Second Sight

Daniel Conrad November 2010

Second Sight is a color-changing light painting made with colored LEDs. Knobs on the front of the cabinet control the speeds of three oscillators in circuits that generate LED fade patterns. Adjusting the rate of color-change allows the user to invoke different perceptual responses. Results are generally most satisfying when the knobs are roughly in the same position.

The following sequence of stills, extracted from a video clip, illustrates how the flow of color changes induces a series of retinal impressions. The notes describe effects of color-change as the viewer gazes steadily at the piece. Three color regions of the image are identified as the center, the ground, and the margins. *Second Sight* might run for hours without repeating the exact sequence shown here, but a core group of images would appear repeatedly in endlessly different sequential permutations.

1. Start with a red object, blue ground, and orange margins.

2. As it turns to green, the blue ground leaves a yellow afterimage giving a yellowish tone to the green.

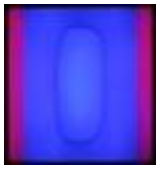
3. Then the margins change to green, but they are perceived more blue because of the afterimage of orange.

4. Margins continue to blue, and ground to orange, resulting in a color reversal from the first frame above.

5. The red center suddenly transitions through the orange ground toward yellow as it continues to green.

6. If the viewer still retains an afterimage of the red center, then this green is vibrant. The ground changes, in opposition, toward red creating a moment of high contrast with the center.

7. Center and ground continue to change around the color wheel in opposite directions, …



8. … and converge in blue, so one appears to move through, or penetrate, the other.

9. In this sequence, center and ground continue in opposition, …

10. … arriving at the same color combination that was seen in figure 2.

Sequential contrast is a fundamental principle for designing (and viewing) color-changing light painting. **The appearance of every color is influenced by the viewer's afterimage of the preceding color.** It creates rhythms of illusory colors that can lend a surreal quality to the work. Another principle is the redefinition of an otherwise unchanging composition when colors are altered. This effect is dominant at slower color-change rates.

For more about color changes, visit www.chromaccord.net and click on the CHROMACCORD section.

Technical Information:

Screen area: 15"w x 16"h. Box dimensions: 16" x 19" x 4" - mahogany with 1/8" acrylic diffusing screen. Front panel below the screen: on/off switch, three change-rate control knobs. Interior construction: metal, acid-free paper, glue, paint, power supply, 136 LEDs, analog circuit. Plugs directly into 120V outlet.