Travelling Memorial

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ABSTRACT

Our memorials aids serve to aid our memory and define our communities. They rely on human participation, and become irrelevant when interaction is lost.

Catastrophe has been a primary catalyst for memory. While catastrophic events, which affect large groups of people disrupt communities they also act to unite them.

Communities can no longer be defined only by physical proximity but also by common experience and interest. They are bound more through the event than the place.

The present memorial connotes a place of permanence heavily grounded in its own materiality, a fixation of space and place.

The contemporary Memorial must be one that becomes an active container of knowledge and information rather than a passive one.

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the INTRODUCTION

Violence and the Public School

Recent Incidents

Jonesboro, AK
“In the 1990’s, we are seeing increasing visitation of violence in unexpected places in suburban and rural America...We are also seeing a transition from fist-fights to gunfights to a barrage of bullets and ammunition; from six shooters to shotguns to semi-automatic firepower.”
VIOLENCE and the PUBLIC SCHOOL

A one-of-a-kind survey released in March 1998 by the White House stated that one in ten American public schools experienced serious violence last year. The request for such a survey came from President Clinton following a shooting in West Paducah, Kentucky in December 1997. The sheer number of violent crimes that have occurred in the previous year within our schools has made this issue a national concern. Clinton declared $17.5 million in new financing for school safety projects.

Many feel that it is the access to firearms, which leads to such violence. But others suggest access to firearms is just one part of the picture. Gun control may just be a "band-aid" solution for larger societal problems that need to be addressed, they say. "We are in a culture where kids are learning to solve their problems and deal with anger through violence," says Dr. Howard Spivak, chairman of the American Association of Pediatrics Task Force on Violence. "And they aren't learning other strategies to deal with the stresses," he said. "Kids (are) more vulnerable because of the level of violence they're exposed to themselves, family violence, excessive violence through excessive media watching, exposure to violence in their communities."

What can be devastating is the aftermath of such events. These very traumatic incidents affect everyone within the community and when it happens to be within the schools, those most affected are young children.
A nation that glorifies guns should not be shocked when children act out their darkest fantasies with those very same weapons. We commend President Clinton for asking Attorney General Reno to form a study group to look at this recent rash of schoolyard shootings. Again, we recognize the complexity of this problem, but the study group must pay great attention to the critical role that firearms, and access to firearms, have played in these tragedies.
Alex Thomas, president of the NASP, the National Association of School Psychologists, concedes that "nothing is perfect in terms of prediction." But, he says, last year's shootings will raise awareness of what schools can do to prevent violence. And he doesn't mean metal detectors. "We need to help children understand and express their feelings," Thomas advises. "You get into discussions with them, you let them vent. When a child says, 'I hate that teacher,' you don't just tell them not to talk that way. You ask them what happened at school that made them feel that way."

"Young people really don't feel that there are safe places where they can talk to adults about these issues," said Geoffrey Canada, president of the Rheedlan Centers for Children and Families, said on ABCNEWS' Good Morning America. "The adults tend to look at these issues as maybe happening in other communities and no one's really focused on the fact that it's happening in all of our communities across this country."
RECENT INCIDENTS

Within the past 22 months, there has been a string of violent occurrences within our public schools. Listed below is a sample not intended to cite every incident.

**June 15, 1998** - A male teacher and a female guidance counselor were shot in a hallway at a Richmond, Va., high school. The man suffered an injury to the abdomen, that wasn't life threatening; the woman was reportedly grazed.

**May 21, 1998** - A 15-year-old student in Springfield, Ore., expelled the day before for bringing a gun to school, allegedly opens fire in the school cafeteria. Two students are killed.

**May 21, 1998** - Three sixth-grade boys had a "hit list" and were plotting to kill fellow classmates on the last day of school in a sniper attack during a false fire alarm, police in St. Charles, Mo., said.

**May 21, 1998** - A fifteen-year-old boy died from a self-inflicted gunshot wound to the head in Onalaska, WA. Earlier in the day, the boy boarded a high school bus with a gun in hand, ordered his girlfriend off the bus and took her to his home, where he shot himself.

**May 21, 1998** - A fifteen-year-old girl was shot and wounded at a suburban Houston high school when a gun in the backpack of a 17-year-old classmate went off in a biology class. The boy was charged with a third degree felony for taking a gun to school.

**May 19, 1998** - Two boys were suspended from school in Johnston, RI, after being accused of writing and handing out threatening notes to classmates. The notes said things such as, "All your friends are dead." The boys will remain out of school until they have been evaluated to determine whether they are dangerous.

