Registering Absence: Shadows as Objects

TITHI SANYAL
University of Michigan

Shadows contain information not otherwise evident in architectural drawings and representation. From the techniques of skiagraphy and the teachings of the descriptive geometry of the Beaux Arts period, shadows have been considered a ‘mechanical procedure of projection’ by many critics including Robin Evans in Architectural Projection.1 As we transition into the digital era, shadows are no longer considered deliberate design intentions but a consequence of computational algorithms through the use of rendering software. Moreover, the freedom to pan, orbit, and place light sources in a virtual space has altered our understanding of shadows and scales. The project positions shadow as a design tool by formulating a relationship between skiagraphy using orthographic projections and digital rendering of the 21st century. It investigates how shadows can evolve from a descriptive tool to a technique of generating forms.

In Beaux Art architecture drawings, shadows drafted as 45-degree projections capture the subtleties of architectural elements and spaces. Draftsmen use shadows to emphasize architectural qualities of a building including texture, color, relief, proportions, and scales. American architect and educator Henry McGoodwin, known for his influential publication Architectural Shades and Shadows (1904), writes:

“The student should realize at the outset that in casting shadows on architectural drawings he is dealing with materials of art rather than with materials of mathematics. The shades and shadows of architectural objects are architectural entities, having form, mass, and proportion just as have other architectural entities.”2

Shadows thus were a descriptive tool that captured the design intentions of the period not otherwise evident in a drawing. In today’s digital era, we associate shadows as outcomes of simulation. John May in Everything Is Already an Image, states that:

“the world of the post-orthographer is simultaneously an image and a model... But unlike drawing, imaging does not want to be a representation of the world, it wants to be a presentation of the world- an automatic and perceptually up to date, real-time model of the world.”3

As May points out that for a post-orthographer the shadow doesn’t want to limit itself to a representation. Its goal is being spatial with materiality and form. The project understands how skiagraphy operations of combining two and three-dimensional projections on plans and elevations can be assimilated into digital modeling, thereby generating newer forms.

The technique developed in translating the ephemeral nature of shadow into a permanent mass and volume is tested on the ruins of Palmyra, an archaeological site in Syria. To appreciate lost architectural information, the project utilizes drawings from early 19th century BCE compiled by the traveler Robert Wood; thereafter creating shadow objects of the missing architecture. The project no longer considers shadows as mere information, but as a physical construct that registers the absent or visually unseen. The shadow object is a fossil for architectural information.

ENDNOTES

Registering Absence: Shadows as Objects

Shadows contain information that otherwise eludes architectural drawings and representation. From the techniques of perspective and the teachings of the descriptive geometry of the Renaissance, pictorial shadows have been considered a "mechanical procedure of projection" by many critics including Vitruvius and Le Corbusier. In architectural representational terms, these shadows are often considered to be a "shadow object" deriving from the essence of the form. However, the role of shadows in the digital era has been redefined both through the recognition of computational algorithms through the use of rendering software and through the use of computer graphics to enhance our understanding of shadow and volume. The project proposes shadow as a design tool for imagining and developing a relationship between skylight and digital shadows.

In Greek for architecture drawings, shadows are classified as six-degree projections of architectural elements and spaces. Charming and symbolic shadows can emphasize architectural qualities of a building including texture, color, and context. The shadows and shadow objects of architectural objects are architectural entities, forming form, mass, and proportion just as hand-drawn architectural entities.

The student should read at this stage that in creating shadows on architectural drawings, he is dealing with materials of art other than with essentials of mathematics. The shadows and shadow objects of architectural objects are architectural entities, forming form, mass, and proportion just as hand-drawn architectural entities.

The world of the post-architectural is simultaneously an imagined and a real world. But in this world, imagining does not want to be a representation of the world. It wants to be a presentation of the world as an abstract and physical reality.

Asides points out that for a post-architectural shadow, there is no need to find itself a representation. Its goal is being spatial with materiality and form. The project understands how shadows operate by combining two-dimensional projections on planes and shadows, and objects can be represented in digital modeling, thereby generating new forms.

The technique developed in transferring the spatial nature of shadow into a permanent mass and volume is based on the rules of perspective, an architectural discipline in terms. To appreciate the architectural horizon, the project utilizes an imagery from early 19th century that complements the trend of shadow objects of the digital era. The project no longer considers shadows as mere information, but as a physical construct that represents the abstract or visually unseen. The shadow object is a tool for architectural representation.

3. John F. "Everything is Already an Image," Log 40 (Stamburg)
4. Summer 197-7, 19

Shadow as Volume

Shadow as Architecture