Vertigo
Op Art and a History of Deception 1520–1970

May 25 to October 26, 2019

The human body is directly involved in Op Art, with visual stimulation leading to effects on the whole body. The effects of these works may be slight visual irritation or massive optical over-stimulation and confusion, and also dizziness and vertigo, or even epileptic attacks. Vertigo is a medical term for physical dizziness and as the title of this exhibition it also refers to Alfred Hitchcock’s 1958 movie. There too, vertigo is meant two ways—a physical sensation and as a cognitive and emotional illusion.

This exhibition is the first to present Op Art from the 1950s and 1960s together with much older examples from art history. Op Art’s own rejection of clarity and balance, and its assertion of movement, confusion, discomfort, and illusion corresponds to a shift from the classical to the anti-classical which can be understood in terms of a universal concept of mannerism. Vertigo sees Op Art as the mannerism of the concrete art of the twelfth century and compares it with examples of European mannerism from the sixteenth to the eighteenth centuries and with works of classical modernism.

Around 1960 new groups of artists came together in northern Italy and France, and also in Germany and Croatia, whose aim was to explore the basic premises of visual perception. They created new kinds of pictures, and they developed labyrinthine and convoluted environments that resemble fairgrounds. Their works playfully confuse viewers, and sometimes use stronger destabilizing optical stimuli to demonstrate and make people aware of the limitations of perception.

The phenomenon of the after-image, for example, in which the retina is subjected to forceful intermittent stimuli, shows us that seeing is a temporal process. Current optical stimuli enter into mutual effects with the echo of images just perceived and the two forceful intermittent stimuli, shows us that seeing is a temporal process. Current optical stimuli enter into mutual effects with the echo of images just perceived and the two

Stroboscopes, laser technology, and ultraviolet light in kinetic spaces or in the context of luminous-kinetic objects and environments illustrate both the interest in contemporary theories of perception and also a fascination for innovative (digital) technology at the threshold to the information age. These artists deliberately used industrial materials as a way of distancing themselves from what they saw as a reactionary notion of the artist genius in the dominant gestural painting of the 1950s. For Op artists, the key issue was that the effects of their works were no longer the result of subjective self-expression, but rather a physical experience induced by a rationally calculated procedure.

The exhibition design of Vertigo draws on the idea of the labyrinth. Here, the labyrinth is the hinge between the visual experience of the Op Art of the 1960s and optical experiments undertaken in the sixteenth and seventeenth centuries that aimed to playfully question the relationship between seeing and knowing in an age of transformation. The labyrinth is seen as a key visual symbol of European mannerism, and as such it also became highly relevant in 1960s theory when Umberto Eco, the most significant theorist of Arte programmata, declared the unfinished and open to be key principles of art. Op artists also advocated the idea of an ‘open work of art.’ The work is by definition unfinished both in terms of its meaning and in terms of how it interacts with viewers, and the relations between art object, artist, and receiver become a field of opportunities undergoing constant change.
Anamorphism

Anamorphism is a reverse of central perspective. Both use a grid and vanishing lines to represent space and depth. While central perspective is a useful tool for our real experience of seeing, anamorphosis initially "destroys" an existing image by transforming it into a distorted grid. This makes it illegible unless viewed from a specific angle or perspective, mimicking anachronisms or grids that can be created in real spaces, where seemingly unconnected fragments come together to form a recognizable image. It is similar to an anamorphic effect from a specific vantage point in the room.

The illusion of the mirror image compiles with the illusion of the inverted light. We think we are standing before a mirror, but the self-portrait of the painter. This kind of picture was known as a capriccio in the late Renaissance, an artistic piece made for collectors and cabinets of curiosities in her work Bláz (1963). Bridget Riley creates a comparable three-dimensional effect, with the displacement of concentric circles in addition giving the impression of dynamic rotation.

Camouflage

Something that is nearly invisible in nature—a field or forest—is used in fashion to attract us. Camouflage is so effective that it disdains for military use, and it could be said that the expression of the ever more secret and open warfare of the twentieth century. In the nineteenth century, brightly colored uniforms and epaulets were used to distinguish combatting armies, whereas today, in the industrialized warfare of World War II, soldiers are often protected from the enemy’s weapons by camouflage. The model is nature—through their color, texture, and even the animals themselves. Camouflage is a technique that is used to create an image of camouflage that is not visible.

Flickering, Shimmering, Stroboscopic Flashes

If you turn a light on and off rapidly, then it begins to flicker. If you speed this up, then at some point you reach a limit and it seems that the light is turning on and off around sixty times per second. Eventually, when the flickering attains a frequency of 60 Hz, all the stimulation of the eye light leaves an after-image on our retina, and at 60 Hz and higher the real image and the after-image overlap so that we have the impression of permanent light.

