

Green Tent

Introduction

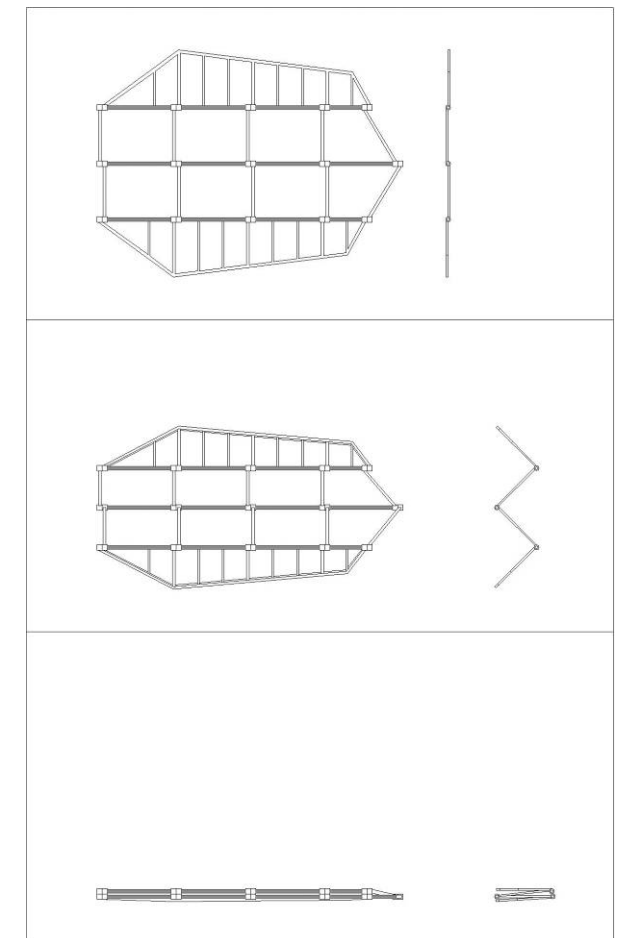
“North America was originally inhabited by nomadic people whose way of life made efficient use of local materials *in situ*. The romantic notion of a natural nomadic state of existence is a recurrent theme in Western culture.” – Marie Paul-Macdonald

The Green Tent competition adopts this notion and challenges the designer to retain the romantic quality while developing a tent prototype capable of addressing modern conveniences and technology. Further development of this dwelling type relies on knowledge and awareness of precedents. A conscious address of these precedents can be a powerful tool for innovative designers. Precedents of site address, materiality, transformation and function highlight the major successes of the Pivotal Tent and verify our reliance on the works of yesterday.

Site Address

From the house of Odysseus to the reconstruction of ground zero, architecture has a need to respond to the conditions inherent in the chosen site. The awareness of site is far more apparent in a tent than larger constructions because the slenderness of the envelope and the sensual connections with the out doors make the user continuously aware of their immediate surrounding. Awareness of the natural context and functional responses to local climates generate a variety of tent solutions. The Antarctic Expedition Tent is a customized tent designed to utilize the conditions of its end-use to advantage. A sledge used to tote the expedition equipment is long enough to accommodate the length of the tent poles still assembled. This realization led to an umbrella like solution whereby all compressive tent poles were fabricated as continuous members. Erecting and dismantling the tent became much faster and easier once the poles no longer needed assembly. The replacement of standard tent pegs with snow pegs gives the tent the secure hold needed in windstorms.

Much like the Antarctic Tent, the Pivotal Tent design is a result of delivery and siting considerations. The final size of the tent is based on the dimensions of a one-man tent and a reasonable size for pickup truck delivery as requested in the competition brief. The interior structure is a rigid frame folding as four plates between a tent-use and a compact traveling configuration. Rigid aluminum frames that define each plate are built to pivot about 3 rods joining them together. As a unit of four panels the structure is capable of supporting the weight of its user in a variety of configurations. In a vertical position a series of tents can join together forming a much larger tent and provide a spacious 7'-0" interior ceiling height.



Transformation

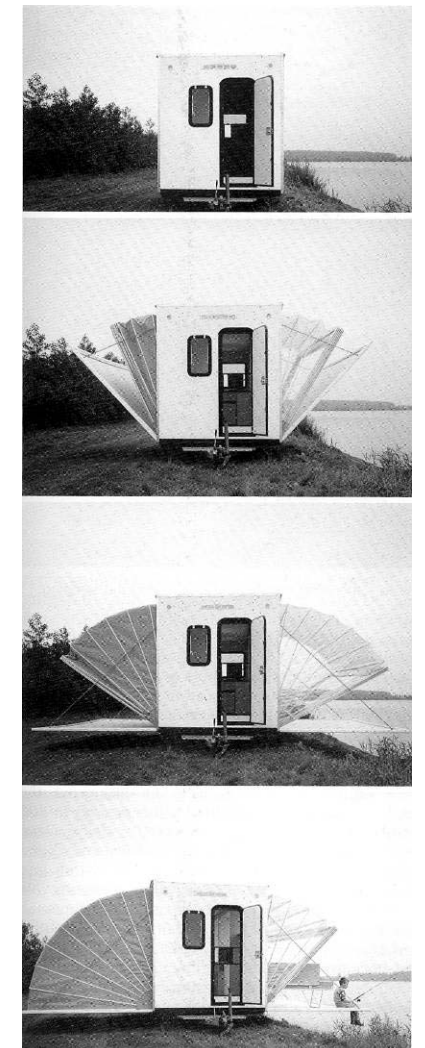
As the scale of architecture decreases the pressure to accommodate greater functional versatility increases. The expanding trailer gives inspiration for a dwelling that can expand and contract depending on the site and desires of the user. Delivered by motorized vehicles this nomadic home operates as a closed entity like a conventional trailer and open as a sprawling home full of light.

