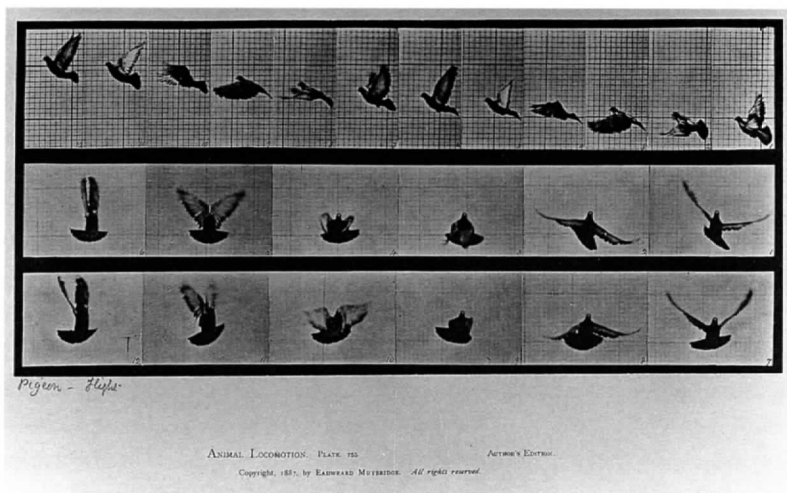# Erwin Redl

wexner center for the arts

Electric Grid: Erwin Redl's FETCH

Kris Paulsen

In 1887 Eadweard Muybridge published "Pigeon Flying" in *Animal Locomotion: An Electro-Photographic Investigation of Consecutive Phases of Animal Movement*, an exhaustive and eccentric compendium of his recent motion studies. The plate shows a pigeon taking flight. It appears to move right to left, climbing a black-and-white grid. The fast camera catches the bird in a series of twelve movements, each perfectly centered, as if the cameraman (and viewer) is traveling with the bird, taking loft alongside it. The strip is not a single photograph of a specific moment in time, but twelve images taken by a bank of adjacent electrified cameras, each aligned with a sector of the gridded backdrop.[1] Muybridge, predicting future film editors, spliced the frames together, making a seamed yet smooth series. And, indeed, he aimed to reassemble time by taking the side-by-side images off the page and projecting them in sequence onto a screen.[2]

Muybridge's electrically triggered camera could do what the eye could not: it arrested time, parsing the embodied blur of phenomenal experience into a succession of discrete and isolated instants. Muybridge's lens holds the living world still, making it suddenly legible and intelligible. The viewer can read, right to left, glyph by glyph, the written figures of motion.
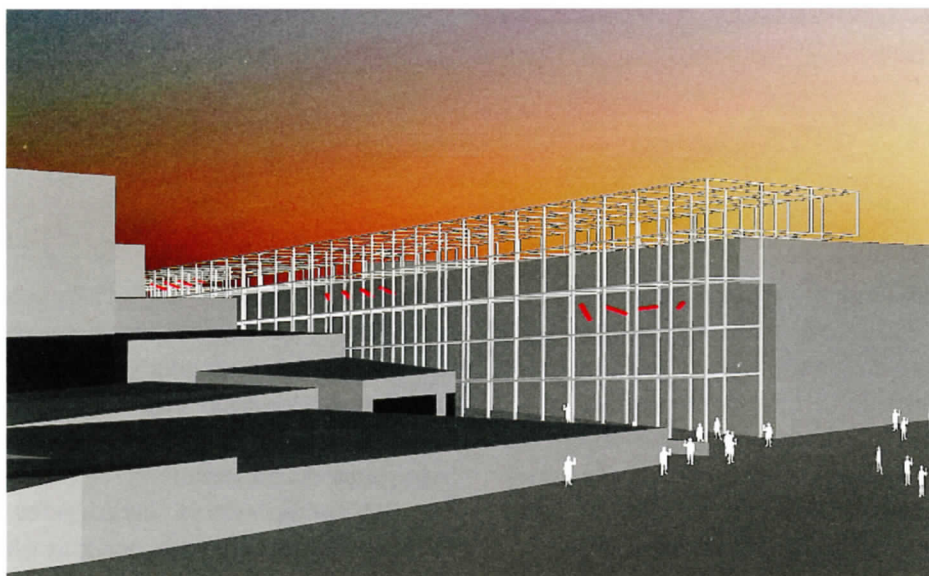

Pigeon - Flight.