Sunlight is a natural source of light and does not flicker. This means that living organisms have developed ways to compensate for flickering light in the course of evolution. Flickering can have negative effects on our nervous system. Information is received more rapidly than our brain can process and the brain is overwhelmed in its attempt to bring the quick succession of single images into understanding. This can lead to dizziness, headaches, or in some cases even epileptic attacks. How strongly or unreasonably we experience flickering light depends on the condition of the individual, the intensity of the light source, and the levels of vibration in brightness.

Stroboscopic emotes flashes of light at regular intervals. Depending on the frequency of the images, the stimulation can be so that movement appears static or that the direction of movement seems to be reversed. There are different possibilities of development, and each known flash produces a unique pattern. Pharmaceutical study (1966) works with these effects. Light reflexes at various frequencies lead to different experiences. In the late Middle Ages, stroboscopic flashes are repeated throughout artistic history, all giving the impression that we are seeing the images that make up the light. Stroboscopic effects are often used in distortions of seeing with which we see reality.

Linear or central perspective came to prominence in the Renaissance. The key factor here is making the depiction subjective, as central perspective assumes a fixed position for the viewer and relates the ways in which our human seeing functions (strictly speaking those of a single eye). For the construction of perspectives, mathematical principles were used for the first time in art. An eye line corresponding to the real height of the eye to make contact on the surface of the medium. Then one or more vanishing points are marked along this line. All the lines that lead into the depth of the image will then not be all these vanishing points. The effects of this method are so powerful that art historian Linard Hector stated in 1913 that the picture was like an open window to the world, and he developed the idea of the pictorial surface in Renaissance Italy onto which reality projected itself from beyond.

Central perspective projection

Natural representation always leads to a formal problem. How can three-dimensional reality ‘be depicted on a two-dimensional surface? Various solutions have been developed throughout artistic history, all giving the impression that we are seeing the images that make up the light. Stroboscopic effects are often used in distortions of seeing with which we see reality.

Grid

A grid is a simple structuring and organizational principle. Grids are used in creating perspective in art and in printing techniques. In modernist abstraction the grid becomes an independent motif that suspends all volume and material. The situation is continuously changing in form and thus remains somehow intangible. Jesus Rafael Soto enacts the Moiré effect in a spatial experience in Metal Vibration (1969–1970) by hanging sticks in front of strips patterns on a wall. When the sticks are moved by draughts of air then the room seems to flicker.

Vertigo

The word vertigo derives from the Latin word for a whirling or spinning movement. As a medical term it denotes a sensation of turning or stumbling and imminent loss of consciousness. Vertigo is defined as the body’s reaction to an illusionary perception of movement between the body and the world, caused by the stimulation of one or several sensory systems in the body—the somatosensory nervous system (deep receptors in our muscles, the eyes, or vestibular system in our inner ear), which regulates our sense of balance. We feel as if our ground beneath our feet is moving, and either our bodies or our surroundings are rotating and being dragged. Vertigo can also be accompanied by symptoms like sickness, vomiting, palpitations of the heart, ringing in the ears, and headaches.

Vertigo as a physical reaction to an optical stimulus also constitutes epistemological proof that seeing is both a physical and psychological phenomenon. In other words, in contradicts and disproves the idea that spirit and material or body and soul are two distinct entities, as propagated particularly by René Descartes. There is no objective and pure perception, as perception is always dependent on the subject and is always physical. Physicist Immanuel Kant says that is a state of our imagination takes us besides ourselves. Vertigo is an ambiguous state of mind involving both the perception of permanent and temporary loss of balance and the fear of falling. It embodies a simultaneous desire for both proximity and distance, the continuation of identity and its dissolution, the threat of death and the fear of death. These are the themes of Alfred Hitchcock’s famous film Vertigo (1958), which depicts a schoolboy’s obsession with a beautiful woman, and his archetypal hero Scottie suffers not only vertigo in the medical sense, but also experiences the vertigo of the self in his attempts to reconcile illusion and reality. Scottie is also the victim of tricks and treachery—the deception of others. The film’s famous scene consists of a dramatic ritual act of vertigo—a veritable act of expulsion out of an eye, increasing in size and pulling in the viewer—optical perception and the deception of vertigo are inextricably linked.

Spirals

The spiral has always fascinated and inspired people, probably due to its endless and dynamic geometry. There are two kinds of, one has not developed any name or distance to the preceding coil continually increases. The longer the spiral, the broader it becomes. This makes it “inexplicable” as no matter how far we zoom into the center it always looks exactly the same. The golden spiral is a special form of logarithmic spiral based on the proportionals of the golden section and often used as a principle of composition in painting and photography. In architecture and in fractal theory, the much simpler Archimedean spiral is developed up to the previous coil is always identical. This is frequently seen in technical or artistic productions, such as the much wider Archimedean spiral seems to grow and wander toward the margins, while logarithmic spirals seem to be moving toward the observer.