ARCADE

# Transforming the Public Realm with Projected Light

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*Under Scan,* multiple UK locations. Courtesy of Rafael Lozano-Hemmer.

Light thrown from a digital projector onto any surface in the city can transform the qualities of that space, tell stories and interact with the public in profound ways. Part of the magic of these transformations is that they can only happen in darkness, and outside in the public realm, this means at night.

Not so long ago in human history, nighttime was a daily period of seclusion and rest. In medieval Paris, a decree required that at sunset all houses be locked and all keys given to the magistrate. Today, the circumstances have changed. A 1976 US Bureau of Statistics report indicated that of the 75 million US citizens employed at the time, 12 million worked predominantly after nightfall. For those of us in the Northwest, occupying a nighttime city is a reality even if we don't work at night. Beginning in November, the sun sets at 5:00 p.m.; we will continue to go to our day jobs and return home in darkness for nearly a third of the year. You would think that given this absence of light in our daily lives we would make illumination of the public realm a higher priority. In academia and in the design professions, we rarely conceive of projects for darkness. Instead, we envision our designed environments as daytime spaces and then have consultants add layers of light to the

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schemes to meet codes and make them safe.

Do we even know what makes for good nighttime public space? The often referenced book *The Social Life of Small Urban Spaces* by William Whyte fails to offer a single design strategy for darkness. Right now, the primary form of illumination in the public realm is streetlights; in Portland, Oregon, there are an estimated 60,000 of them placed by well-meaning engineers to ensure the safety of drivers and pedestrians. Unfortunately, these light sources emphasize the presence of parked and moving cars. Because of the way the human eye works, we see the brightest sources of light and everything else fades into relative shadow. This means that at night, our perception of the city is entirely auto-centric—hardly a rich context for our nighttime activities.

Fortunately, there are individuals who are exploring the potential of new light-media to animate nighttime cities. They are a particular breed of artist who use light as a tool for making extraordinary nighttime places, moving beyond simply illuminating public space to animating it.

*Displaced Emperors*, Linz, Austria. Courtesy of Rafael Lozano-Hemmer.

Mexican/Canadian artist Rafael Lozano-Hemmer has made interactivity central to his installations. In London's Trafalgar Square, his project *Under Scan* included over 1,000 video portraits of local inhabitants projected randomly onto the square's paving. Other white-light sources were projected over the images, making them invisible until pedestrians' shadows caused them to appear. As the viewer's shadow revealed the video portrait, it "woke-up" and established eye contact. When the viewer walked away, the portrait reacted by looking away and disappearing back into the wash of light. In his project *Displaced Emperors*, Lozano-Hemmer used wireless 3D-sensors to calculate where visitors' hands were located relative to the façade of the Habsburg Castle. As the visitors moved their hands, video projections of interior rooms appeared on the façade in the locations where they pointed. This technology would make museum collections, historic interiors and even retail offerings accessible after closing time.

URBANSCREEN is a collection of German artists, writers, filmmakers and technicians who