ANIMAL LOCOMOTION. PLATE. 755   ACTOR'S EDITION.

Copyright, 1887, by EADWEARD MUYBRIDGE. *All rights reserved.*

Erwin Redl
Digital renderings of *FETCH*, 2010
Courtesy of the artist

The imperceptible can be measured, mapped, and graphed. Embodied experience is distilled to science—to physics, physiology, and geometry. And Muybridge presents it in two ways: below the series of sidelong photographs, are two more strips of images that show the bird flying head-on toward the camera. The pigeon alternately hovers and flails in the center of the frame, but never moves forward. It hangs, mid-ground, striking poses against the grid. The viewer keeps her distance despite the animal's apparent movement. She simultaneously sees the bird from two vantage points—the bird is taken out of time and she is taken out of her body.

Erwin Redl's FETCH (2010), commissioned for the Wexner Center, plays Muybridge's game. Here, too, motion is sequenced and reanimated upon a grid. And like the nineteenth-century photographer, the Austrian-born artist works with light and electric pulses. But Redl does not simply remake a Muybridge motion study; he reverses the process. Muybridge's work flattens the physical world into a virtual image. Redl does just the opposite: he transforms a virtual image into a physical thing, opening it up to all of the variables and contingencies of embodied sensory perception. FETCH pushes the analytical and geometrical object of scientific examination and computer modeling into corporeal space. He merges the real world with the virtual. Muybridge's serialized time becomes Redl's segmented space.

The history of virtual images long predates the digital devices Redl uses. In The Virtual Window, Anne Friedberg argues that virtuality is not a media-specific property attached to our current technologies but an ontological category. It is a quality of both image and experience. We enter virtual images every time we look at a screen (cinema, television, computer), a perspectival painting, a photograph, or even a

mirror. There's no need for wires or goggles or cybernetic systems. "The virtual," she writes, "is a substitute—'acting without agency of matter'—an immaterial proxy for the material."[3] Virtual images, then, do not have the same physical qualities as what they picture. The painting and the photograph are real things, but they are only "functionally or effectively but not formally of the same materiality" as what they represent.[4] They appear to be what they are not: surface masquerades as depth. Muybridge was by no means the first to devise a system for compressing the three-dimensional world to into a two-dimensional virtual image. Leon Battista Alberti, Leonardo da Vinci, and Albrecht Dürer each described methods of flattening phenomenal space into pictorial space. And each did so by looking through a grid.[5] The three artists gazed though reticulated veils or glass panes to map, square by square, what they saw onto the canvas. Like Muybridge, their mathematized scenes turned embodied binocular vision into virtual images organized for a monocular, immobile spectator. The world was already a virtual one before digital technology and computer terminals opened it up onto simulated scenes. The environment is filled with the screens Friedberg describes. But in these cases, the artists use virtual techniques to effect realism: to create fully rendered and accurate images that look as if the viewer could step into them, though she never could. Redl, however, expands virtual space into real space. He extends the digital aesthetics of early computer games and architectural drafting into the outside world. In Redl's installations the exterior world resembles virtual space, not the other way around.

Redl appropriates Wexner Center architect Peter Eisenman's white scaffolding as his grid against Columbus's dark winter sky. Every few seconds, an object races through the top tier of

the structure. It is quickly followed, twice over, by similar movements in the registers below. The moving objects appear to be glowing sticks hurled across the night sky. As each reaches the edge of the building, it disappears and invisibly boomerangs back to the beginning of its path. The action loops like a film reel, but it happens out here, in the physical world rather than on the page or screen. Despite its presence in the here and now, FETCH's motion, like Muybridge's sequenced stills, is an illusion: it is the result of ninety-eight individual tubes suspended in the center of Eisenman's cubes. Each acrylic casing holds a string of light emitting diodes (LEDs), which pulse and change color at a computer's command. The only actual movement is electricity coursing through the system. Redl simulates motion through the perfect positioning of objects in space. Each cubic unit of the Wexner Center's façade becomes a frame, a three-dimensional fragment of space and time. The flat, gridded veils and backdrops of the earlier artists unfold into three dimensions as Redl graphs captured instants onto the museum's architecture.

