Do things look red, because they are red? Or are things red, because they look red? Naive realists would answer positively to the first question, and idealists positively to the second. But since Galileo natural scientists have provided a more radical answer: If there were no human beings, there would be no colors on the earth. To be exact, there are no colors in the objective world, and things in the world have no color. Colors are only subjective phenomena, like “hallucinations.”

Husserl has taken a very clear stance against this “scientific realism” concerning so called “secondary” qualities or “qualia,” such as colors, sounds, and so on. Colors are “sensory qualities”: they are not to be confused with “sense data,” but are to be taken as “properties of objects which are really perceived in these properties” (Krisis, p. 28). Therefore, according to Husserl, there are colors in the world, at least in the lifeworld. But how do they exist? This is the question that I would like to take up in this paper.

I. Mixed color

There is a famous phenomenon in which two things seem to have the same color, although they reflect totally different spectral components of light. It is called “metamerism.” Metamerism is a phenomenon that color scientists and philosophers use in order to “demonstrate” that colors are subjective phenomena. But is this a necessary consequence?

It is thoroughly trivial that two things may show the same form when we see them from a certain direction even though they have different spatial structures. The spatial form has various “sides” or “aspects,” and each time we see it, it shows one corresponding aspect. Husserl has called this structure of phenomena “adumbration” [Abschattung], and saw the same structure in
the sensory qualities of things. Color is therefore considered to “adumbrate” itself. But does that mean that color has various “aspects”?

Let’s take a familiar example of mixed color. The picture of a color television consists of three kinds of luminous colored points: red, green, blue. When we see, for example, the yellow color of a fresh lemon in a picture, components of light reflected from it are mostly made of red and green spectral light and are very different from those reflected from a real lemon. The yellow color of the television picture is not pure spectral color but mixed color. Psychologists often describe this situation by saying that the mixed color in the television picture is an *illusion* and that the color television uses this kind of illusion.

Why must our perception of the yellow in the television picture be taken as an illusion? Because, answer the psychologists, there are really only two kinds of luminous colored points, i.e. red points and green points, in the place where the yellow color is seen. These luminous points, however, cannot be identified, for they are too small to see.

But this argumentation lacks necessity: If we accept this kind of reasoning as an explanation of an illusion, we must regard almost all of our perceptions as illusions. For example, when we see a picture of Monet and see water lilies in it, our perception of water lilies is an illusion, because there are really only colored spots on the canvas. Or although tap water looks transparent, the appearance of the tap water is an illusion, because it really contains many kinds of things that we can identify through a microscope.

Against this argumentation we can describe the situation in another way, using the Husserlian concept of “adumbration.”

First, there is no reason why the appearance of the color seen through a microscope must be taken as “real” or “true,” whereas the appearance of color seen with the naked eye should be taken as illusory. If we should use a microscope with more magnifying power, the appearance will change even more. The appearance of a color through a microscope is just one mode of appearance along with various other modes, and as a mode of appearance it has no reason to be taken as having a privileged status. Every appearance must be taken as having equal status. In this sense, color has various “aspects,” just like a spatial form.

Second, if the magnifying power of a microscope is so high that the scale of objects and that of wave lengths of light do not differ appreciably, then the objects will be unable to reflect light and not be seen. In this case, the contrast will no longer be that between the real color and illusory color, but a contrast between something colored and something colorless, in other words, the contrast between the visible and the invisible. And in consequence, all the perceptions of colors are to be taken as illusory because what “really” is