

#### PROJECT

## SUN SHELTER

#### TYPE

NEW CONSTRUCTION

#### LOCATION

PHOENIX, AZ

#### DATE

2009

The premise of this design proposal is not for a specific singular design, but an adaptable system. The funnel field is able to be uniquely tailored to multiple sites responding to the diverse contextual and functional requirements of each scenario. The premise of the configuration is as an aggregated field. Comprised of an array of funneled steel extrusions, the field is variable in width, breadth and depth. Responding to sun angles, sound, visual and contextual forces, each funnel can be specifically configured to produce a localized effect and collectively the field can assemble to produce a composed effect. Porous but protective in premise, the field allows for the provision of an environmentally protective umbrella while maintaining an open connection to the environment. Variable configurations: The aggregated system of the sunshade allows for a site responsive variability. The flexibility of the funnel field allows for calibration based on the topography, contextual, functional and practical heights and widths. Funnel: The funnel field allows for a variable surface. Light is blocked by the body of the canopy, but the perforated openings allow for distinct shafts of light to come through the canopy. The movement of the sun produces a dynamic dialogue with the prismatic funnel field registering in the light upon the surface. The funnel shape collaborates with the metal material to use both the stack and venturi effects. The combination will draw cool air through the sunshade producing a natural ceiling fan.

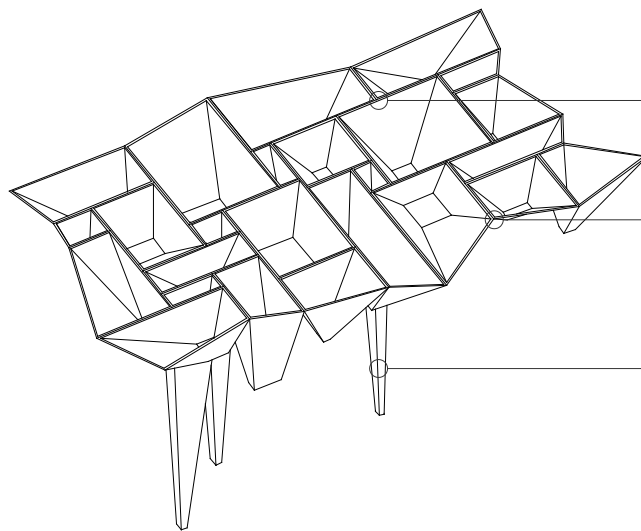


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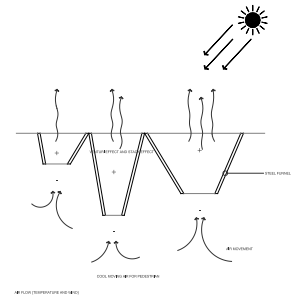
PROJECT  
**SUN SHELTER**



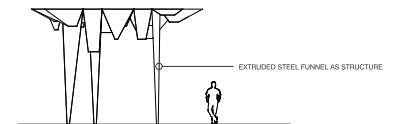
REGULAR INNER

VARIABLE EDGE

SELECTIVE STRUCTURAL EXTRUSION  
[ALLOWS FOR VARIABLE TOPOGRAPHYS AND HEIGHTS]