FETCH produces the appearance of a single object in action though a series of sequential individuals, much like films or Muybridge's animations do. But there is something very different about Redl's adaptation of Muybridge's technique. The viewer is not a passive, immobile spectator locked in her seat or trapped at a predetermined vantage point. Redl affords the viewer an embodied relationship to the "liminally material" objects of virtual reality. She is free to move and to experience the event—simulated though it may be—though her own mobile body. The light might appear from behind and race over her like a low-flying plane. Or, she can face it head on and see the light hurtling towards her, as it refuses the polite distance of Muybridge's

pigeon. It crashes upon her in a near miss. This confrontational position is also an ideal one. It is the only site from which the viewer can see the entire sequence. Eisenman's grid adds to the thrilling effect of the immaterial collision: from this spot the buttressing grid angles slightly upwards as if it were the vanishing point of a schematic drawing. The orthogonal beams radiate outward from the viewer's point of view. She is at the center of the universe and the entrance of the museum. Redl lures her in and shows her the thrill of the interpenetration of the representational and the actual. Virtual or real, moving or still, FETCH's effect is visceral.

When seen from afar, the viewer can perceive FETCH's illusory movement but not its component parts. Removed from the threat of its implied trajectory, she is able to trace FETCH's mathematic, uncurving path down High Street. It is both real and unreal. It appears to be a recognizable thing—a stick, a pipe, or a fluorescent tube—but it does not behave as if it is of our world. It is untouched by gravity's pull—it moves in a perfectly straight line, never losing speed before it vanishes. But, undoubtedly, it is there. It is a thing; it is just not of the same substance as what it claims to be. FETCH maps a virtual, perfect, mathematical world onto our own. But even before Redl's intervention, Eisenman's architecture alone produced a similar effect. The Wexner Center is a fortress cracked open: its red brick curtain walls and castle keeps part to reveal an interior structure of black-mirrored boxes crisscrossed in white steel lines. These vectors jump from the sides of the building and extend into the three-dimensional gridded network Redl appropriates. It is as if the virtual architecture represented in blueprints and CAD renderings have grown off the page or screen.