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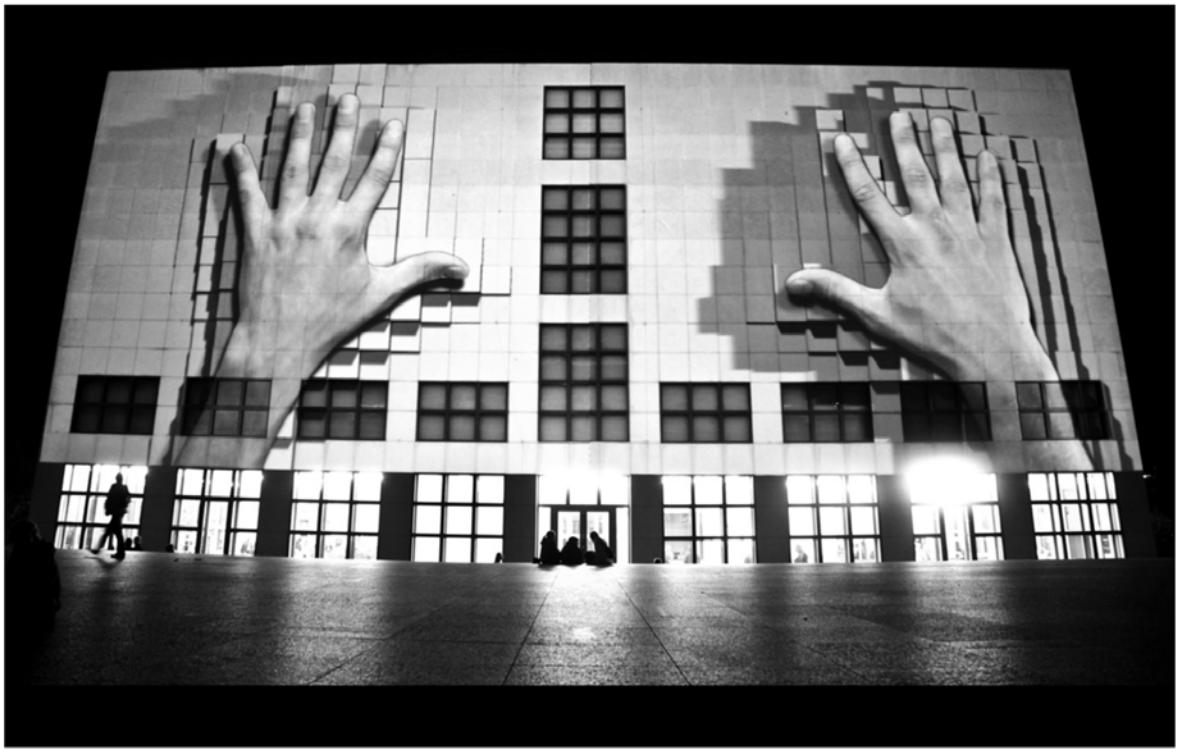
generate projection installations that transform the specific conditions of the contexts in which they operate. For *555 KUBIK*, they digitally mapped every joint in the panelized façade of the Galerie der Gegenwart. The artist team responded to the apparent solidity of the building face by making the panels push in and out under the pressure of digitally projected hands. At night, the stoic building became playfully manipulated and transformed. For their project *Kreisrot*, the Bauhaus façade in Dessau, Germany, was brought alive with animation that combined the school's graphic legacy with moving shadows that spoke to the passing of time. Bodies were introduced in the animation, giving the façade scale and reminding us that architecture is in service to human needs. Watching a video of the installation, one is reminded how unimpressive this iconic building is at night until the artists bring it to life. It is worth noting that the lighting effects for both of these installations were generated by a single projector.



*555 Kubik,* Hamburg Germany. Courtesy of URBANSCREEN.

Leni Schwendinger from Light Projects Ltd., New York, took projectors and using only light remade a park-and-ride (empty of cars at night) into a playground for bike riders and skateboarders. A constantly changing series of light images, some static and some moving, transformed the asphalt into race courses, slaloms and targets.

HBO used video projections in lower Manhattan for Project Voyeur. The blank side of a three-story building was made to appear as if it was sliced open, enabling viewers to see the human activity inside. Life narratives in nine apartments were presented simultaneously. Special cards were distributed to help viewers uncover secrets embedded in the video stories.

New technologies have made it possible for everyone, not just artists, to interact with the built environment using light. MobiSpray, invented by Jurgen Scheible, lets us all paint with light using our mobile phones as the primary tool. Also, the Graffiti Research Lab is committed to sharing technologies that allow individuals to express themselves with light on any urban surface (i.e. light bombing). This form of communication is powerful when it is present but only temporary, leaving no physical impact when gone. It isn't without controversy though. While this technology may be interesting when it's art based, when does its use cross over into marketing and become a form of signage? When is one individual's expression an unwelcome image on a privately owned surface?



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*Kreisrot*, Dessau, Germany. Courtesy of URBANSCREEN.

Most cities are not yet prepared to address this art form. Not too long ago, images of individuals who had died in custody were projected on CIA Headquarters. The police immediately confronted the artists, but in the end, determined that the only legal way to stop the projection was if it drew too large a crowd and became a nuisance. As the number of projected-light installations increases, location and content will become important discussion points.

We are seeing an increase in projected-light installations because the technology and equipment have become more affordable, more mobile, more powerful and easier to use. What makes the installations interesting is that they now no longer treat surfaces like neutral screens. With the use of digital mapping, every detail of a surface can be addressed independently in the projection. The light can interact with forms, shapes and textures in ways that make it feel completely integrated with the objects on which it is projected.

To date, most of the projected-light projects are temporary. The artists would likely concede that the installations would eventually lose their power due to familiarity. But, that is precisely where the strength of projected-light media lies. The infrastructure is flexible and noninvasive, and the light transforms space without physically impacting its context. New visions for light easily replace those that have become tired. Now that the technology required to enrich public space at night is available and affordable, we need to apply our creativity to make our time in the dark a meaningful part of our day.

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**Jeff Schnabel** is an assistant professor in the Department of Architecture at Portland State University. He recently organized the Illuminated City Symposium in Portland and is now part of a multidisciplinary team funded by the National Endowment for the Arts to light a historic outdoor elevator in Oregon City with digital projections.