

Layering Shade is the creation of a kit of parts that controls the amount of shade by adding or subtracting components to the base model shade structure. This kit of parts is designed exclusively to address the thermal needs of the people in the intense climate of Phoenix, Arizona and incorporates the Southwest *rustic* culture.



An assortment of *e-huk*, devils claw.

carbon | wood | steel

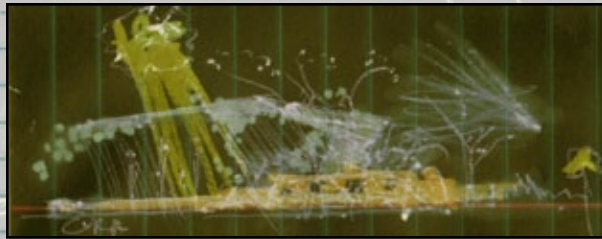
ORIGINS

LAYERING SHADE

Shade models will determine the scale of shade to be provided and the number of persons to fit comfortably shaded. This concept is based off the principle of similitude.²

For this presentation there are four models: 1 a transit stop that can shade 8-12 people comfortably; 2, a parks and rec that shades 22 seating for entertaining; 3, a large span to shade an event or even a portion of a canal; and, 4, a prosthetic that can be attached to an existing structure or mass as a kiosk. These models are designed from the same kit of parts so there is a uniformity and integrity. This is similar to an automobile line, you can choose a compact, sedan or SUV and they all have a relationship with each other.

The transit stop is the model developed for this presentation, so that the concepts of its construction and the materials used can be understood. It is also the most difficult of models because of strict site requirements.

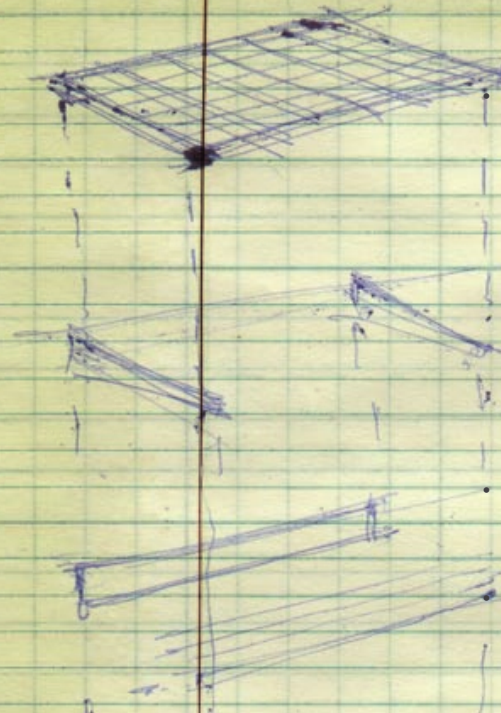


The Transit Stop Model.

2. D'Arcy Wentworth Thompson, On Growth and Form, (New York: Dover Publications, Inc., 1992)

pp. 25-8, Principle of Similitude: values alter within scale ... Materials have a predetermined proportioning system. When they exceed there maximum they become inefficient. Bending moments determine the proportions and heights of objects... As size increases, members or bones decrease and the mass thickens...

- Create 6 microclimates.
- Layers of protections --Direct for rain & intense sun combined with porous shade to let in thermal heat.
- Trellis for vegetation to grow on and make another layer of shade that can release moisture and smells.



- Additional cooling and watering of vegetation using a adiabatic system or modified sprinkler system.
- Utilize vegetation to create a thermal break from the thermal mass to reflect & absorb heat in the summer months, and likewise in the summer become dormant so that the thermal mass can radiate heat.

- Vertical shade buffer used to protect against wind, traffic and protect from the rise and setting of the sun.
- Materials need to be all natural finishes with almost no maintenance, like nature itself.



- Grass crete or similar material for keeping the floor surface cool yet functional for urban use.

shade (shd) n.

