

ADMIT EVERYONE

UNIVERSITY OF WATERLOO

University of Waterloo Art Gallery
East Campus Hall 1239

Tuesday to Saturday 12–5 PM

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A key development in our understanding of oculomotor behaviour comes from the recognition of the importance of the periods that lie between saccades. While slow movements of the eyes may occur during these periods, closer observation of the eye reveals that during these periods the fovea remains fixated on a single point in space.

V. *Mneme* is one of a pair of sculptures by Jaime Angelopoulos. The finish on its plaster surface has been overlaid with repetitive black bands. The rhythm of the banding breaks up the wire hanger-like curvature of the otherwise smooth surface into disruptive patterns of hypnotic static. Named after the Greek muse of memory, Mneme also elicits Richard Semon's study of engrams, hypothetical trace memories that express themselves as physiological responses to positive or negative stimuli. Like its sister work, the composition enacts a form of heliotropism, the physiological response causing plants to unfold and rise upwards to face the sun.

Understanding the importance of fixations requires both the recognition that slow-phase movements operate to maintain stationary fixation in space and that it is within these periods of fixation that intake of information for visual perception proceeds. Such an appreciation of eye movements reveals that the fundamental principle that drives the movements of the eyes is in fact to keep the image on the retina stationary for as much of the time as possible, while moving the fovea to locations where it is needed.

VI. *Paintings for Electric Light* are a series of monochromatic oil paintings by Daniel Hutchinson whose seemingly blank features are activated by fluorescent lighting. Using deliberate black-on-black brushwork the artist rigorously applies repeated geometric patterns across the surface of the canvas. The absence of colour makes each a perfect vessel to reflect light. (*Cyan and Magenta*) pairs coloured gels with florescent fixtures to generate iridescent pools that shimmer across the ridged diagonal surface patterns, an effect not unlike staring at a vinyl LP under coloured lights. The shifting perspective of these darkly grooved surfaces produces an effect akin to a synthetic aurora borealis.

Gathering useful information for perception during fixations and being effectively blind during saccades means that *we have before us not a moving panorama, but a series of fixed pictures of the same fixed things, which succeed one another rapidly.*

— Ivan Jurakic with apologies to Tatler and Wade

Excerpts (edited): Benjamin W. Tatler, Nicholas J. Wade, *"On nystagmus, saccades, and fixations"*, *Perception*, Sage Publishing, 2003, Vol. 32, p. 167–184

Cover (detail): Daniel Hutchinson, *Painting For Electric Light (Cyan and Magenta)*, 2013. Interior installation (left to right): Janine Miedzik, *Lane Raze*, 2016; Paul Dignan, *Raised Ranch #12 and #13*, 2016; Gary Spearin, *iNifiniti*, 2007–2016; Jaime Angelopoulos, *Rise Up*, 2015. Photo: Scott Lee. (details) Paul Dignan, *Raised Ranch #11*, 2016. Photo: Scott Lee; Sasha Pierce, *Starry Night IV*, 2015. Exterior: Daniel Hutchinson, *Painting For Electric Light (Cyan and Magenta)*, 2013, *Painting For Electric Light (White Light)*, 2013/2016; Jaime Angelopoulos, *Mneme*, 2015. Photo: Scott Lee.