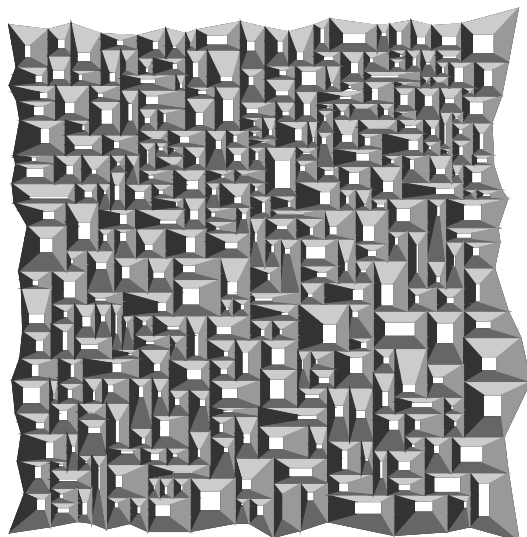
STACK EFFECT



EXTRUDED STEEL FUNNEL AS STRUCTURE

STRUCTURAL RESPONSIVENESS + FLEXIBILITY

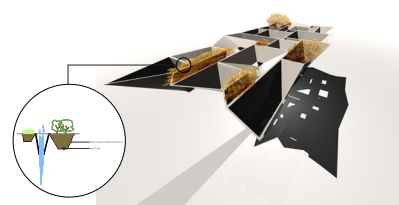
EXTRUDED STRUCTURAL LEGS

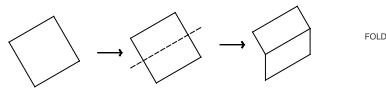


PLANTER INFILL

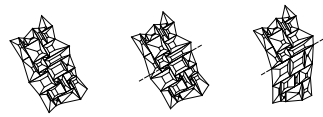


SQUARE CONFIGURATION

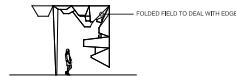




FOLD



FUNNEL FIELD FOLD



FOLDED FIELD TO DEAL WITH EDGE



FOLD FOR HORIZONTAL CONDITION



**Structure, Material + Composition:** The structure is established through the extrusion of a selection of funnel bays. Pulling the funnel to an exaggerated height, the legs can adjust to variable topographic conditions to provide a level canopy despite an irregular ground plane. The hollow extrusion engages the structure through the continuity of the material and the welded connection. The void in the interior of the leg provides room to house the necessary infrastructure for the mister system or the solar collection system as required. This concealed and protected location provides security and prevents vandalism or unwanted access to the suspended canopy. Fabricated of welded 1/2" corten steel plate, the funnels can be extruded as necessary to produce a porosity allowing variable light through. The material allows for intense strength with minimal dimensions and hyper flexible configurations allowing the form to default to environmentally performative determinants.

**Geometry:** The geometry of the funnel is established by rectilinear collection. Varying in dimension, but keeping the parallel condition and geometry, an irregular dimensional variety established a controlled inner pattern for the funnel field. This regularized inner evolves to a divergent edge. The perimeter has a variable edge allowing for a dynamic and responsive figuration. The edge and corners establish a formal and gestural directionality and responsive dynamism. Leaning towards and away from contextual conditions, the composition breaks the uniformity. The pattern of the funnels suspended above are mimicked in the ground plane. Grates to an "add-on" cistern / water collection system provide permanent registrations of the light. Material marks in the ground surface establish each ground to funnel connection as a sundial, impregnating a relationship between the canopy and the site to establish a metric of time.

**Mister System:** A mister system is an add-on to provide more active climate control. For sun shades that might be located in scenarios where people are incrementally residing [such as a bus stop] the mister system would use evaporative cooling to create a microclimate. A series of misters located above the funnel field would allow for a large cloud of aerosolized water to engulf the sunshade. The water in contact with the body and the funnel field would produce a cooling effect.

