

Wolfgang Ludwig

When you look at this image of *Cinematic Painting*, 1964, by the German artist Wolfgang Ludwig, you immediately start to notice some strange sensations. Your eyes probably can't focus on the entire painting, but instead dart back and forth between the two discs. If you allow yourself to continue looking at the discs long enough, you may notice that they appear to begin spinning, producing a hypnotic effect. And once you notice this type of action in the painting, you may begin to see different (phantom) colors radiating from the center of each circle. As your eyes begin to lose their ability to focus, you may feel as if you have stopped blinking.

You may wonder how a painting that seems so simple could make these things happen. Since this is just a black and white image on a card, we know that it can't actually be moving. A quick glance shows us that it is just lines on paper. So how is it that we are tricked into seeing movement or color? This painting examines the complexity of vision, namely that it has two components which operate differently. The role of sight (the physical reality of how we see what we see) is objective, but the role of perception (how our brains interpret what we see) is completely subjective. Perception is based on experience, intuition, and cognition – factors that make us unique. In this painting, the artist exploits what he knows about objective visual phenomena in order to push the limits of perception.

But how did Mr. Ludwig create this painting and why does it play tricks with our vision? He used his awareness of basic color and pattern theory to create this work. The colors are a stark contrast – black and white. They are pure dark and light. The pattern is a disc or wheel with spokes that radiate outward from a central solid circle. There is no shadowing; each line is austere. And the pattern of each disc is regular and precise. Each spoke in the wheel is the same size and length, and all spokes are equidistant from each other. The left disc is white against a black ground; the right disc is a reversal of the same image. The left disc seems to recede, while the right one appears to pop out at you. The way the formal elements – line, color, shape, etc. – of this painting are arranged, causes there to be tension within each panel, and even more tension results from the side-by-side placement of two contrasting panels. The highly contrasting tones within a radial pattern prove to be dynamic.

The cause of these effects is rooted in vision. The basic mechanism of objective sight is pretty easy to understand. As you may or may not remember from science class, your eye is like a camera. It works by receiving light through the lens to the retina membrane, within which cells, called rods and cones, process black and white and color, respectively. (Of course, it is much more complicated than that; the eye is very complex, with many more parts than those listed above, so if your curiosity has been piqued, I recommend googling “how vision works”).

Visual perception takes place when light reaches the rods and cones. Light is converted into electrical impulses that are transmitted to the brain via the optic nerve. The brain then translates those impulses into images. For instance, you are reading these black words on a white page. But how do you know that these black marks on this page make up letters which make up words? As a child you were taught the alphabet, you learned the pattern of each letter, and then you learned how the letters composed words and how to read those words. Fortunately, you're able to perceive the letter "A," for instance, because your brain recalls the electrical impulses that convert light into its shape, meaning you don't have to re-learn it every time you come across it. The same rule applies to viewing all other objects. Visual perception is an expectation of past experiences that are honed from infancy. Since no two people will have the same set of experiences, perception is uniquely subjective.

The initial sensation of this painting is a bit jarring, but it is our attempt to perceive (or reconcile) the work that causes us to see movement and phantom color. Since the shapes are circles, it is natural that we would see movement or spinning. It is our expectation that round things with spokes spin (think of a bicycle wheel). Ultimately, this painting exhibits what the artist Josef Albers calls, "the discrepancy between physical fact and psychic effect." Simply put, the formal elements of this image are so highly contrasting as to be unstable, and our visual perception expects that an image such as this should move. Our brains cannot organize the light impulses created by the radial spokes into a static form like they can organize these black marks into letters and words. Consequently, our vision causes us to misperceive what we *are* seeing into what we *think* we should be seeing. I guess it's a good thing that not all images are so challenging!

– Heather C. Brod, 2007

Wolfgang Ludwig lives in Berlin, Germany. He was a professor of visual communication from 1971-1991 at the Hochschule für Bildende Kunst (Advanced School for the Figurative Arts) in Berlin. His work has been exhibited worldwide.

Cinematic Painting, 1964, is actually two panels, numbered II and III, from a series that the artist created between 1964 and 1970. When these panels were shipped to New York in 1965 for the famous exhibition The Responsive Eye at New York's Museum of Modern Art (MoMA), it was the idea of the curator, William Seitz, to unite them in the same frame. The panels have been together ever since. In fact, they were even shipped to Ohio for the exhibition Optic Nerve: Perceptual Art of the 1960s at the Columbus Museum of Art earlier this year, in the same crate as had been used for MoMA!