The further development of this idea of transfiguration led to the creation of a united village of campers. The united village idea combines the closed vertical structures of individual tents to form a large communal tent. Two rows of staggered tent-structure columns 2m apart and 3m on center support the strewn tarp weather shield shedding water away to the sides between columns. The environmental impact of a silicon finish to the strewn canvas was not preferred but unavoidable after recent amendments to the California fire code determined that all tents in the state are to be manufactured with silicon waterproofing.

Materiality

Tea for three resembles a row of paper lanterns each different from the others. Purity of form and limited usage restrict the teahouse from being distracting of a tea ceremony. Bamboo screen facing unifies all three in materiality but serves to distinguish them from each other in the patterning and orientation of the pieces that define each screen.

Addressing the desire for individuality and custom selection the Pivotal Tent includes several pattern choices ranging in colour, texture and opacity. The possibility of a flexible photovoltaic canvas was considered for the larger researchers pavilion. The researchers pavilion weather shield is a collection of all the united tents. A substitution of one with a photovoltaic canvas would make for a useful power source running small electrical devices. Much like the teahouse the Pivotal tent coverings are distinctive, but primarily functional offering rain shed for an individual or group tent.



Second life

A second life for new construction is an ongoing challenge for all scales of building and a growing concern for sustainable building designers. North American culture renowned for its over-consumptive habits is poised for major advances in reusable and recyclable approaches to new construction.

Point lookout is an elegant example of a portable architecture with a minimal footprint. This dismountable aluminum tower offers a shaded perch for scenic locations. While unconsidered for a second use this structure gave precedent to a second use for the Pivotal tent structure.

Built of aluminum for its non-corrosive properties, excellent for seaside and poolside applications where other materials deteriorate much faster, the tent and lookout structures provide a lightweight resilient solution. Cost effective and highly valued as a recyclable material the choice of aluminum was sensible, giving value to the structure even after a second use is exhausted. The tower program was also a natural match for the vertical orientation of the proposed structure. A well-sized canvas chair at the top of the structure makes for a comfortable perch from which to observe the natural surroundings. The subdivision of the short side creates a ladder for the user to easily reach the top of the column.

Conclusion

Precedents and our awareness of them give depth to the decisions made today. Even at the modest scale of a tent new ideas and developments of previous ideas further the evolutionary character of architecture. Our current pursuit in many ways is two-fold, firstly as an answer to the immediate challenge and secondly as a foundation for further developments in the field. Regardless of the direction architecture takes from here we can be assured of its reliance on the works of today.



Competition Write-up

Nature, Culture and Experience

Introduction

Camping is one of the few bonding experiences that nurtures a sense of humanity and reminds us of our place in nature. Whether in solitude or as a collective this project offers a human scaled shelter, a device for observation and a unifying volume for a variety of community gatherings, all within the context of the Mojave Desert.

Shelter

Starting with the model of a traditional one-man tent, this proposal investigates the further extension of that model once the structure is increased to support the weight of its' user. Pivoting about 3 tubular aluminum sections the four main facets of the structure fold to create a variety of rigid forms. These forms are fixed and released with operable clamp joints at the intersection of all major framing members. This operable quality allows the shape to change effortlessly between the horizontal tent configuration and the upright dining pavilion for a family of four or even the larger researchers configuration.

Natural Phenomenon

Outside the bounds of the city the stars are incredible. For nights of favorable forecast the frame can be made into a generous cot providing some separation between campers and park wildlife. This configuration may also prove useful in spots of dense ground cover where a sensitivity to plant growth is required.

During the day this folding frame can be made into a modest viewing tower to heighten the experience of taking in the dramatic landscape, which surrounds them. Stabilizing cable can be pegged in the soil or secured to rock using mountain climbing wedges. A typically spaced mounting ladder subdivides two facets yielding easy access to a strewn pouch seat at the apex.

Community

Working with the upright frame in a staggered column arrangement allows rainfall to shed away between columns with the natural droop of the fabric. The staggered pattern also invites unlimited numbers of single denominations of joiners to come and go. This innovation works in contrast to many combined solutions, which mandate specific group numbers to function. When the collective tent is no longer needed repositioning is not necessary as the staggering accounts for the frames to be lowered again to the ground with reasonable space between.

Re-use

To address an international view of North American habits of over-consumption, the primary components of the tent have been considered for reuse and further still for recycling. The frame composed of aluminum known for its non-reactive properties in corrosive environments lends its self well to poolside and beach applications, where observation at the provided 8'-0" height is valuable. The recyclable value of aluminum exceeds most materials on the market and would be well slotted for this end use. The exterior rain shield much like the sample provided is composed of three layers, a base fabric, layered with a fibrous and highly pigmented overcoat topped with the final silicon waterproofing layer in keeping with California fire-code. Durable, light and full of color the tent water shield fabrics are highly desirable for further product design. Possible products may include as kites, wind sails, backpacks and even furniture.

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