1. Light diminished in intensity as a result of the interception of the rays; partial darkness.
2. An area or a space of partial darkness.
3. Cover or shelter provided by interception by an object of the sun or its rays.
4. Any of various devices used to reduce or screen light or heat.
5. shades Slang Sunglasses.
6. Relative obscurity.
7. shades
 - a. Dark shadows gathering at dusk; "The shades of night are falling fast" Henry Wadsworth Longfellow.
 - b. The abode of the dead; the underworld.
8. The part of a picture or photograph depicting darkness or shadow.
9. The degree to which a color is mixed with black or is decreasingly illuminated; gradation of darkness.

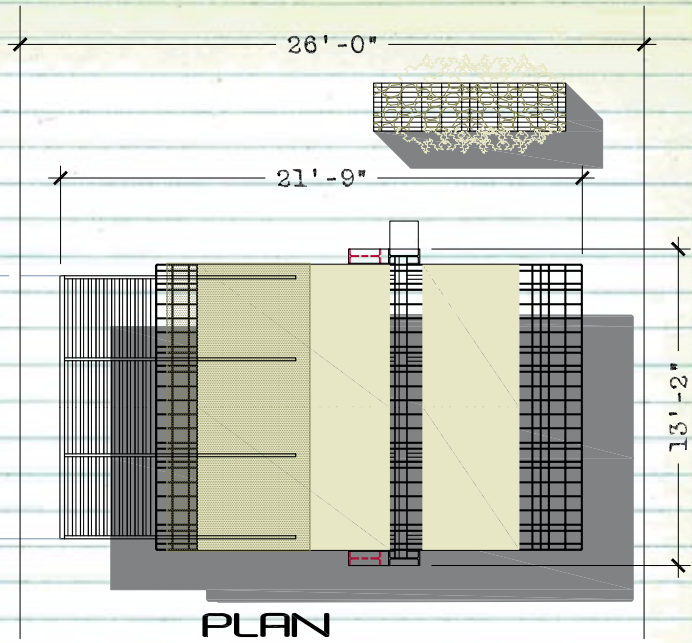
shad·ed, shad·ing, shades v.

1. To screen from light or heat.
 2. To obscure or darken.
 3. To cause shade in or on.
 4.
 - a. To represent degrees of shade or shadow in: shade a drawing.
 - b. To produce (gradations of light or color) in a drawing or picture.
 5. To change or vary by slight degrees: shade the meaning.
 6. To make a slight reduction in: shade prices.
- v.intr. To pass from one quality, color, or thing to another by very slight changes or degrees.

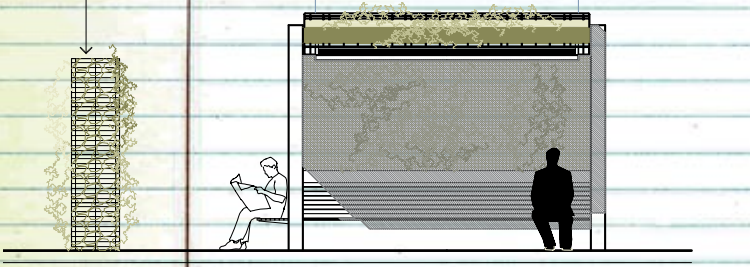
[Middle English, from Old English sceadu.]

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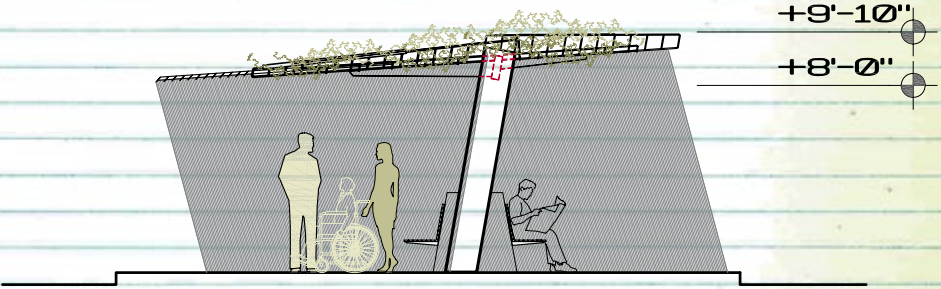
carbon dioxide



