Body, Screen and Shadow

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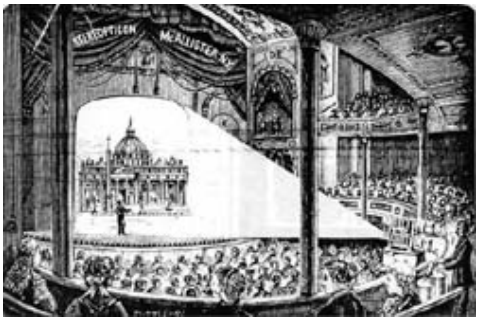
Video projection is both light source and image. All people who have walked between a projector and a screen have seen their shadows falling upon the image, revealing this dual nature. By introducing a computer into the relationship between viewer and projection, it is possible to expand upon the interaction between viewers' bodies and the projected image. To explore this relationship, each piece in my *Screen Series* (2002-2003) initially presents an identical premise: an empty rectangle of white light projected upon a screen. Once viewers move between the projector and the image, each work reacts to their bodies. When viewers enter the projected rectangle of *Shadow* (2002), for example, their actual shadows fall upon the screen and the projector acts simply as a light source. As soon as the viewers move out of the rectangle, however, the screen replays the movements of their shadows over and over, so that their shadows are detached from their bodies. The viewers' initial encounters with their own live shadows become a recorded performance for a larger audience, and the work is revealed as an instrument for composing cinema with one's own body. Compared with the infidelities inherent in any photographic representation of a three-dimensional subject, a projected image of lifelike, flat shadows is practically indistinguishable from the "real" thing. The reproduction is therefore both precise and startling.

Live performances employing an illuminated screen preceded the modern era by many centuries. There was great sophistication of thought and execution in these early works, which related body, image, shadow, and touch. Shadow plays, which are believed to have originated in China over 2000 years ago, are among the earliest instances of these performances. With an oil lamp behind them and a silk screen in front, skillful performers would manipulate opaque cutout figures between the lamp and screen, so that only the moving silhouettes' shadows were visible to the audience on the other side of the screen. One explanation for the emergence of these performances cites the Han Dynasty's stringent social rules. At that time, women of the court were not permitted to watch live theatrical performances. To minimize the effect of this prohibition on the women's cultural training, successful stage performances were converted into shadow plays, which could then be performed in the women's quarters. In this manner, the forbidden, three-dimensional bodies of the actors were transformed into two-dimensional silhouettes, and the three-dimensional space of the stage was replaced by a flat, rectangular screen. Although this translation from stage to screen introduced such constraints as the puppets' limited emotional expression and the performers' limited range and movement, the medium preserved the relationship between the performers to their audience and to each other. The translation to the screen also demanded a new set of physical skills on the part of the performers, who were charged not only with the feat of representing other people's bodies through minute manipulations of their own, but also with doing so while hiding their own bodies from the lamp's path. These complex interactions between light, screen, performer, audience and culture converged as dynamic shadows cast upon a rectangular screen.

With the opening of trade with Asia in the 17th century, shadow performance spread to Europe. However, it was not until the 18th and 19th centuries that shadow performances became widespread, as a result of the huge popularity of silhouette portraits in Victorian culture. Prior to photography, creating silhouettes was an inexpensive technique for producing likenesses that did not require exceptional ability. By capturing human shadows in a way that was neither completely realistic nor wholly abstract, silhouettes engaged viewers' fascination. Silhouettes could be created by a moderately skilled craftsperson with a "Silhouette Chair," which consisted of a chair, a lamp, and a small translucent screen. The subject sat between the lamp and the screen, while the artist traced the subject's shadow on the opposite side of the screen. The surface of the screen therefore became an intimate, interactive space. With his pen, the craftsperson touched the actual shadow of the person on the opposite side, quickly transforming it from a shadow into a picture of a shadow, which itself became a striking portrait and record of their interaction.

The 19th Century also introduced the Magic Lantern as a device for projecting photographic images before a large audience. Although the Magic Lantern was simply a slide projector, performers combined multiple projectors, rapidly changing slides, and musical accompaniment to create a broadly popular entertainment medium. In one type of performance, art and architectural historians frequently took advantage of these large projections for virtual tours of sites around the world. To illustrate one 1897 lecture, the speaker projected an image of Saint Peter's Basilica onto the stage with him, creating the illusion that he was in front of this building – his body in the foreground and his shadow touching the piazza. The performance thus unfolded through the interplay of the virtual image of light, the physical body of the lecturer, and the shadow of the lecturer himself.

