

THE MOON IS A MIRROR: ORGANIC AND NATURAL SCREENS

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ABSTRACT

The moving image's current preference for the clear glass screen ignores its roots in natural and organic materials that were mediated based on their qualities of opacity, translucency and transparency. Media history reveals many examples of images deliberately modified by using variations in a screen's material density. Light passing through translucent organic materials began centuries ago with gourds, ice and fibers and continued through more recent backlit images in fire screens and diaphanoramas. Early moving image systems including Shadow Plays and Phantasmagorias have each used clarity, diffusion and obstruction as part of their creative strategies. Translucency in particular has been utilized by a subset of artists through Expanded Cinema, Installation Art and Media Art. *The Moon Is A Mirror* is a light sculpture that explores both mediated organics and translucency's ability to be both material and discursive surface – looking at and looking through. As more artists and scientists explore touch screen technologies that involve texture, the screen may return as an important layer to the media it presents. The artist will discuss the theory and fabrication of five light sculptures that are multi-layered hybrids of organic and electronic materials as well as situated in both media archaeology and emerging technology.

INTRODUCTION

Every art form began with natural and organic materials as the first creative expressions within every culture used the tools at hand. As the digital proliferation began in earnest in the 1980's, a clearly desperate Kodak advertisement reminded us that even celluloid film was 'animal, vegetable and mineral.' [1] The argument suggested that film's potent mix of wood pulp, ground cattle bones and powdered minerals created a 'warmth' to the image that no digitization could recreate. Questionable in validity, the ad did serve as a reminder that the history of the moving image was based in organic and natural materials as well. The silver screen refers to the early practice of embedding silver into the silk fabric and going further back, projection is only one step from the wood fires, smoke and translucent animal skins and fibers in early performance media systems.

The paper will investigate the addition of layers – either between the light and the image or between the image and the eye. Beginning with examples of nature as a display surface, it will then explore backlit images and rear projection systems to see how the play between transparency and opacity has been used in image creation. Finally, it will present examples from a subset of artworks that deliberately obstructed the image through a range of translucent materials and present a sculptural light installation that references the histories of mediated organics and impeded image.

NATURE AS DISPLAY SURFACE

Natural surfaces were also man's first display surfaces. Recent

findings in Spain and Indonesia confirm that cave walls were the first natural canvases (or at least the ones to survive). The tradition predates even homo sapiens as the first art makers, giving creative expression to Neanderthals. [2] Art through history has used stone, fibers, woods and skins to present images.



Fig. 1. *The Moon Is A Mirror*, 2014, Scott Hessels, steel, translucent organic materials, commercial LEDs, used by permission of the artist.



Fig. 2. *The Moon Is A Mirror*, 2014, Scott Hessels, steel, translucent organic materials, commercial LEDs, used by permission of the artist.

Using natural surfaces as part of a larger, mediated system has been developing over the centuries as well. Recently, even the history of recording was revised when sound waveforms etched into soot-covered paper of French scientist Édouard-Léon Scott de Martinville were finally deciphered and played. These phonautograms were images of sound written with coal dust, not meant for playback. [3] Land Art and the ecological artists have shaped sculptural images from fog, erosion, mist, plants, bacteria and a host of other displays, choosing to "select material based on conceptual, cultural and systemic circumstances of their particular project." [4] Within media art, projecting onto nature is a frequent strategy. Examples include ghosts onto smoke and

trees in Tony Oursler's *The Influence Machine* (2000) and haunting images of Cambodian deities onto trees around Phnom Penh in Clement Briend's *Cambodian Trees* (2012). Usman Hague's *Primal Source* (2008) projected onto water screens and mist; Craig Walsh used a river in *Classification Pending* (2008); Ryoji Ikeda used the sands and waves of Devil's Beach in *The Radar* (2012); Victoria Vesna onto sand in *NanoMandala* (2004) and the Bio-Kino Collective onto cellular tissue in the *The Living Screen* (2008). By placing their images directly onto nature, the meaning of their work is enriched.