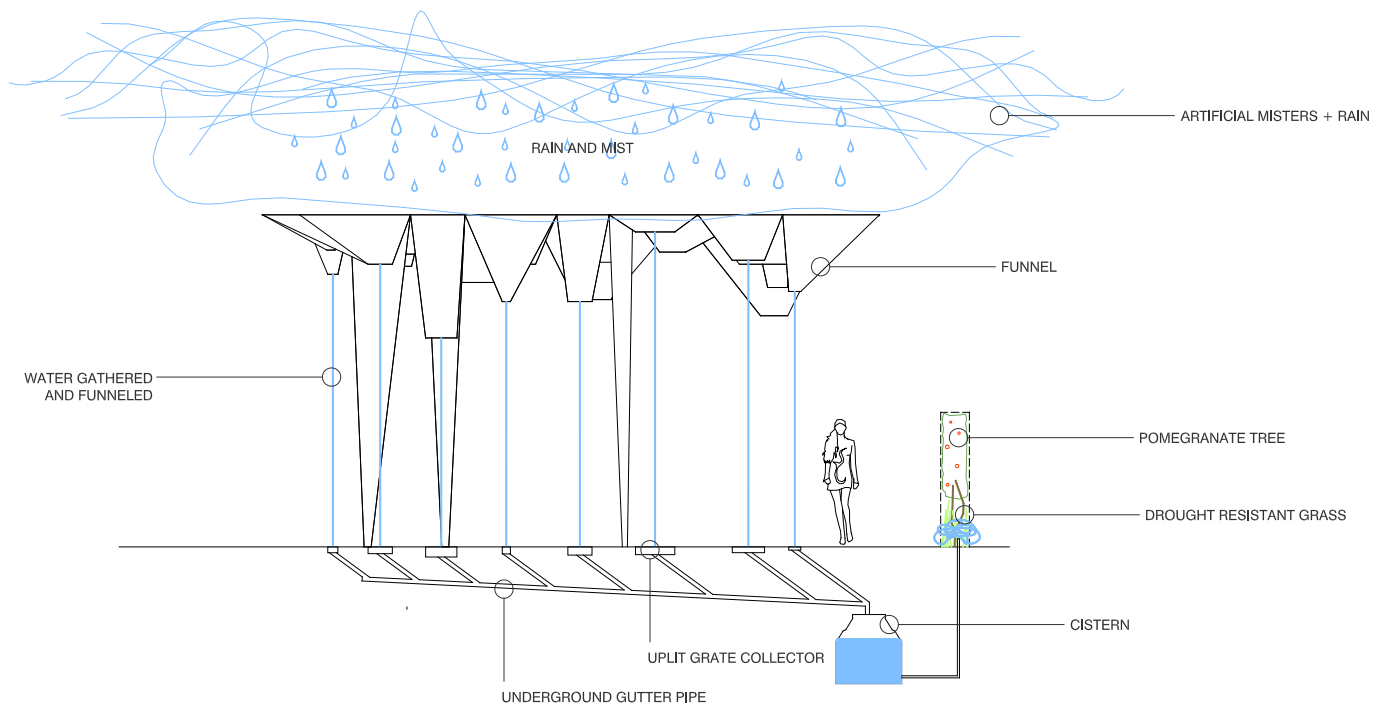
GOLDEN SECTION CONFIGURATION



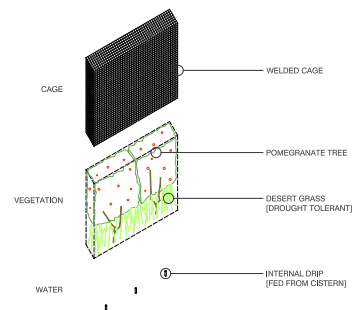
MODEL VIEW OF LIGHT CONDITION



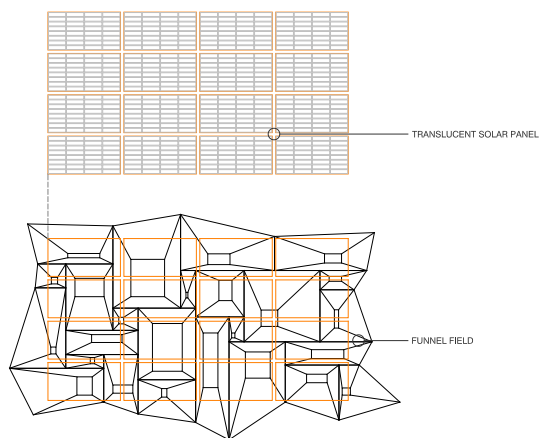
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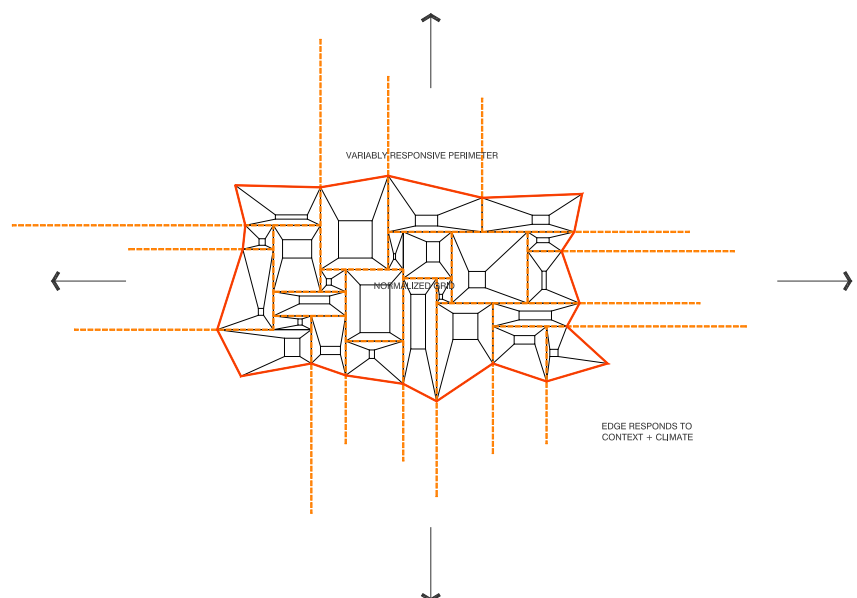
WATER COLLECTION + DISTRIBUTION