Most of cinema's first practitioners followed the examples of early photographers and Magic Lantern performers by using their new medium to capture realistic images of our environment. A few pioneers noticed that film's discrete frames could be individually manipulated to construct experiences that did not occur in the natural world. Emile Cohl is generally regarded as the first to make such a film, by creating a drawing for each frame, then photographing each drawing onto successive frames of film. His film, *Fantasmagorie* (1909), considered to be the first animated production, is filled with frenetic and surreal transformations that celebrate the birth of a medium. As the film begins, the hand of the filmmaker draws the outlines of the main character, a clown. After various antics, this clown ushers a fat man into a theatre to watch another projected movie. A woman wearing a large hat proceeds to take the seat in front of him, blocking his view of the film. When the man expresses frustration by touching her hat with his cigar, the woman's head expands into a large sphere, engulfing her body completely, and then, from within that sphere, the embryonic clown emerges once again. This sequence demonstrates the filmmaker's awareness of the layers of cinematic construction. Cohl's film is both physically self-conscious, with its manipulation of drawings for each film frame; as well as visually and thematically self-conscious, with its re-representation of drawn cinematic frames within the actual cinematic frame. This type of self-referential re-representation also occasionally appeared in shadow plays, when shadow puppets manipulated even smaller shadow puppets in performances for both the other puppets and the human audience. However, such self-reference was a widespread theme in cinema from its onset as



animators were constantly reminded of the “frames” in every stage of their production – the frame of their paper, the frame of the celluloid film, the frame of the projection, and the frame of the screen.

Fantasmagorie and other drawn animations could only establish an indirect relationship between the body and the film frame, since the frames of the film were first drawn on paper at the artist’s desk, then, later, photographically transferred onto the actual surface of the film. Lotte Reiniger developed a form of animation that came closer to touching the film frame directly. Reiniger realized that shadow plays could be performed not only in front of an audience, but also, frame-by-frame, beneath a motion picture camera. Her first feature film, *The Adventures of Prince Achmed* (1926) represented the maturation of this process. For each 24th of a second of film, she carefully arranged flat, silhouette puppets on a pane of glass, so that their slight changes in consecutive frames yielded the illusion of motion in the finished film. Above and below Reiniger, her collaborators simultaneously adjusted sand, soap films, lights, and transparencies on other layers of glass. When all animators had finely adjusted their respective layers, everyone withdrew their hands while a camera above exposed a single film frame of film. With each photograph, the interactive situation below was captured only within the camera. Unlike drawn animation, after the layers of puppets and objects were changed for the next shot, the previous frame no longer existed except as a latent image on the film itself. Before they lost their sense of the film's flow, the animators quickly updated their layers of glass. Proceeding in this way, the puppets and other materials would also “speak back” to the animators by revealing their physical affordances and limitations. In this way, Reiniger’s process captured the two-way interaction between the objects in the cinematic frame and the animators outside the frame.

Experimental filmmakers eventually realized that the film itself could be touched directly, in a radical departure from traditional approaches to animation. Len Lye was the first artist to give expression to this genre of “direct” or “camera-less” animation. *Free Radicals* (1958) is Lye’s masterpiece. Starting with black 35mm film leader, Lye scratched marks through the emulsion on each frame, revealing the clear acetate below. After twenty years of camera-less filmmaking, his mastery of the medium was so complete that he could casually use his entire body in the process. Standing up, with a long piece of film in one hand, he confidently scraped off emulsion frame-by-frame, rapidly making his way down the strip. The resulting forms and movements, when run through a projector, are stunning. Accompanied by African rhythms, the scratches are three-dimensional forms that twist and transform, fleeting in and out of existence. The marks are suggestive of actual “free radicals” – reactive molecules that are capable of causing large-scale biological damage. By using his body gesturally and at full scale on the small frames, Lye’s auto-portrait visualizes the infinitesimal entities that are the cause of both his and our own bodies’ destruction.