Eisenman's deconstructivist building sits easily with Redl's œuvre. Since Redl began
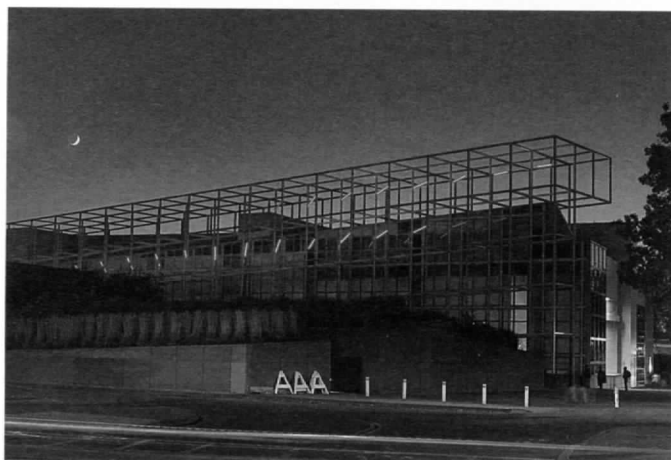
Erwin Redl
FETCH, 2010
Site-specific installation for the
Wexner Center
LED-light installation
Courtesy of the artist and ACE GALLERY
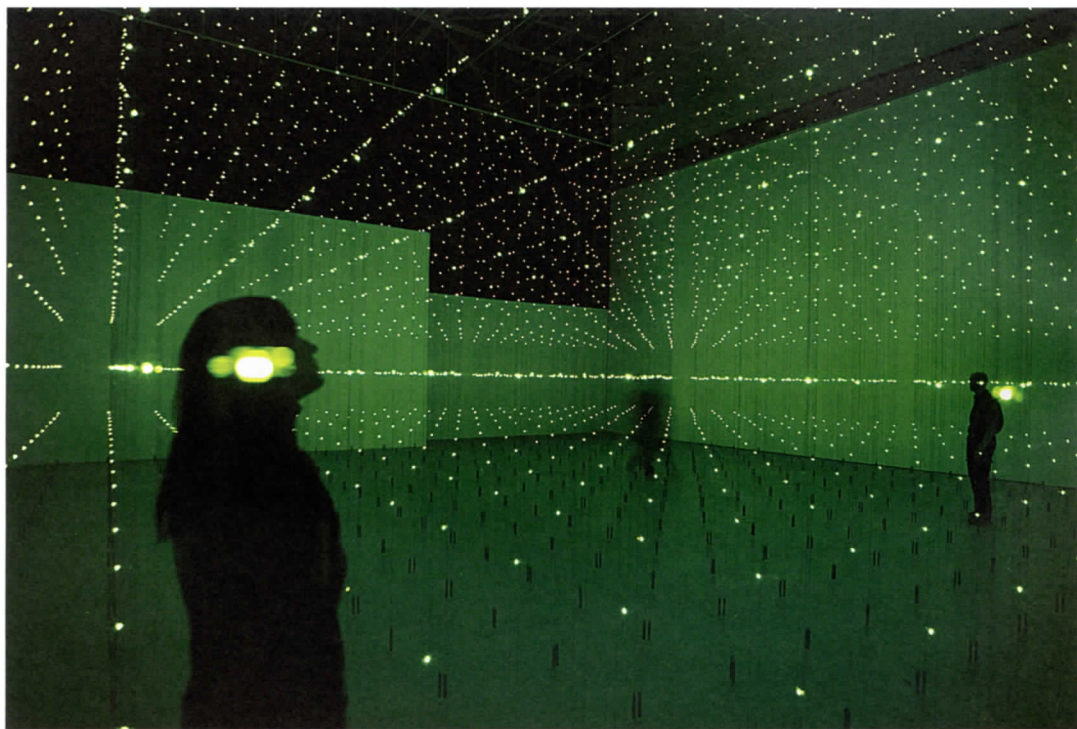
Erwin Redl
Matrix II, 2000–2005
LED installation at the Museum of
Contemporary Art, Los Angeles, 2005–2006
22 x 40 x 50 feet (variable)
Courtesy of ACE GALLERY and the artist
Photo by Ira Lippke
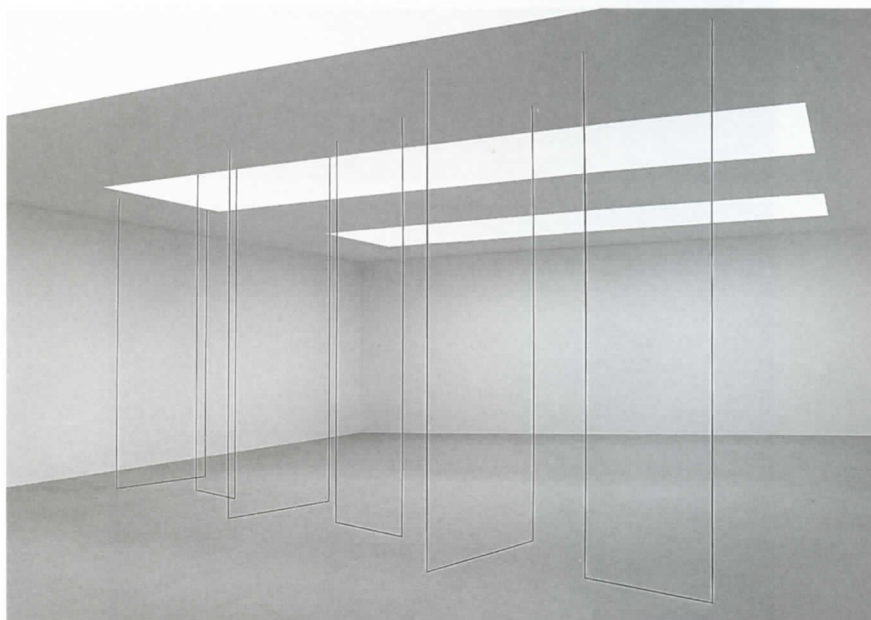
Fred Sandback
Untitled (Sculptural Study, Six-part Construction),
ca. 1977/2008
Black acrylic yarn
Dimensions vary with each installation
Glenstone
Photo by Cathy Carver © 2010 Fred Sandback
Archive; courtesy of David Zwirner, New York