GABIIONS FOR EAST AND WEST PROTECTION



SOUTH ELEVATION



EAST ELEVATION

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TRANSLUCENT PANELS FOR DIRECT PROTECTION, THESE COULD ALSO BE SOLAR CELLS TO RUN LIGHTS AND ADIABATIC COOLING SYSTEM

REBAR BASKETS - TO HOUSE VINES OR IN SOME CASES ROCKS FOR DIFFUSED LIGHT

STEEL ROOF SUPPORT

OPERABLE OR FIXED LOUVER SYSTEM

BIO SCREEN FOR VINES TO CLIMB

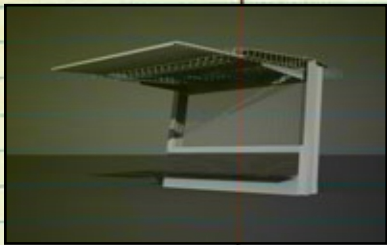
W SECTION COLUMNS

SYNTHETIC WOOD SEATS ANCHORED INTO SHADE CANOPY

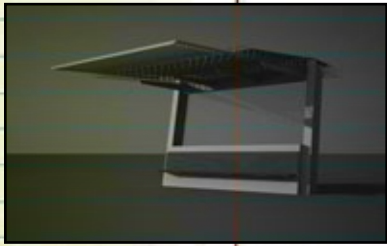
PLANTER THAT HOLDS RAIN WATER AND WATERING SYSTEM

The kit of parts are comprised of a steel anchoring spine, assorted structural elements to support an array of composite shading devices based on the amount of shade, a bio-trellis to house natural vegetation and an optional adiabatic cooling system.

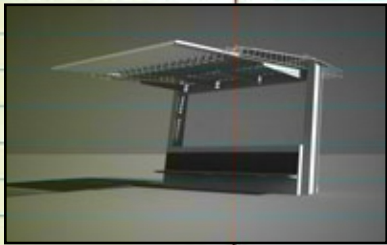
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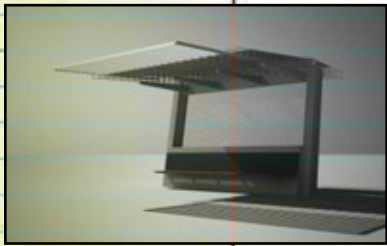
Dec. 21st, Solstice, 8am