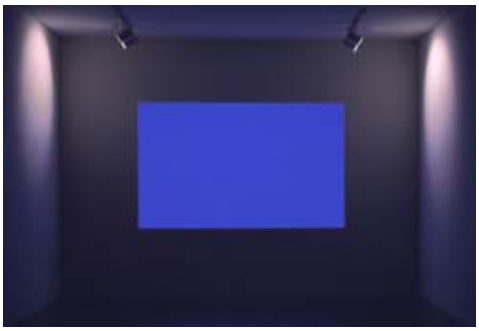
Oskar Fischinger was among the first filmmakers to break away completely from traditional cinematic apparatus, including the graphic techniques of image-making, photographic emulsion, and even projection itself. Instead, Fischinger used his whole body to interact directly with light in live performances. One such “color organ,” the *Lumigraph* (1948), consisted of a fabric sheet stretched tautly across a vertical frame, much like a movie screen. Layers of colored light were projected parallel to and in front of the sheet’s surface. By standing behind the screen and pressing against it to

different degrees with different parts of his body, Fischinger intersected these thin sheets of colored light, creating dynamically changing colored forms on the front of the screen. He further modulated these forms by altering the color and position of the lights shining along the edges of the frame with controls from behind. Fischinger generally performed this visual instrument with musical accompaniment. During Fischinger's one-man show at the San Francisco Museum of Modern Art in 1953, for example, he gave a performance to the accompaniment of Sibelius' "Valse Triste". In this way, his performance was physical and direct, as was Len Lye's work, but it was also performed at full-scale, directly to the audience without the mediation of a projector. His device was merely a thin barrier between his body and the audience that allowed the expression of rich compositional complexity and meaning.

Experimental filmmaker Anthony McCall's *Line Describing a Cone* (1973) allows the audience to directly manipulate light with their own bodies. In this work, a thin beam of light gradually widens at one end to describe a circle on the wall opposite the projector. Because the room is filled with a light mist, the beam of light describes a voluminous cone that forms between the projector and the screen. Viewers interact with this cone as they move about the gallery, and are more conscious of it than they are of the screen. The screen in this piece is merely the truncating plane of a sculptural, tangible light form. Although an abstract, drawn film is running through the projector, viewers experience the work as a reactive light sculpture. As viewers' bodies intersect and modify its form, they become an integral part of the work.

James Turrell's *Danaë* (1983) also uses light itself as a sculptural medium. *Danaë* is enclosed in a room so dim that, at first, viewers cannot see their own hands at arm's length. Glowing on the opposite wall of this room is a rectangular indigo screen. The screen appears solid, floating just in front of the wall like a canvas. As viewers become accustomed to the light within the space, they begin to see themselves and others in the room. With this sensory accommodation, they can approach the screen's surface, revealing variations in its color and intensity that appear to track the viewer as they move. When viewers attempt to touch the screen's surface, their hands and arms fall completely through the frame, revealing that the flat screen is, in fact, a deep glowing space. The surprise and alarm that accompany viewers' realization that the screen is actually a room of indeterminate depth moves viewers from a visual to a visceral experience. By doing so, Turrell expands the power of the projection from affecting viewers' eyes and minds to engaging their entire bodies.

The works in my *Screen Series* likewise viscerally engage viewers. With reactive projected light, this series intimately ties the work to viewers' bodies. The second in this series is *Compliant* (2002), which initially presents an empty rectangle of light on a large screen—similar to that of Shadow. Unlike Shadow, however, when viewers enter *Compliant*'s projection beam, the rectangle quickly moves out of their way. The projected image assumes a dynamic posture, shrinking, distorting and slipping away like a sheet of rubber. The screen becomes a soft, body-sensitive cartoon shape. Compliant allows the audience to act upon the screen itself and become equal or even dominant actors within the projection space. In a reference to more traditional cinematic forms, the personality of the projection is inspired by Charlie Chaplin's hat in *The Tramp*. In a famous scene, this film shows Chaplin for nearly ten minutes chasing his hat, which falls away from him moment-by-moment as his stumbling body defies his



every move, kicking or dropping the hat just as he is about to secure its capture. This otherwise inanimate item of apparel becomes, through interaction with Chaplin, a sentient being with a dynamic, reactive and frustrating personality.

