, and it place it, place it against this two very different color which are different in nature. ~~(refer: time: 14:00).~~ So, the orange that I paste here ~~author type is here~~ will look different from the orange that I am placing here. So, it a seem orange but it will flicker more in a different background. So, when we put it in less contrast, ~~est~~ it look different when there is high contrast -- this will look brighter than this.

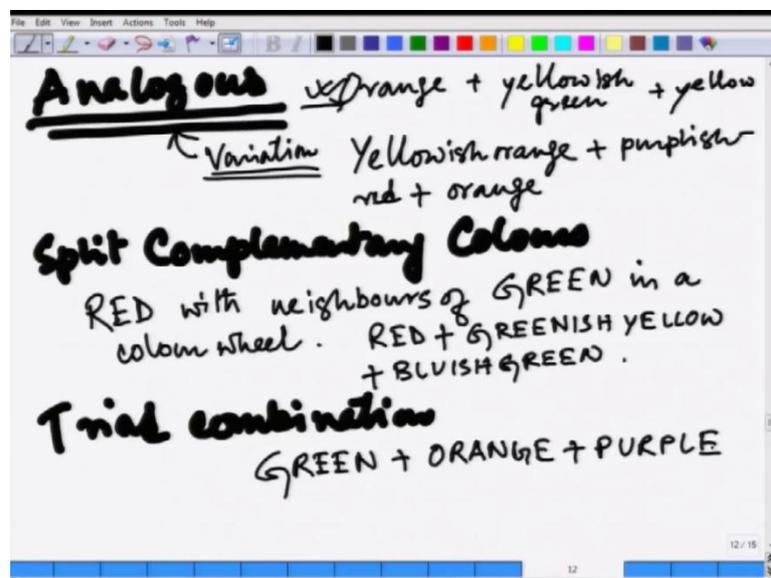
So, this is how we will produce ~~f~~ certain images where we want certain part two actually flicker, we go for this kind of color combinations which are very, very bright. Now we place ~~a bright a~~ bright red here, and that will actually flicker a lot, where-as if we placed the same rate against this orange, it would not be that shiny, let us place it ~~with spaces~~ in different office, and see ~~(refer: time: 15:00)~~ how their ey react. So, the color will change its nature and signature ~~in~~ terms of the coolness or warmness of the background. Aand we need to keep all the things work into account. So, for your suggestion, I ~~we~~ will give you some more suggestions of different kind of color combinations, and will end our topic there.

(Refer Slide Time: 15:32)



So, some examples. ~~(refer: time: 16:00). So, color combination is the fascinating have it we develop~~

(Refer Slide Time: 16:09)



~~So, color combination is the fascinating have it, that we develop a~~ And as we gain more knowledge as we know that how it actually- works, we get into a process of looking at colors and analyzing them ~~in our~~ in our terms. And also we produce different color combinations, there are n number of possibilities -by mixing, matching by in our own terms and also ~~be produce different color combination there are end number of~~

~~possibilities (refer: time: 17:00) by mixing matching by [vocalize noise]~~ you know different kind of permutation by and information and combinations, we can create new combinations and also see the result of it. Now this is very important that you try out living different color combinations, and then you know by ~~also see the by~~ trial and error, we can gain some experience, because other there are different uses of color that we see in digital also: So, where, the resolution can be counted by numbers.

So, it is very clear and analytic each and everything is going by account and it is not just near projections. So, other things are counted in a very different term, but it also clarifies your idea what had been perceptual for a very long time. Since the early early rates that we made something we feel that this is, ((Refer Time: 17:56)) this is all trial and error that we have adopted for thise kind of exercises.

~~(refer: time: 18:00)~~. So, let us see how from come here we can think of creating new colors, and also ~~are~~ creating optical color mixing and digital technology and ~~and also,~~ you know if we take in terms of other examples of roman ((Refer Time: 18:17)) music like perhaps, you have different color marbles that ~~absurdity there Sarah those~~ species and ((Refer Time: 18:24)). need a flat.

So, what we see is that they are following same principle that we have multiple colors ~~better that~~ position side by side. So, that gives us some a ((Refer Time: 18:34)) written this function that is bigger either optical color mixing that we have talked about. So, they are not very different in from their principle, ~~at~~ they are not different at all, but we are shifting our paradigm everyday, and we are making use of the same color in a mucaeh more clear and transparent way. So, we are going to discuss that in our next lecture.