Interestingly, a recent artwork in Beijing has chosen to project onto a fake nature. Li Hinghu's *Today's Screening* (2014) uses rhinestones, a deliberate reversal of natural diamonds as a commentary on the changes of value in production of mainland China. He projects old Shawscope cinema onto screens covered with mass-produced plastic crystals, refracting and distributing the cinematic image through the gallery. In his hometown of Dongguan these crystals are a source of livelihood, a reference to a lost skill and an incongruous presence in the dreary industrial context.

SCREENOLOGY

Errki Huhtamo has proposed a hypothetical branch of media studies that discusses the history of screens as “both material realities and discursive entities.” [5] He traces the word ‘screen’ back through history to reveal that it was used to obstruct and protect long before it became a tool to communicate. “The trajectories of screens as realized artifacts and as discursive manifestations do not always coincide. It might be claimed that screens as discursive notions sometimes anticipate their practical realization, although anticipations are not always fulfilled as expected. Seen from such a perspective, “screen” is a complex cultural phenomenon that avoids easy generalization. Media archaeology can help tracing its outlines and its layered historical manifestations.” [6]

THE LIGHT BEHIND: THE BACKLIT IMAGE

Gourds and Ice

Before the screen, however, backlighting was used to create the image in a range of contexts and materials. Organic and natural variations appeared in several cultures including gourds and pumpkins in both the east and west being carved to reveal image through layered depths. The origin of the western variation, the Jack o' Lantern, is uncertain, but gourds have been domesticated for over 10,000 years, partially due to their potential for carving. [7] The Maori word for gourd and lampshade are the same and examples of their use as carving depth for lighting effect and pattern date back over 700 years. [8] It is a unique form of folk art in that “It takes an interdisciplinary approach, examining the dynamic interplay between cultural studies, culinary history, ethnography, art history, botany, environmental history and material culture.” [9] A variation of light coming through a natural surface has been a winter tradition in northeastern China since the Qing Dynasty (1644-1911). Local fishermen and peasants

formed windproof lanterns from ice by freezing water in buckets and then chiseling a hole for a candle inside. “From then on, people made ice lanterns and put them outside their houses or gave them to children to play with during some of the traditional festivals. Thus the ice lantern began its long history of development. With novel changes and immense advancement in techniques, today we can marvel at the various delicate and artistic ice lanterns on display.” [10] Generations of variations have followed, with the tradition and artistry evolving and now a recognized art form with a festival and art exhibition center dedicated to the lanterns. [11]



Fig. 3. *The Moon Is A Mirror*, 2014, Scott Hessels, steel, translucent organic materials, commercial LEDs, used by permission of the artist.



Fig. 4. *The Moon Is A Mirror*, 2014, Scott Hessels, steel, translucent organic materials, commercial LEDs, used by permission of the artist.

Stained Glass Windows

Sheets of glass surface in Roman architecture, but the 12th century saw structural advances that allowed for soaring colored mosaics that used variable thickness and sunlight movement as kinetic design. Stained glass is a fusion of three rocks sand, soda and lime. Color, variable thickness and sunlight movement all create a type of kinetic design. Using certain elements that absorb

light in specific wavelengths within the spectrum, color is not painted or added but created through the obstruction of others in the spectrum passing through. [12] Details within the colored panes were often added with varying thickness and texture of pigment to give different shading techniques to control the light. [13] Over the centuries to follow, new materials and processes emerged including colored enamels that were painted onto the clear glass, essentially ending the era.

Architectural Screens

The first screens began with practical and architectural concerns. The late 16th and 17th century saw a 'Golden Age' of screen painting in Japan. Used as room partitions and backdrops, they were an ideal format for the finest Japanese painters to explore. [14] The rising class of samurai military leaders commissioned works that were loud, brash and celebrated the grandiose tastes that filled their castles. The works included dramatic brushwork and densities, florid colors and intricate gold leaf work to emphasize the play of light between rooms and light sources. [15] In China, an even wider range of materials were integrated into the screen surfaces and inlay was part of the design, a way to vary light density and a demonstration of wealth. Screens were made from reflective mica, crystal and colored glazes while the tessellated work included ivory, jade, enamels, gold and silver. [16]

Firescreens and Diaphanoramas

Erkki Huhtamo's research into the media archaeology of the screen bisects into large and small screens with backlighting appearing in both histories. He points to fire screens ornate Victorian protectors from ash and cinders, as a possible precursor to the more domesticated 'small screen.' By the 18th century the practice of using image collages backlit by the fireplace became common. However, as the primary role was protection and the secondary the display, he is cautious to place these in a specific media history. [17] These screens evolved, however, into more elaborate paintings using a range of materials specifically designed to burst into color (if not flame) when backlit. [18] Diaphanoramas developed as an elaborate art form as pinpoints of light passing through the holes or sections of albumen photograph retouched with watercolours.