Compliant's behavior is produced by the interaction of viewers with a computer, camera, projected light, and screen. The computer models the projected rectangle as a physical mesh of springs and masses. A camera mounted at precisely the same location as the projector sees viewers acting upon the springs and masses. As viewers intersect the projector's light, the computer and projector continuously update the projected rectangle to reflect the viewers' actions. The combination of bodies, computer, camera, projector, and screen operates as a single light gathering, processing and emitting system akin to the input/output organs of our own bodies.

Impression (2003) also begins with a projected rectangle of light. When a visitor enters the space, her shadowed profile impinges on one edge of this luminous rectangle. At the same time, her silhouette emerges from the opposite edge of the rectangle in luminous profile. The screen behaves as if it were made of hundreds of rigid pins that slide away from the viewer's body to represent its precise contour on the screen's opposite edge. When the viewer steps away from the projection, the screen maintains its form, holding the shadowed impression of her body on one side and the extrusion, in light, on the other. Viewers are also reminded of perceptual illusions ("Is it a vase or a profile?") that toy with our limitation to see only figure or ground at any given instant. Some viewers experience a moment of uncertainty when inspecting the distorted screen holding a previous impression, until their perceptual switch flips to recognize the glowing inverse shadow as the profile of a human body, rather than just an abstract, contoured form.

At a recent installation of pieces from the *Screen Series*, viewers greeted the responsive rectangle of *Compliant* with a range of reactions. First, a few visitors passively stood on the side, appreciating the quality of the light and screen itself without realizing the reactive potential of the work. Later, a woman approached the screen, and as the screen pulled away from her body, she also reflexively stepped back. However, the woman quickly gained an intimacy with the piece, gracefully waving her fingers on the edges of the distorted rectangle, tickling the frame and, later, sticking out her tongue to make small dimpled impressions into the its edge. Long after she had departed, and the rectangle had returned to its initial form, a man quickly glanced at the piece, then, strode purposefully through the projection without looking back. Behind him, the luminous rectangle shuddered and jerked away, distorted from a clean rectangle into the warped form of a fallen tissue. The work was aware of its viewer, but the viewer was oblivious to the work. In the course of one afternoon at a gallery, the work recapitulated the historical progression of light performance from passive artifact, to interactive instrument, and finally to sentient observer.

Illustrations:

Screen Series, initial encounter (2002), Scott Snibbe. Source: Courtesy of the artist.

Shadow (2002), Scott Snibbe. Source: Courtesy of the artist.

Szechwan chinese shadow puppets, 19th century.Source: Shadow Puppets,

Shadow Theatres and Shadow Films by Lotte Reiniger. Plays, Inc. Boston, 1970.

Pick-a-Back and Punch with a mask, movable shadow-play figures (1830). Source: Puppets & Automata by Max von Boehn. Dover. New York, 1972.

Silhouette Chair from a Dutch edition of Lavater's Physiognomy.Source: Shadow Puppets, Shadow Theatres and Shadow Films by Lotte Reiniger. Plays, Inc. Boston, 1970.

A Magic Lantern Slide Lecture on St. Peter's Basilica, 1897.Source: New York Historical Society

The Adventures of Prince Achmed (1926), directed by Lotte Reiniger. Source: Shadow Puppets, Shadow Theatres and Shadow Films by Lotte Reiniger. Plays, Inc. Boston, 1970.

Lotte Reiniger working with Carl Koch, Walter Ruttmann and Berthold Bartosch (1924).Source: Experimental Animation: Origins of a New Art by Russett and Starr. Da Cap Press. New York, 1988.

Sequence from *Free Radicals* (1958), by Len Lye. Source: Figures in Motion by Len Lye. Len Lye Foundation. New Zealand, 1984.

Len Lye around 1957.Source: Experimental Animation: Origins of a New Art by Russett and Starr. Da Cap Press. New York, 1988.

Oskar Fischinger's Lumigraph (1948).Source: William Moritz, "The Dream of Color Music," in The Spiritual in Art : Abstract Painting 1890-1985. Abbeville Press, Los Angeles, 1986.

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Ibid

Danaë (1983), James Turrell.Source: The Mattress Factory, Pittsburgh, Pennsylvania.

Compliant (2002), Scott Snibbe. Source: Courtesy of the artist.

Impression (2003), Scott Snibbe. Source: Courtesy of the artist.