to work with the medium of LEDs in 1997, his installations have materialized virtual structures in architectural spaces. As a Fulbright Fellow in 1993, Redl came to the United States to study computer art at the School of Visual Arts in New York City. He soon became frustrated with the screen's hermetic space. Although a universe might lurk inside, there was no way to enter or inhabit it. A mouse cursor or an avatar might have let him have a representational double, but the computer screen foreclosed the possibility of corporal engagement. "I literally and metaphorically hit my nose on the computer screen," Redl writes. "I wanted to be in that world as a body, not just inventing it for pure abstract reasons."[6] While crossing into the computer screen is the stuff of science fiction, the desire is quite reasonable. Technology is not just a second nature, the artist claims, but our primary one. Even without imagining ourselves digitized and uploaded into a virtual world, as in Disney's *Tron* (1982), our lives are already thoroughly permeated with virtual images: electronic signage, various screens, information technology. Redl's installations pare down the sensory overload of the contemporary media landscape to a digital minimalism. He borrows the aesthetics of virtual reality and science fiction to materialize an experience of a promised future of immersion and technological integration that has yet to arrive.

Matrix II (2000–05) is a phosphorescent green network of points in space. Fiber optic cables lined with LEDs run floor to ceiling, forming a volumetric cube that seems to just barely exist. The color harks back to a not so distant moment in computing history in which the virtual world appeared in only amber or green. The nodes of light seem to reach out and connect to their neighbors. They trace immaterial patterns in the atmosphere between them. Each time the viewer turns her head, the environment appears to rearrange and reform into new constellations of starbursts and radiating lines as if her movements not only change her perspective, but rewrite the fabric of space. Her perception of the installation changes with each step. She must pick her way through the thin cables, which are barely visible in the crepuscular neon glow of the LEDs.

Seeing is only part of this experience, Redl writes. "Not a single viewpoint within those spaces can give you the adequate view of the piece. Only corporal motion and the subsequent discovery of all aspects of the space (visual, corporal, acoustic, social, etc.) slowly reveal the nature of the piece."[7] Like Fred Sandback's acrylic yarn installations, in which he seems to draw on the empty air of vacant galleries, Redl makes the physics and physicality of everyday life suddenly unfamiliar and magical. His digital minimalism gives the viewer the opportunity to understand the immaterial geometrical forms of new media environments in a visceral, corporal manner without losing her body or surrendering to the screen. He does not use virtual forms to help the viewer understand the objective conditions of digital objects or how she might know the truth of things without the contingencies and shortcomings of her senses, as Muybridge does. Instead, Redl creates mixed realities in which a phenomenology of the virtual might be both theorized and experienced. "Perception," the philosopher Maurice Merleau-Ponty writes, "does not give me truths like geometry but presences."[8] To be in Redl's installations is to be present in the digital world.

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Notes

1   Although Muybridge began calling his images "automatic electro-photographs" in 1877, it wasn't until the following year that his cameras were electrified. In August 1878, Muybridge replaced his trip wire shutters with electric shutters designed by John D. Isaacs. Only then was he able to capture such accurate photographs and images of animals and objects that did not touch the ground. Rebecca Solnit, *River of Shadows: Eadweard Muybridge and the Technological Wild West* (New York: Penguin Books, 2003), 185–186.

2   Muybridge's work is a direct antecedent to the motion picture. The electrical quickness of his shutters and the precision of their timing permitted Muybridge to take enough images per second to reanimate the still photographs. He transferred them to a spinning disk and lamp that projected them onto a screen. However, the projection process Muybridge used, a customized version of a Zootrope, the "Zoopraxiscope," foreshortened the images, so Muybridge used manually elongated drawings of the photographs for motion projection. Solnit, 202.

3   Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge: MIT Press, 2006), 7.

4   Ibid., 11.

5   Alberti outlined his methods for perspectival representations in *De Pictura* (1435), da Vinci in his drawing "Perspectival Window" (1480–1482), and Dürer in *Underweysung der Messung* (1538). See Friedberg, *The Virtual Window*, 25–49.

6   Erwin Redl, unpublished correspondence with Naomi Fox of ACE GALLERY, May 1, 2007.

7   Ibid.

8   Maurice Merleau-Ponty, *The Primacy of Perception* (Chicago: Northwestern University Press, 1964), 14.