

Macular: collective research on art, science, technology, and perception

Nicky Assmann, Eric Parren

Macular, NYU Shanghai
Rotterdam, The Netherlands | Shanghai, China
nicky@macular.nl, eric@macular.nl

Abstract

Macular is an artists collective founded on a shared interest in art, science, technology, and perception. The artists have exhibited their kinetic light installations and live cinema experiences worldwide. Their presentation will highlight a broad selection of their immersive light works and will elucidate their concepts and influences.

Keywords

light art, kinetic art, perception, synesthesia, visual music, lumia, expanded experience, live cinema, hallucinogenic, artist collective.

The Macular Collective

Macular is a collective of artists who share an interest in art, science, technology, and perception. The members of the collective collaborate on the creation and production of multi-sensorial immersive artworks. The collective functions as a nomadic lab in which the members do research and develop the technology and theory needed to create their works.

Light and motion are two of the main elements that link the works of the artists. Light is used as a direct source of emission and as a form of projection to generate morphing shapes, fields, and patterns. Flicker inducing stroboscopic light, oscillating through the color spectrum, is employed to create hallucinatory choreographies of shadows and colors, which trigger states of mental uncertainty. The works are often accompanied by a sonic component that is either a direct result of the light producing processes or connected on a perceptual and conceptual level. This multi-sensory approach is characteristic of the collective's interest in the biology, psychology, and phenomenology of perception.

Macular's body of work can be placed in the historical lineage of expanded cinema as it relates to lumia and visual music. In addition to their installations, the collective uses their work as instruments for live performance, taking the notion of musical thinking and inserting it into other media in order to create generative compositions in light, movement, and sound.

Recent Works and Exhibitions

In recent years, Macular has been invited to exhibit their installations at media arts festivals, galleries, and museums around the world. Of note are the exhibitions *Macular* and *Cycles* at Wood Street Galleries in Pittsburgh and *Unlimited Light* at Boxes Art Museum in Guangzhou and *Melody of Motions* at MOCA Yinchuan. Each of these exhibitions consisted of four to ten new and existing works by the artists. Below we discuss four of these installations in detail to throw light on the breadth and depth that the work of the collective spans.



Figure 1. The Abysses of the Scorching Sun at Wood Street Galleries, Pittsburgh. © Nicky Assmann

The Abysses of the Scorching Sun

In *The Abysses of the Scorching Sun* (fig. 1) Nicky Assmann refers to the ideas of the earth and the sun as a perpetuum mobile, the changing climate, and entropy. The installation, inspired by Thomas Wilfred, is a kinetic light machine which is pointed towards the sun and follows its trajectory by using a sun tracer. It traces the path of light and moves slowly, almost invisibly, throughout the day. The machine is based on the concept of a sundial, but instead of indicating time, it projects light back to the sun. The visuals move throughout the space as the installation follows the sun accompanied by a score composed of drones. The different cycles lead to an ever changing prismatic output reminiscent of the eye of a storm.



Figure 2. Phyllotaxis at Fiber x The Rest is Noise festival, Amsterdam. © Maarten Nauw

Phyllotaxis

Phyllotaxis (fig. 2) is a project by Daan Johan and Joris Strijbos in which they explore the audiovisual possibilities of self-constructed feedback systems by means of kinetic light machines and modular synthesizers. The work can be viewed as a digital machinic automated equivalent to the natural phenomenon of phyllotaxis (*leaf arrangement*). In this phenomenon a repeating spiral is represented by a fraction describing the angle of windings, leaf per leaf. The work is both presented as an audiovisual installation and as a live performance. Generative software controls the light output which is partly influenced by real-time sound analysis. By varying the compositional elements over time, *Phyllotaxis* transforms into a hypnotic vortex in which abstract patterns in sound and light merge into an intense experience.



Figure 3. Spectra at TETEM, Enschede. © Christina Bakuchava

Spectra

In the work *Spectra* (fig. 3), by Matthijs Munnik, stroboscopic light fields transform a space into a hallucinatory observatorium. *Spectra* is a continuation of Munnik's research into stroboscopic light. It is a window

into a mind altering universe, a mysterious world that appears by flashing different colors of light at high frequencies. The intricate patterns that seem to appear exist only within the mind of the observer, the result of an interference between the stroboscopic light and the functioning of our eyes. For *Spectra*, Munnik wrote a composition of stroboscopic patterns juxtaposition with still color gradients.

Undulator

Undulator (fig. 4), a work by Eric Parren, is an immersive kinetic light installation that explores both the color and reflective properties of light and the effects of flicker on our visual perception system. In a similar fashion to Thomas Wilfred's lumia machines, *Undulator* is a cinematic display that celebrates light in its purest form. Pulsating patterns of complementary colors and gradients are projected onto a reflective surfaces, their undulating movements distort the rays of light. Upon hitting the screens, the projections fold from straight beams into shapes that hint at processes which happen at the microscopic level as well as the cosmic scale. The stroboscopic qualities of the light add a layer of disorientation to the perception of these ever changing shapes.

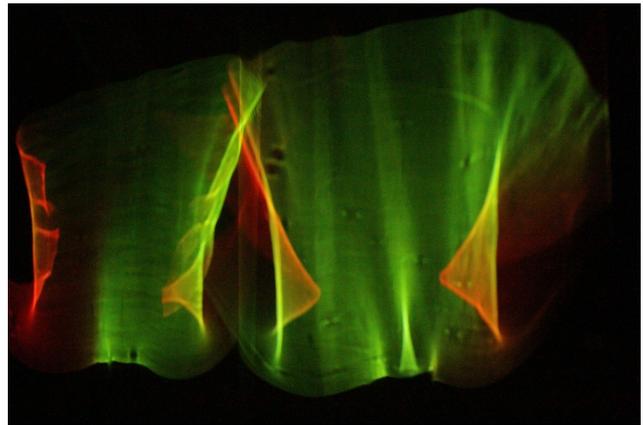


Figure 4. Undulator at The Exploratorium, San Francisco. © Eric Parren

Authors Biographies

Nicky Assmann is a visual artist working with the immaterial and intangible character of light, color, and motion in spatial installations, through which she tries to heighten perception. She is a member of Macular.

Eric Parren is an interdisciplinary artist operating out of Shanghai. He is a founding member of Macular and an Assistant Arts Professor at NYU Shanghai where he teaches courses on light art, kinetic art, and physical computing.