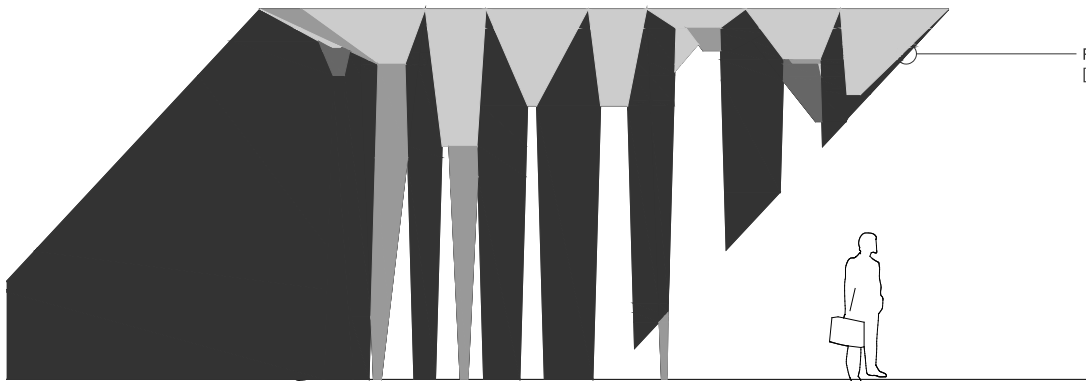
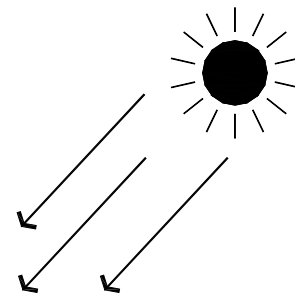


SOLAR FIELD [ENERGY "ADD-ON"]



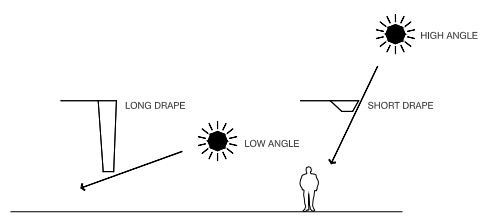
RESPONSIVE GEOMETRY





RESPONSIVE DEPTH  
[VARIABLE BASED ON SITE + ORIENTATION]

SUN ANGLE + FUNNEL DEPTH RESPONSE



UNDER THE SHADE

