

Following are questions you might have after seeing the painting *All Things Do Live in the Three*, which is reproduced on this card:

- *Why would anyone bother to paint a painting consisting of these diamonds (tilted squares)?*
- *And why have it consist of multiple tones (shades) of red, instead of different colors?*
- *Why are all of those dots there?*
- *What does this painting have to do with real painting, like paintings of the Impressionists?*
- *Is this even a painting? I know it is paint applied to a surface, but ...*
- *And what does this painting mean?*

Perhaps it is best to start by looking carefully at the piece.

First of all, contrary to what you might initially think if you don't look closely, the painting consists of only one tone of red, not multiple tones. A careful look reveals that the painting consists of one uniform red, on top of which dots of a uniform size have been painted. Close examination also reveals that, even though the red stays the same throughout the piece, the colors of the dots change from one part of the painting to another. The dots change in color from a turquoise blue in the outer part of the painting, to green for the next step in, to blue/gray for the next step, finally arriving at a yellow/green in the interior diamond. The third thing that a careful look at the painting reveals is that, although we see these diamond shapes, they are not actually drawn there. In fact, contrary to what our eyes first tell us, there is no physical contour or other such demarcation of the diamonds. Rather, they seem to somehow mysteriously appear from a combination of the red background and the colored dots.

Before we go further, a little “color science” is in order. In painting, colors can be mixed in two different ways. One way to mix colors can be called a “physical mixture”—two or more different colors are physically mixed together before the artist applies them to the canvas. Most paintings consist primarily of this kind of color mixture.

The other way to mix colors is by a process called “optical mixture.” In an optical mixture, the colors are not physically mixed together. Rather, they are applied separately to the surface, and then the light rays that emanate from them mix as they enter our eyes and make their way to our brain. For example, look through a magnifying glass at the color orange that you see in the Sunday comics. Although it looks like orange, it really is a yellow area with red dots over top. Television pictures are also created through optical mixture.

The painting shown on this card is a remarkable example of a particular kind of optical mixture, something color scientists call by various names: “assimilation,” “reverse contrast,” or the “spreading effect.” In the painting, the dots are spaced widely enough apart that you do not have a complete optical mixture, like what you see in the Sunday comics. Rather, the red background and the variously colored dots retain their individual constituent coloration. But somehow, in a process that even color scientists don't fully understand, the different coloration of the dots seems to “spread out” and change the color of the red background. As a result, a background that is physically one uniform red is made to look like a variety of reds. And the dots change the red background in precisely the way needed to create the appearance of transparent, overlapping diamonds.

Obviously, the painting is a *tour de force* for color scientists, but why would an artist use these color effects rather than rely on physical mixtures of paint? For one thing, paintings like this are paintings in the truest sense of the word. Many of the things that are called paintings are, in effect, colored drawings. Even artists as masterful as Michelangelo and Picasso often first drew their figures—black lines show their contours. Once the figures were drawn, the artist painted colors inside the black lines. Obviously, those works meet the definition of “paintings” since they consist of paint applied to a surface. But their images are primarily drawn rather than constructed through paint. In contrast, nothing is drawn in a painting like *All Things Do Live in the Three*. In fact, the image doesn't even physically exist. Rather, it is constructed in our mind's eye as our eyes and brain try to organize the light energy that comes from the red background and the multi-colored dots.

In addition, paintings constructed from optical mixtures are brighter than most paintings created through a physical mixture of colors. As you finger-painted in kindergarten, you probably noticed that the more colors you physically mix together, the darker the combined mixture becomes until, at some point, you reach the color of mud. In contrast, in optical mixture the more colors you combine the closer you get to reaching white light—as putting light through a spectrum shows, white light is the combination of all colors of the rainbow. Colors mixed optically are also more “elusive” than those that are mixed physically since they don't actually exist, but rather are created in our eyes and brains as we process ephemeral mixtures of light.

Because of these qualities, optical mixture has been used to at least some extent in painting for a very long time. But it began to be explored by artists in a more systematic way in the 19th Century. When the Impressionists wanted to capture the elusive effects of light on water or coming through the trees, they began to make greater use of optical mixtures. Thereafter, the “Neo-Impressionist” (or “pointillist”) painters—artists like Georges Seurat and Paul Signac—delved deeply into color science and used what they learned to create masterpieces constructed through optical mixture. Paintings like *All Things Do Live in the Three* are a continuation of this exploration. In fact, *All Things Do Live in the Three* focuses more directly on color and light than did the Impressionist and Neo-Impressionist paintings since, as an abstract work, it is not limited in having to use colors to depict landscapes, people, or other recognizable images.

The artist who painted this painting, Richard Anuszkiewicz (“ann-a-SKEV-ich”), is a leading member of the “Op Art” (“Optical Art”) movement. The Op artists explore human perception to create paintings that are vibrant and elusively evocative. Along with his professor at Yale University, Josef Albers, and his roommate at Yale, Julian Stanczak, Anuszkiewicz is from the branch of Op Art that has focused on the perceptual qualities of color and color interaction rather than the graphic qualities of form and pattern. The paintings do not have specific “meanings;” rather, they create a sense of enchantment by giving the viewer something mysterious to contemplate. Because the paintings use color in such a refined way, a viewer needs to spend time with the pieces to fully experience what they have to offer. Anuszkiewicz's work is included in most of the major history of art textbooks and is in over 70 museums world-wide.

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