- Three days before his graduation, an 18-year-old honor student allegedly opens fire in parking lot at Lincoln County High School in Fayetteville, Tenn., killing a classmate who was dating his ex-girlfriend.
April 28, 1998 - Two teenage boys are shot to death and a third is wounded as they played basketball at a Pomona, Calif., at an elementary school hours after classes had ended. A 14-year-old boy is charged; the shooting is blamed on rivalry between two groups of youths.

April 24, 1998 - A 48-year-old science teacher is shot to death in front of students at graduation dance in Edinboro, Pa. A 14-year-old student at James W. Parker Middle School is charged.

March 24, 1998 - Four girls and a teacher are shot to death and 10 others wounded during a false fire alarm at Westside Middle School in Jonesboro, Ark. Two boys, ages 11 and 13, are accused of setting the alarm and then opening fire from a nearby woods.

Dec. 1, 1997 - Three students are killed and five others wounded while they take part in a prayer circle in a hallway at Heath High School in West Paducah, KY. A 14-year-old student, described as emotionally immature, is arrested. One of the wounded girls is left paralyzed.

Oct. 1, 1997 - A 16-year-old outcast in Pearl, Miss., is accused of killing his mother, then going to Pearl High School and shooting nine students. Two of them die, including the suspect's ex-girlfriend. Authorities later accuse six friends of conspiracy, saying the suspects were part of a group that dabbled in Satanism.

Feb. 19, 1997 - A 16-year-old student opens fire with a shotgun in a common area at the Bethel, Alaska, high school, killing the principal and a student. Two other students are wounded. Authorities later accuse two other students of knowing the shootings would take place. Evan Ramsey was sentenced to two 99-year terms.

Feb. 2, 1996 - A 14-year-old boy walks into algebra class in a trenchcoat with a hunting rifle and allegedly opens fire, killing the teacher and two students. A third student is injured during the shooting at a junior high school in Moses Lake, Wash.
JONESBORO, AK

On March 24, 1998 two students, ages 11 & 13, shot and killed six people, five students and one teacher, at Westside Middle School in Jonesboro, Arkansas from a nearby woods after triggering a false fire alarm. The people of Jonesboro seem to be having trouble realizing that such violence could occur in their town. That children were shot outside their neighborhood school—and that two other children are accused in the massacre—has devastated the town of 50,000 people. “When it will ever be back to normal, I don’t know,” the superintendent of Jonesboro’s Westside School District said. “It changed the lives of a lot of people for a long time. Some of them forever.”

“We read about these sorts of things, we see these sorts of things happening in other places … and there is a healing process that’s going to have to occur,” said Arkansas State Police spokesman Bill Sadler. The community stepped up to offer much help, he said, including hundreds of counselors who worked with children throughout the remainder of the school year. The counselors said that the surviving students are barely able to grasp the finality of death. Many have been meeting with counselors to help them deal with feelings of guilt and isolation. Counseling will continue through summer and into next year.

One coping strategy has been the erection of a 6-foot wall that will shield the grounds of the 300-student middle school and an adjoining elementary school from the woods.
the RESPONSE

Temporal Groundings

Constructive Precedents
TEMPORAL GROUNDINGS

Tragic events that occur within a community affect everyone involved physically and emotionally. Our emotions are heightened by our physical response. Such emotional reactions are characterized in three (3) stages. The first is shock, disbelief, and denial. Such reactions are clearly seen in the Jonesboro event, where the victims find it difficult to believe that such an incident could occur in their community. The second stage demonstrates a cataclysm of emotions: anger/rage, fear/terror, sorrow/grief, confusion/frustration, and self-blame/guilt. The third and final stage is the reconstruction of equilibrium: the emotional roller coaster that eventually becomes balanced.

Such equilibrium is not attained without effort. When catastrophe disrupts communities, it is up to the entire body to heal together. Only through proper support and guidance and counseling can emotions begin to heal. This is especially true in cases regarding children and adolescents, who are at a very impressionable age. Memories from early childhood have proven to remain with us our entire lives. Children also usually do not understand the concepts of death and mortality and the coping structure associated with it.

In times of disaster, people and communities are brought together, emotionally and physically. There is a natural tendency to gather, to come together in a body, to cluster around a focus of attention. The commonalties of shared loss and experience unite people. They must be allowed to congregate for the sake of healing and coping. Integral to healing is touch. When brought together, we are allowed to comfort one another.
Communities can no longer be determined by physical proximity. They must be defined by common experience and interest.

A place of focus and congregation will be chosen. Communities will assemble and in turn, the healing will begin. This is the place where counseling will take place, acting as a beacon for the community as well as the country as a whole.

