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'LIGHT IMAGES': AN INSTALLATION AND A PERFORMANCE

Beth Galston*

1. Introduction

'Light Images' are formed by the interaction of skeletal and translucent constructions with controlled artificial illumination. They are active environments of light and shadow which change and form multiple configurations. On a large scale, they invite people and movement, and extend the realm of sculpture into that of architecture and theater. This article traces the development of the project from small-scale models and experiments, to the installation and performance of a large-scale environmental light sculpture, and discusses future applications in theater, public art and architecture.

2. Research

Research into 'Light Images' began in 1979 at the Center for Advanced Visual Studies at the Massachusetts Institute of Technology (MIT) with a small book of paper cutouts, consisting of drawings of brick walls with the bricks cut away, leaving a skeletal network of mortar patterns. Turning its pages, the viewer reveals a performance of shifting light and shadow images.

One page of the book was enlarged to a 1.2×2.4 m screen of white foam core with cutouts in real brick scale. The screen was suspended and a moveable light source created changing shadows on the walls of the room. The light could be positioned so that object and shadow were distinct or so that it was difficult to distinguish the real from the shadow image. The area between the real and shadow wall formed an activated space, a passageway through which people could walk, merging their shadows with the shadow grids.

Returning to the model stage, I developed two small environments: a stage set with layers of freestanding screens and a vertical book with skeletal brick pages and translucent projection screens as the cover. Lights from behind projected shadow images onto the translucent screens; as lights were moved from side to side and back to front, shadow pages appeared to be turning or rushing toward the viewer.

On a larger scale, these environments could involve viewer participation and interaction. People would be able to turn the pages, walk between the screens, and improvise as their shadows were projected by timed sequences of lights. The piece, then, suggested a theater in which the audience would become part of the performance.

I began building pages for a large book. The screens were constructed out of maple, which was cut into strips ranging from 1.8×1.8 cm to 0.6×0.6 cm thick, notched, and then joined into panels of 1.8×2.4 m. There were seven panels, some in cinderblock scale (20.3×40.6 cm units) and some in brick scale (5.7×20.3 cm units). They were hinged together in freestanding pairs and were left unfinished so their color stayed light, almost white.

3. Installation

Installation became a process of constant change and improvisation. The screens were moved to a large room at the Center for Advanced Visual Studies which measures 10.5 m long by 9 m wide by 7.5 m high, and is overlooked by an open loft area. The entire room, including the floor, was painted white, and when the piece was set up in this space the concept changed: the book idea expanded to a looser, more environmental arrangement and all the surfaces of the room became projection 'screens'.

Pairs of hinged screens suggested corners or intersections of walls, and were arranged to create passageways. An opening or walkway invited the viewer to walk down the stairs. Other pairs of screens created a loose network of enclosures and pathways, a kind of open labyrinth.

Light projecting through the screens created an imaginary shadow architecture, transforming the walls of the room into a monumental cityscape (Fig. 1). Through light and shadow, distinctions blurred, and the room became a total spatial environment.

The quality of the light sources became central to the piece. After experimentation, the most effective lights were projectors and theatrical spotlights, which gave sharply focused shadows and at the same time lit up only a small area of the room. Projectors yield a cold blue-greenish focused light and theater lights are warmer, directing light in a spot while softly diffusing it toward the edges. These allowed for a variety of textures and effects, differing in intensity and sharpness of focus. Hand-held flashlights were also effective, as they produce sharp shadows and fluid and continuous changes.