Chinese Leaf Art and Lightboxes

Recently, a popular trend in China has spread as a tourist staple. Chinese leaf art, the incredibly intricate sculpting of leaves, would seem to be an ancient use of natural materials as a surface display for imagery but is actually a recent development. Attributed to artist Huang Tai Shang in 1994, "Chinese leaf art symbolizes the universal need for artists to constantly seek new mediums to imprint their skillful images upon." [19] The leaves of the Chinar Tree found in India, Pakistan and China has large leaves that resemble a maple's and a distribution of veins considered ideal for sculpting. Some artists today still work with translucency within the context of layered materials on lightboxes.

Ukrainian installation artist Mark Khaisman uses layers of translucent brown tape on plexiglass – often borrowing from classic cinema iconography. His *You Are Nobody But Escaped Convict* (2006) is an example of an image created using variable translucent density.

THE MOVING SILHOUETTE

Shadow Plays

The Wayang Kulit shadow puppet shows of Indonesia are often cited in media histories for several reasons – the early mediation, the cultural narratives, the performance screen model, etc. However, the materials used for these plays are also notable in projection and display history. Taut linen screens were woven to best display the buffalo leather puppets dancing between them and the coconut oil lamps. [20] "The image literally vibrates on the cloth screen. The puppeteer sits half a meter behind the screen with the lamp placed just above his forehead." [21] In these early media performances, the screen was not only display but also separated the fiction from the dalangs (puppeteers) and musicians. The dalangs used the cloth as an active component of the presentation, varying the closeness or distance and therefore the clarity and focus of the puppets for storytelling effect.

Phantasmagoria

Translucency as a projection tool was used in Phantasmagoria performances, a Western hybrid of sorts between shadow plays and magic lantern shows where 'ghosts' were backlit onto white sheets, gauze or smoke. "The projected images were presented as "apparitions" flying freely through the hall. To achieve this, inventing ways to make the screen semi-transparent – the easiest of which was making it wet – was crucial." [22] These mediated séances used the translucency of the fabric to convey depth, movement and immateriality. In his research on screen etymology, Erkki Huhtamo found the first reference in the 1810 Oxford dictionary for the word screen as part of media culture connected to these performances. The first media screens were not clear or white but translucent.

I CAN SEE CLEARLY NOW: THE TRANSPARENT MOVING IMAGE Duchamp's "Bride"

Transparency that calls attention to itself – clear but not clear – is another variation in the discursive/material distinction within the history of the screen. The painted slides of magic lanterns added color to a clear surface as a method to present images as if hovering in space but were not themselves the artwork. Marcel Duchamp's *Bride Stripped Bare by Her Bachelors, Even* (1923) is groundbreaking for using transparency to look both at and through his work. Pressing lead foil, wires and dust between two panes of glass, the glass was both window and display, its meaning literally hovering in suspension. However, within a few years, cinema would embrace a tabula rasa and anything blocking the image, dust and hair, was blown from the frame.

Celluloid as Object

By the 1950's, the flat, rectangular screens of image projection and display became contested sites. Experimentation occurred within "Expanded Cinema," that is, "an explosion of the frame outward towards immersive, interactive and interconnected forms of culture." [23] Youngblood's defining book insisted that the expansion was not a technological one, but one connected to a globally expanding consciousness caused by new media. "With expansion we cease to think about the screen or the frame and we are instead in the place he describes as 'intermedia,' that is, 'an environment whose elements are suffused in metamorphosis.'" [24]

In Expanded Cinema experiments, the film stock itself became part of the artwork. Different from slides and rear projections, the paints and grease applied by Harry Smith in *Early Abstractions* (1946-57), the dirt in George Landow's Film in *Which there Appear Sprocket Holes, Edge Lettering, Dirt Particles, Etc.* (1966) and the dust in Nam June Paik's *Zen for Film* (1964) included the materials placed onto the celluloid as part of a larger system.