These tragedies are placeless. They are not wrapped up in any one place, but rather consume our entire society. When dealing with traumatic events, we take comfort in knowing that we are not alone, that others feel or have felt the same way and that coping and recovery is possible. This is our ability to sympathize. Such places of congregation, beacons, become physical devices of sympathy which are as temporal and placeless as the events themselves.

At the intersection of grieving and healing, lies the place of gathering. This is not a permanent inhabitation but rather a temporal one. Initialized by the catalyst of trauma, its existence is maintained by its cycle of coping, towards the ultimate goal of emotional equilibrium.

A mechanism for materializing such an event is the temporary structure. As Robert Kronenburg says, "[Temporary] buildings can be perceived as relating more to the cyclic quality of life, for in their destruction lies their ultimate rebirth – the ebb and flow of construction/destruction, the cycle of 'building/building-in-use/dismantling' reflects the growth/death cycle found in the living world."
CONSTRUCTIVE PRECEDENTS

The Demountable Building

One of the most common Demountable building types is the circus tent. The ability of the circus to quickly materialize itself and shelter up to 2000 people under the "big top" makes it a favorite type and provides inspiration for other structures. Its greatest advantage is its ability to shelter a very large space.

The tent motif is explored further with the work of FTL Happold. The "Under the Sun" exhibition structures for the Cooper-Hewitt National Design Museum use fabrics and tensile members to create sun shades and exhibition spaces. The shelter is minimal but effective. What is unique about this application is bonded thin-film photovoltaic arrays to architectural shade cloth.

The Deployable Building

With the addition of air, inflated fabrics, and other pneumatic devices, can quickly transform into useable architecture space. The Powerhouse::UK project by Branson Coates Architecture to showcase the best in British design meets is design requirements, to be easy an quick to erect and dismantle, and economic to manufacture.

"The fastest deployable facilities we have created to date are used for military operations" (Goldsmith, 32). This Air - tube supported facility for military operations is a good example of one of the works of FTL Happold. It uses a patterned tensile fabric membrane as lateral support to create a truly synergetic structure with both elements dependent on each other.

The domes created by Chuck Hoberman are another form of deployable structure far different from the pneumatic examples. The expanding domes provide instant shelter. They consist of many simple parts connected by hinges and pivots. This structure is also synergistic: the behavior of the whole is unpredicted by its parts.
The Portable Building

A common typology for the portable building has been the mobile home. The entire structure is intact and transported as a whole. The mobile homes of Joep van Lieshout demonstrate the minimal assembly of the portable building. In this case a simple telescoping movement extends the length of the space by 75%.

Conclusions drawn from this preliminary research points towards the way of the Demountable building structures. Their ability to set up relatively quickly and shelter many people is their inherent strength. The size required could not be accomplished through a portable structure. This is mostly a factor of movement and transportation.

Three projects shall be explored deeper:
Visitor’s Center @ Cardiff Bay by Alsop, Lyall, and Stormer
Hospitality Tent by Future Systems
Music Pavilion in New York by FTL Architects
VISITORS' CENTER @CARDIFF BAY
By Alsop, Lyall & Stormer

The recently completed Visitors' Center at Cardiff Bay is a “temporary” structure in the shape of an elliptical tube. It is to remain intact for two years and is to be possibly re-erected. The tube shape is constructed out of steel ellipses @ 2.4m on center. This dimension is determined by the nominal dimension of the plywood sheeting that is to surface the building. Stretched and fastened to the plywood, as the external material, is a PVC-coated polyester membrane.

The entire structure is raised by flattened “M” shaped steel structures. This will create a raised profile and allow for the south end of the tube to be cantilevered over the bay. Important here is the presence of the concrete footing under the steel M’s, a unique feature which occur at every site this is to assembled.

The ends remain transparent, sealed by glass 2.4m in (one bay). This is to protect the glass and envelope, because the glass has not been sealed properly. It proved too costly for this project to create the curved extrusions to seal the glass plywood joint.
HOSPITALITY TENT
By Future Systems

This elliptical tube structure sits below the Waterloo Bridge and serves as a temporary hospitality tent for London's South Bank. The demountable building consists of a PTFE fiber membrane stretched over GRP (glass reinforced plastic) ribs.

It can be assembled in 2 days by six men and when demounted can fit into 3 trailers and the fabric into a 1m3 box. It accommodates 450 people on a 28.8m x 9.6m floor platform comprised of twelve (12) module 2.4m x 9.6m steel rafts supported and leveled on jacklegs. What is to be noted here is the module dimensions, 2.4m x 9.6m is the largest dimension capable of stacking within a tractor-trailer.