Eleven lights, ranging from 500 W spotlights and projectors to 150 W Fresnels, were arranged in the space and hooked up to a central dimming control system. I worked with each light individually, developing a series of 'stills' (Fig. 2), and then

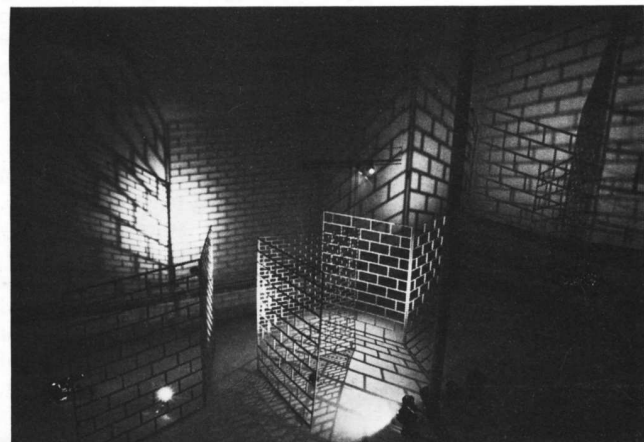


Fig. 1. Shadow cityscape. Wood and artificial light.

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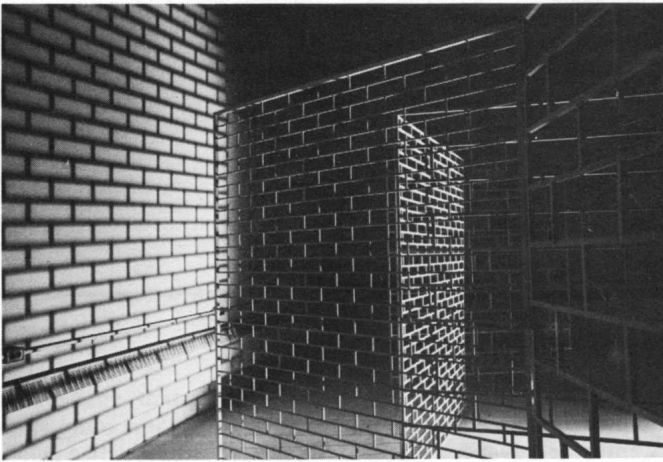


Fig. 2. Installation 'Still'. Wood and artificial light.

began working with them in sequence to develop movements and changes in the space. Two projectors were placed to either side of the space so that they shone through many layers of screens and projected all layers in sharp focus on the opposite wall—the left and right walls of the space. In unison, dimly lit, they created a cool and unearthly atmosphere in the room.

Five spotlights on the floor close to the screens were directed toward the back wall of the room away from the audience, slightly overlapping so that it was possible to dissolve from one light to the next across the wall. Two small Fresnels were mounted on the back wall: one echoed the stair railing filtering a soft light up the stairway toward the audience and the other cast a sharp bold shadow on the right wall, echoing the corner configuration of a screen but on a monumental scale. A light high on the back wall projected long shadows across the floor toward the audience.

The piece evolved, then, from a fixed installation to a performance—a sequence of events in time. It was necessary to bring out its many possibilities and combinations and to show the process of change and transition from one configuration to the next.

4. Performance

Two types of performances naturally evolved from my experimentation with the lighting: (1) a mechanically manipulated performance in which the lights were controlled from a central dimming system; (2) a performance in which two people walked through the space holding flashlights, producing a sequence of slow and continuous movements. These two performances served as a prelude to a third and equally important performance, in which the 'audience', after seeing the many possibilities of the piece unfold, entered the space and became part of the piece.

The dimmer performance built from total blackness. Individual lights faded up from black, paused slightly, then dimmed to black again, slowly introducing parts of the space. The movements were continuous, but sometimes barely perceptible. I then began to dissolve from one light to the next, overlaying two lights and slowly bringing one set of shadows in and out of focus. These adjacent changes in the space alternated with larger movements from floor to wall and from one side of the room to another. The performance provided a vocabulary of movements, with almost endless possibilities and changes. Changes in lighting could transform totally the space and one's perception of it: from cage-like to expansive, from darkness to a complexity of layers.

Two performers carrying flashlights entered the space and

positioned themselves in the darkness. First one, then the other, began a slow walk through the space, one moving from left to right and the other from front to back. Small changes in their movement produced dramatic changes in the shadows. Shadow walls slowly glided across real walls; passing the corner of a screen, shadows would be reduced to a line, then rotated and reappeared on an adjacent wall. When one performer reached the stairway, he pivoted and a shadow wall moved up the stairs and over the audience's heads, creating a floating canopy of light on the ceiling.