List of Works

Artworks courtesy of the artist unless otherwise noted

Jaime Angelopoulos

Mneme, 2015

plaster, paint, foam

76 x 84 x 127 cm / 30 x 33 x 50 inches

Rise Up, 2015

steel, plaster, paint

260 x 124 x 122 cm / 102 x 49 x 48 inches

Artworks courtesy of the artist / MKG127, Toronto

Paul Dignan

Duplex #2, 2016

acrylic on birch panel

84 x 102 cm / 33 x 40 inches

Raised Ranch #11, 2016

acrylic on birch panel

74 x 64 cm / 29 x 25 inches

Raised Ranch #12, 2016

acrylic on birch panel

121 x 94 cm / 47.5 x 37 inches

Raised Ranch #13, 2016

acrylic on birch panel

150 x 132 cm / 59 x 52 inches

The artist would like to acknowledge the support of the

Canada Council for the Arts and Ontario Arts Council

Daniel Hutchinson

Painting For Electric Light (Chiral Corner), 2015

oil on canvas with fluorescent lights and gels

122 x 305 cm / 48 x 120 inches

Painting For Electric Light (Cyan and Magenta), 2013

oil on canvas with fluorescent lights and gels

196 x 244 cm / 77 x 96 inches

Painting For Electric Light (White Light), 2013/2016

oil on canvas with fluorescent lights and gels

196 x 244 cm / 77 x 96 inches

Artworks courtesy of the artist / Angell Gallery, Toronto

Janine Miedzik

Crash, 2016

polyvinyl tarpaulin and duct tape

129 x 125 x 129 cm / 51 x 49 x 51 inches

Lane Raze, 2016

polyvinyl tarpaulin and duct tape

dimensions variable

Sasha Pierce

Starry Night IV, 2015

silkscreen on handmade Kurotani #52 kozo paper,

archival cotton paper and archival mending tape,

printed by Master Printer Nick Shick

79 x 60 cm / 31.25 x 23.5 inches

Sqrt6 Triangles II, 2016

silkscreen on handmade Kurotani #52 kozo paper,

archival cotton paper and archival mending tape,

printed by Master Printer Nick Shick

79 x 60 cm / 31.25 x 23.5 inches

Gary Spearin

iNifiniti, 2007–2016

installation of 39 paintings, oil paint, canvas

61 x 51 cm / 24 x 20 inches each

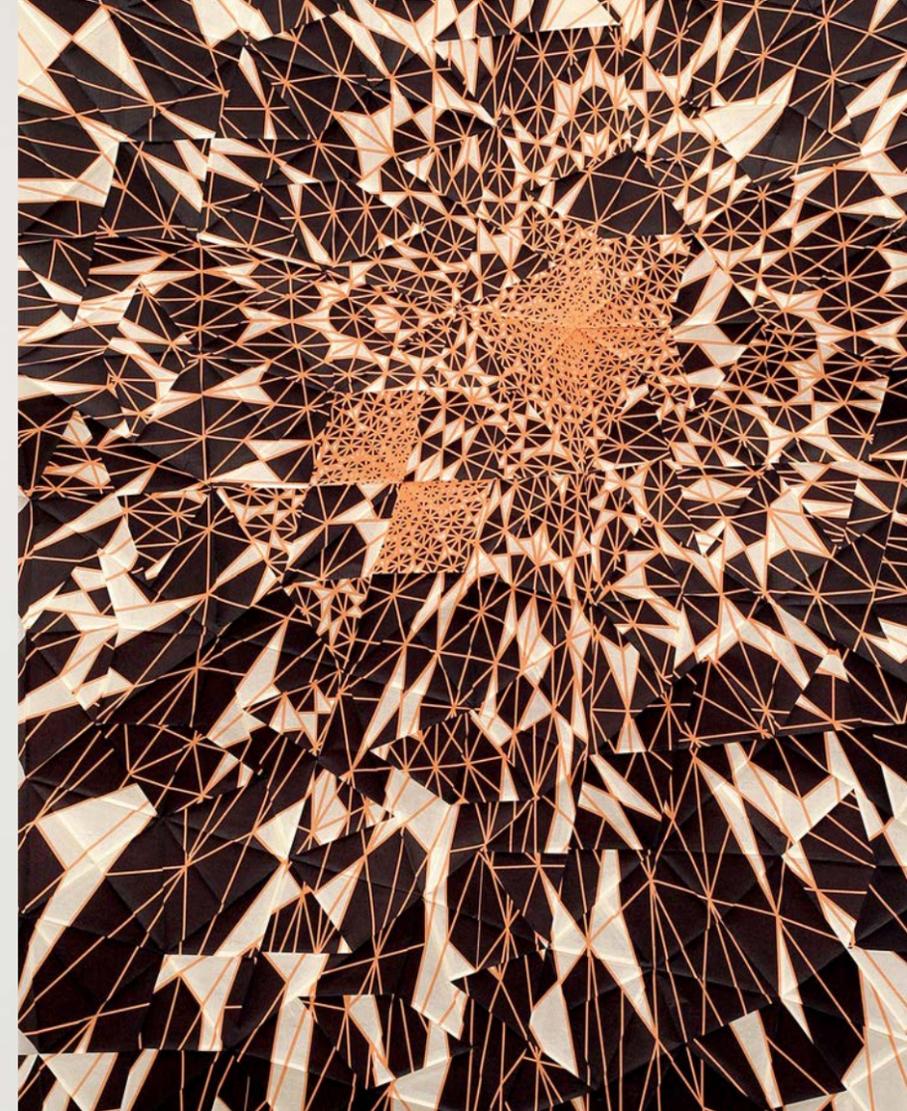


September 15–October 29, 2016

Fixations & Saccades

Jaime Angelopoulos, Paul Dignan,
Daniel Hutchinson, Janine Miedzik,
Sasha Pierce, Gary Spearin





Fixations & Saccades

Saccades are a family of ballistic eye movements with varying durations and peak velocities. The high velocities reached during saccades ensure that their duration is kept very short, ranging from approximately 30 to 100 milliseconds. In this way the period of visual disruption resulting from eye movements is minimized.

I. *Lane Raze* is a modular composition by Janine Miedzik made by applying layers of duct tape to polyvinyl tarpaulin. A hybrid of painting and sculpture, the form is constructed of zigzags of black and white stripes oddly evocative of dazzle painting, an effect applied to military vessels during World War I. Rather than concealment, the aim was to confuse perception in an attempt to make it difficult to tell an objects true position or direction. Using a strategy not unlike that of disruptive camouflage, the effect evokes a collapsed sign where contrasting planes collide against one another to eye-catching effect.

