
Flatland: Matthew Biederman's Serial Mutations (z-axis)

In his 1995 essay *An Archaeology of the Computer Screen*, Lev Manovich acknowledged the passing of a century-old media typology and its related 'framing' tendencies. Rooted in the birth of cinema, the era of 'dynamic screens' (non-interactive moving images) was flickering into obsolescence with the propagation of the multi-windowed workspaces of personal computing. The informatics of computers, ATMs, and automobile dashboards were the new visual regime.^[i] While much has changed in the two decades since Manovich's survey of our viewing habits—we now bat media back and forth on our smartphones and watch movies in web browsers—the screen still holds an incontestable grip on our attention.

Matthew Biederman's *Serial Mutations (z-axis)* is an installation that toys with both the primacy of the screen and the perception of its viewers. On entering the space, a viewer immediately encounters a wall bearing a lenticular print entitled *Red and Blue Cube*, and the illusion of depth encoded into the surface of this image is a tease on what lies ahead. The large room that follows is empty, save a far wall that is used as a projection surface. While the print and projection differ in medium, their content is resolutely synchronized: both display Necker cubes, a 19th century isometric illustration and optical illusion.

Discovered and reported by the Swiss crystallographer Louis Albert Necker in *The London and Edinburgh Philosophical Magazine and Journal of Science* in 1832, what came to be known as the Necker cube is a simple hidden-line drawing of a cube where all edges are visible. Due to the 'x-ray view' of the geometry, inspecting the cube causes both the eye and the mind to waver. Necker described this confusion as "a sudden and involuntary change in the apparent position of a crystal or solid,"^[ii] and was not overstating the effect. The cube's flip-flopping between possible orientations is maddening, and the solid seems to exist in a state of visual indeterminacy.

Red and Blue Cube and the projection both capitalize on this indeterminacy. The lenticular print depicts a single cube with red and blue faces that vary in opacity, and the volume appears to turn 90 degrees depending on the movement and angle of the viewer. These factors combine to obfuscate the 'true' dimensionality of the cube, and the interaction hints at Biederman's broader agenda. Amping up the density considerably, the projection sets a grid of cubes in rotation and invites the viewer to discern the results. In addition to rotating on various axes, the cubes cycle through a range of colour palettes and degrees of transparency. Faces from select cubes are removed during some of the movements, yielding additional texture. The net result of these modulations is that the array transitions between resembling latticework and a two-dimensional pattern study—from space to surface.

Biederman's cube choreography artfully interrogates the surfaces on which it occurs; the oscillating content suggests that the surfaces might have depth, but then playfully reneges and reverts to two-dimensions. While Manovich eulogized the passing of 'dynamic screens' two decades ago, perhaps our obsession with the interactivity, navigability, and sequence of our everyday screens render the contemporary viewer particularly vulnerable to the optical illusion driving *Serial Mutations (z-axis)*. Biederman's geometric machinations force a perceptual state that is alien to us, and whether the animations have depth or not remains unresolved—we can never get our bearing 'within' the image. In Anne Friedberg's 2006 book-length consideration of the window metaphor in media she wrote "the space of the screen is a virtual space, an elsewhere that occupies a new dimension."^[iii] Biederman's animations flatly reject that proposition.

- Greg J. Smith

[i] Lev Manovich, "An Archeology of a Computer Screen," *Kunstforum International*, 1995.

[ii] Louis Albert Necker, "Observations on some remarkable Optical Phaenomena seen in Switzerland; and on an Optical Phaenomenon which occurs on viewing a Figure of a Crystal or Geometrial Solid," *The London and Edinburgh Philosophical Magazine and Journal of Science*, November 1832.

[iii] Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: MIT Press, 2006), 179.

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Matthew Biederman is a restless trans-disciplinary artist working across media and milieus as well as continents and communities. His works have been exploring perception, aesthetics, data systems, media saturation and its politics and positions since the mid nineties. In 1999 he was the recipient of the Bay Area Artist Award in Video by New Langton Arts, and First Place in the Visual Arts category of Slovenia's Break21 festival. He has served as artist-in-residence at a variety of institutions and institutes, including the Center for Experimental Television on numerous occasions, the Wavefarm, and continues to be a resident at CMU's CREATE lab. Since 2007, with Marko Peljhan, he has co-founded the Arctic Perspective Initiative, a non-profit, international group of individuals and organizations, whose goal is to promote the creation of open authoring, communications and dissemination infrastructures for the circumpolar region.

His performance, tactical, installation and media works have been featured at many festivals around the world such as the 11th Lyon Biennial, the 1st Biennale Internationale d'art Numerique (CA), 2nd Quebec Triennale (CA), SCAPE Biennale of Public Art (NZ), Sonic Acts (NL), Kontraste (AT), FILE (BR), Elektra (QC) and many, more. Biederman is currently represented by Art45 and lives and works in Montreal, Quebec.

Greg J. Smith is a Toronto-based designer and researcher with interests in media theory and digital culture. He is the Editor-in-Chief of HOLO magazine and a regular contributor at CreativeApplications.Net.