Inarguably one of the greatest media artworks of the 20th century, Stan Brakhage's simple action of placing moth wings, spider webs, leaves and grass onto film has resonated through volumes of media theory, "something that was paradoxically ephemeral and concrete at the same time." [25] *Mothlight* also becomes an interesting study for light being projected through organic materials as the translucent insect wings and plant pieces were collaged between strips of splicing tape. Although the 16mm is projected, there is a component where the wings themselves become the display surface, as the light is interrupted by nature on its way to the screen. Thus the passing of 'content,' in Brakhage's case pure light, through organic materials affects the meaning. "What *Mothlight* gives us, then, is an encounter between geometry and nature and between whatever presumably slower rhythm with which we are used to seeing and the radical, every-frame-is-different pacing of this landmark film." [26]

The Art of Luminous Obstruction

Most examples of backlighting and rear projection generally strove for clarity of image. However, a smaller thread of artworks preferred the deliberate obstruction and diffusion of the moving image. It is strange that the gauzy blocking of the image is a trope in cinema for both horror and pornography, the gaze hindered by a translucent medium, yet it rarely appears in physical form in media systems. The variance from the clarity of transparency, the haunting diffusion of translucency and the negating blockage of opacity all have profound impact on the image and can reveal tremendous beauty.

Surface: Looking at or Looking through

Surface is one of the most considered components in art history. Christa Robbin's 2004 media theory glossary for the University of Chicago is an excellent starting point for considering surface. She traces a complex and contentious history of surface as a

"vacillating plane receding and materializing throughout the history of art." [27] Naturalism caused art's emphasis on surface to recede; modernism celebrated the materiality of media by reemphasizing it. "Surface is central to modernism's rejection of subject matter in favor of form. Fine art's battle against narrative is waged on the surface of paintings." [28] By reconsidering the status of surface, one reinterprets mediation by giving texture a foregrounding impact on the static or moving image. It is understandable that textural painting is experiencing a resurgence "in parallel with the flattening of artistic practice via the print and digital circulation of the mediated art object[...]. This nexus is one of the prime territories to investigate the transition between object and image, particularly in terms of the set relations between the two categories, as we ask whether it might properly be said that an object is "reduced" to an image or whether an image marks a "captured" object." [29]

TRANSLUCENCY AS A CREATIVE STRATEGY

Translucency may be somewhere in that nexus, forcing the viewer to see both the screen's material and discursive qualities simultaneously. Translucent screens from glass or plastics have 'softened' images or provided ghostly effects. Musician and inventor Thomas Wilfred's visual music device Lumia included the 'color organ' clavilux that was dependent on translucency. In the device, light is rear-projected through painted transparent disks onto a translucent screen that softens and distorts. The haunting effect still surfaces in contemporary culture. Wilfred's 1957 *Opus 161* composition can be seen in the first and final scenes of filmmaker Terrence Malick's 2011 film *The Tree of Life*.

Robert Whitman's body of work includes several pieces that are dependent on translucency, projecting on a range of media to create shadow and silhouette, optical illusion and reflection. In particular "a poetic and fugitive phantasmagoria distinguished Whitman's works for theater." [30] His 1964 sculptural trompe l'oeil installation *Shower* rear-projected a woman showering onto a translucent shower curtain. His graphic suite, *Dante's Drawings* from 1974 used semi-translucency as a metaphor for Dante's loss of memory. "Felt as the presence of an absence, more than as an image per se, Whitman's shadow-stains seem to pulsate and elude fixity. By hovering on the brink of visibility, they engender a negative radiance that figures the difficulty of recollection. The fundamental irreconcilability between what is discerned on one side of a sheet of paper and what is spied on the other creates a compelling dilemma analogous to Dante's attempt to convey his vision to his reader." [31]

One of the pioneering works of Expanded Cinema was Jeffrey Shaw's raucous performance projection *Movie Movie* from 1969. In this work, multiple inflated plastics serve as the projection surface allowing for a playground of translucent effects to distort the image. Between a transparent outer membrane and a white inner cone, the space was filled with various materials to bring life to the images – balloons and tubes were inflated, smoke was

released, etc. Here, translucency creates a kinetic and architectonic space of visualization. "The multiple projection surfaces allowed the images to materialize in many layers and the bodies of the performers and then of the audience became part of the cinematic spectacle." [32]