During saccades we are effectively blind owing to limitations of photoreceptor response time and to active suppression of the visual pathways during these eye movements. In these periods slower types of movement can be seen. These slow phase movements work to stabilize the retinal image. Hence, between saccades the eyes remain relatively, but not completely, stationary in space for periods known as fixations. It is during these fixation pauses that our information intake for visual perception occurs.

II. *Raised Ranch #11* is from a series of dynamic acrylic paintings by Paul Dignan. Rigidly composed stripes are banded together within triangular segments. These linear segments of secondary and tertiary colours are grouped together in tight patterns that form large triangular facets. Several appear to recede under their contrasting counterparts. The recessions are subtle gradations that create an effective illusion of depth on an otherwise rigorously flat surface. Precisely rendered on an asymmetrical support, the composition delivers an exacting optical punch using little more than the push-pull between stripes and angles and colours.

The eyes are not absolutely stationary within periods of fixation; there are microsaccades and drifts. Indeed these mechanisms of instability during fixations appear to play an important role in clear vision. Recognizing the distinction between saccadic eye movements and the periods of relatively stable fixation is key in understanding how the visual system samples the world.

III. *iNifinTi* is an ongoing series of oil paintings by Gary Spearin. The title is a neologism, a wordplay combining 'infinity' and 'if' to suggest endless possibility. Each painting is the same size. Groupings are installed in grid formations that respond to the architecture of the venue. This iteration contains thirty-nine canvasses produced using a wet-on-wet process using squeegees, modified pallet brushes and similarly blunted instruments to drag, comb or inscribe marks and ellipses that evoke a primal calligraphy. The grid is a uniform yet discontinuous field. The white spaces in between are gutters, sequential gaps where the eye is drawn to rest before moving from one dense surface to the next.

The observed slow-phase movements operate to stabilize the retinal image in spite of self-motion or motion within the environment. Since saccades typically last a few tens of milliseconds and occur at a frequency of approximately 3 Hz, it can be seen that the eye spends much of its time fixating, maintaining a stable retinal image of a target in the visual scene.

IV. *Starry Night IV* articulates Sasha Pierce's fascination with generating complex compositions using tiling or tessellation. Algebraic logic is the matrix used to generate each complex abstraction. In this case, a composition of triangular tiles is carefully silkscreened onto handmade kozo paper before being razor-cut and painstakingly reassembled using archival mending tape. The end result is a spatially complex collage that appears to have been carefully and yet irrationally reassembled—a mosaic reminiscent of a spatial warping effect. Mirroring a sister work on the opposite side of a shared wall, the pairing infers a metaphoric portal between spaces.