At the end of these slow walks began a series of improvised and staccato stills with the flashlights, in which sections of the room were momentarily revealed and then disappeared to blackness. Then I began to bring up the dimmer lights, lighting up areas where the flashlight had just faded, and projecting multiple shadows of the performers into the space. The increasing brightness signalled to the performers that they should recede from the space, and by the time they had reached the edge of the 'stage' floor the lights were on brightly, for the first time revealing the screens and the entire layout of the space.

The audience was then invited to walk down the stairs and enter the piece, and the effect of forty figures and their multiple shadows moving through the space against the huge architectural backdrop was impressive. People wandered through the space and interacted with their shadows, then walked out to watch as others moved through (Fig. 3). Some people played with the dimmer system, others with flashlights. People could choose their viewpoints both from within the space as 'performer' and from above or below as 'audience'. The installation was open-ended, suggesting possibilities for movement and interaction without prescribing set scenarios. Unlike traditional theater, the subject of this performance was the space itself, and the changing experience of a space created as one moves through it.

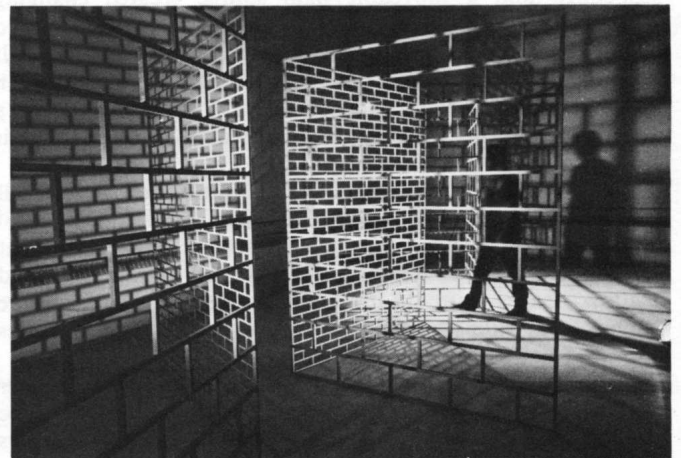


Fig. 3. The audience as performer. Wood and artificial light.

5. Future Directions

This project has many possible extensions and applications, both in a theatrical and an urban or architectural setting. In the theater, a set utilizing a series of modular, moveable screens in combination with changeable lighting could provide a variety of scenes/mood changes/changes in space. Dancers or actors moving through the space could improvise with their shadows, and a script could be developed which would integrate movements of the performers with changes in the lighting.

My primary interest, however, is in environmental sculpture,

and I am currently designing a large permanent light sculpture to be sited in a park in Cambridge, Massachusetts. The piece will consist of a series of metal screens which interact with the sun, forming shadow configurations which change throughout the day and seasonally; at night, the screens will respond to artificial illumination. The sculpture will function also as a playground piece: people can walk through the spaces between the screens and play with their shadows, and children can climb on the walls. In collaboration with an architect and community groups, the piece will be integrated with the park space: walkways will be designed to lead to, and perhaps through the piece, while sitting areas will be located around the periphery. Other sites being researched for the future include a large centrally located traffic island, which has both heavy pedestrian and automobile traffic. During the day bright sunlight, and at

night headlights from automobiles, would project moving shadows onto surrounding buildings.

Beyond the framework of this particular project, the concept of variable lighting, of permanence with change, can be incorporated into architecture itself. Buildings can be, and some have been, designed which respond to variable lighting conditions, both natural and artificial, and maintain interest and flexibility by taking on different moods and qualities in response to changing light. Some examples are: the 'calendar architecture' of Stonehenge and Samrat Yantra, the mosaics at Ravenna, Gothic cathedrals, Le Corbusier's Chapel of Notre Dame at Ronchamp, and traditional Japanese houses. By responding and changing in different lighting situations, a building can become a lively and organic process. This is an area which calls for collaboration between artists and architects.