Translucency continues to appear in contemporary arts. Bill Viola's 1995 installation for the Venice Biennale *The Veiling* uses nine translucent fabric scrims hung parallel. At each end, a video is projected, one with a man walking slowly, the other a woman. The illusion is of the two passing through the scrims, meeting in the center and then moving apart. The cloth gradually diffuses the light and the character images lose focus and brightness as they merge together in the center veil. Here translucency and layers become metaphor for the multiplicity of experience and the vague uncertainty of our interactions with another.

Jim Campbell's *Church on Fifth Avenue* from 2001 is a poignant example of the powerful metaphors that are possible within moderated transparency. In the work, a rough grid of lights plays a simple video filmed from church steps of passersby after the 9/11 attacks on New York City. Placed in front of the grid at an angle extruding from the screen is frosted plexiglass. The people moving across the screen in the video are more pixelated in the area where the acrylic is nearest the grid and more fully formed where the acrylic is farther – the pedestrians shift from a discrete representation to a continuous one. The effect is watching people pass to and from a digitized to a more analog version of themselves. In the days after 9/11, the public was reminded of our tenuous mortality and the harsh statistics of death counts. Because of the translucency, the video feels as though we are watching the random living transform into the world of numbers, a powerful and poetic memorial to how one banal, typical day can become infamous.



Fig. 5. *The Moon Is A Mirror*, 2014, Scott Hessels, steel, translucent organic materials, commercial LEDs, used by permission of the artist.

Ken Okiishi's contribution to the 2013 Whitney Biennale *gesture/data* are oil paintings created directly onto flat screen televisions. The video is multi-layered analog and digital footage playing behind sweeping painted strokes on the screen itself, a hybrid of

painting and moving image. Here, translucency conceals but also binds the sweeping/swiping gestures of contemporary screen culture with the techniques of gestural painting into a hybrid form and "reveals a fascination with the translation and migration of meaning and material in a world gone digital." [33]

ABOUT THE ARTWORK

The Moon Is A Mirror is a light sculpture inspired by ice on a windshield, the world outside the car distorted by the layers of frozen snow and rain. As an artist who mixes cinema with emerging technologies, I often focus on the physical properties of generating the moving image and began to consider translucency effects on the image in both history and contemporary media art.

The work was developed concurrently with the *Sustainable Cinema* series of five public sculptures and provided another perspective: cinema created using natural force and displayed using organic materials. In each, cinema's beginnings were reconsidered by designing an alternate history that maintained the original natural power systems and early organic surfaces as if cinema had continued to evolve with sustainable elements instead of being influenced by the industrial and digital ages. Media archaeology and new media art were placed in a new, co-dependent relationship with an active natural environment.

The Moon Is A Mirror contemplates screen origins and translucency as an artistic strategy. I've researched naturally-occurring translucent materials and collected materials from around the world. In this iteration, the screens are made from fur, dove feathers, reptile skin, seeds and seashells. Each was embedded in an organic resin made from Indonesian tree saps. The screens were placed in raw steel frames that suspended them in front of .75 meter commercial LED grids. The LED grids of this type are ubiquitous in Hong Kong, mediating nearly every exterior urban space.

I chose a simple walk cycle, a foundation in the moving image, for the animation. However, I trapped the man in the frame, he paces back and forth across the five LEDs. Each organic material modifies his path differently, diffusing, scattering and blocking the light due to texture, density, color, etc. Nature here, captured and frozen, becomes a type of filter to the animation behind it. Without the video, the screens have a pastoral, delicate, handcrafted quality. However, as the moving image struggles to pass through, the screens become empowered and completely subvert the original meaning of the footage[...] the character seems in between the display and screen, not present on either. The animated man is caught between a digitized media image and a constructed nature.

CLOSING

At or through, the nexus of the surface has raged through art history and as we enter the age of Google and smart glass, transparency is becoming less transparent but a surface for additional display and meaning. Textured, tactile interfaces are also rising in popularity as feeling becomes more closely

connected to vision. The variants of translucency may add another dimension to understanding meaning in the image.

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