Dec. 21st, Solstice, 6pm



June 21st, Solstice, 8am



June 21st, Solstice, 6pm

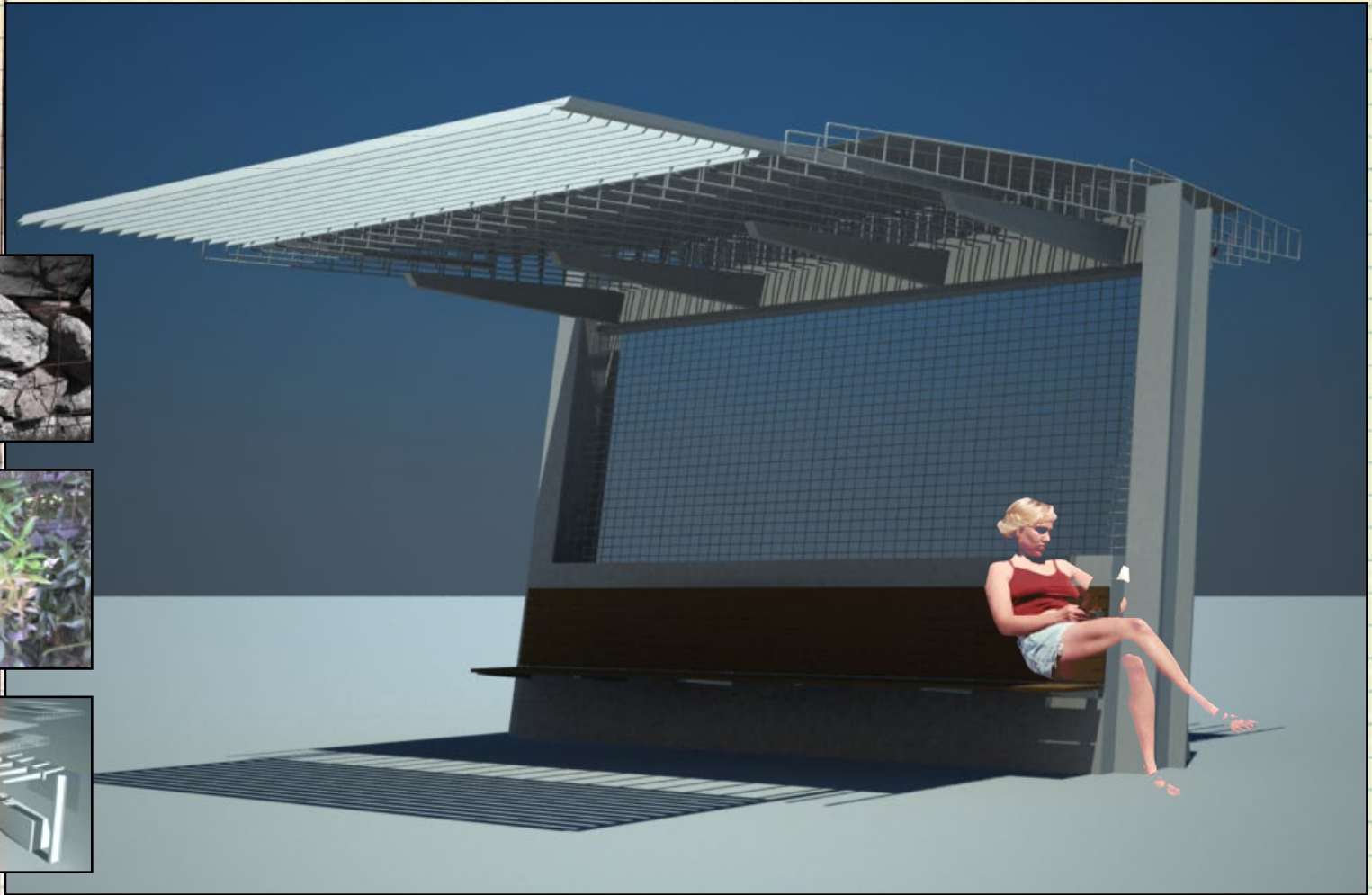
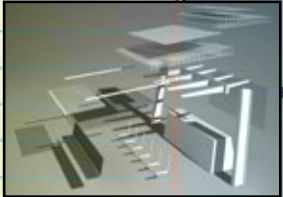


Dec. 21st, noon

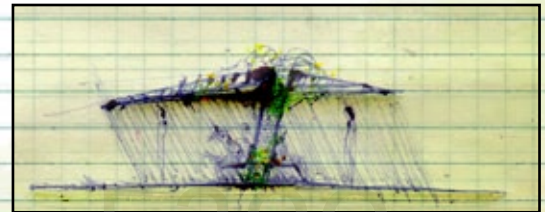
Within the kit of parts are the gabions that stack vertically to protect against the elements from east and west. This allows the shade canopy to be flexible within the site. In these studies the vegetation layer was omitted for clarity, although it dramatically effects the shade canopy.



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June 21st, noon



GIMME SHELTER - 5390

THE TRANSIT STOP
LAYERING SHADE

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