The innovative use of material is important here also. The use of GRP as a structural material is rare but because of its use in industry and yachting technology, its material properties are well known. It was an obvious use due to its lightness and flexibility, necessary here to sufficiently complete the arch of the ribs structurally without excessive weight. The material allows the entire space to be spanned by the ribs and free up the entire floor area. The services are located along the perimeter creating a clear and uncluttered space.
MUSIC PAVILION
By FTL Architects

The pavilion designed by FTL Architects for summer concerts by the New York Philharmonic and the Metropolitan Opera can be erected in 6 hours. The structure is housed within seven trucks which become part of the assembly. The shelter for the pavilion comes from a fabric membrane held in position by three steel "masts". Three 20m masts are connected to each other and raised to form a tripod by extending the rear mast to its full length. The 1.6mm PVC coated polyester membrane is unfolded and tied down at four locations.

The trailers of the trucks become the performance stage and are leveled and supported on hydraulic feet. Remarkable about this example is this fact, that the transport and storage devices are actually part of the assembly. There is not a large amount of material to be stored in between sites. Also, there are no foundational prerequisites. The truck can set up virtually anywhere, on any terrain location.
The program of a large group, partially sheltered gathering space with adjacent counseling facilities is to materialize in the form of a mobile, temporary construct. Capable of erection in five (hours), this deployable structure is able to accommodate a small community in very little time. It can be arrayed with other units creating a multiple-unit deployable facility.

In its stowed, transportable configuration, it is to take up no room that that of a standard tractor trailer. Overall dimensions being 48' long x 8' wide. The entire height can not be higher than 13'6" to meet Department of Transportation guidelines. It is brought to the site by semi-truck. Maintained and operated by a non-profit aid agency such as the American Red Cross or the National Organization for Victims Assistance, its main service to a grief stricken community is to provide a sheltered place of gathering and necessary professional counseling.

Upon arrival and deployment, a large canopy is suspended off the side of the trailer bed sheltering a 1,700 sq. ft. unobstructed ground space. A ramp and stair provide access to the elevated platform area where the counseling and support services are located within a 1,200 sq. ft. area.
The unfolding process is a mostly mechanical one. The use of hydraulic jacks and levers allow the structure to be deployable by any person. The first process is the raising and leveling of the truck bed off of its wheels and suspension. The left wall of trailer enclosure, created by the stabilizing arms and floor systems, rotate down into position. These are necessary to resist rotational forces created by the cantilevered beams. Four of the five modular floor systems pivots upward into place extending the entire floor area to the side.

The roof/wall system rotates along the right side of the bed to become a floor/wall system, which increases the floor area of the platform that will become counseling and support space. At this point the six telescoping beams are visible in their upright position. They are rotated down and are extended to length by a mechanical pulley/cable system located within each tubular section.

Collapsible wall partitions, which store within the floor, unfold to separate and screen the counseling area into semi-private spaces. They are constructed out of honeycomb sandwich panels and attach to a lightweight aluminum frame. The wall and the tie-rod assembly from the canopy beams support a similarly fabricated roofing system.
Multiple units can be arrayed to create larger, more complex structures. Two trailers can be aligned parallel with their canopies facing each other. This creates a large tubular space, well enclosed. This communal space is more private due to the increased canopy and flanking counsel platforms. What is created is a more intimate external space. It can be made even larger by adding two more units next to these two, increasing the overall length of the tube.
the COMPONENTS

- the CHASSIS
- the CANOPY BEAMS
- the STABILIZING ARMS
The CHASSIS

The chassis is the most important component in this assembly. It provides strength and stability for the entire construction. Having an overall length of 45', it consists of six cross-member components tied together by two (2) 44' steel tube sections. These cross members made of a fabricated lightweight alloy integrate the entire structural system. Here is where the telescoping beams, stabilizing arms, hydraulic jacklegs, and Floor/Wall assemblies come together.

These members are forked to receive the 6" curved carbon-fiber tube sections, and allow for a continuous pin connection through. The forks return together creating a "seat" providing secondary support.

This is also the place where the stabilizing arms engage the assembly. Two arms are pinned to each cross member (except the ends) and a cast seat receives a hydraulic unit.

Two vertical tubes mounted here contain hydraulic jacklegs that raise and level the chassis above the ground. They are raised and locked into position when the unit is being transported.

The pivoting Floor/Wall assembly is pinned to the other end of the cross members. In its upright position, this "L" shaped construct acts as a Roof/Wall enclosure during transport. Pivoted 90 degrees, it acts as a Floor/Wall system enlarging the usable floor area of the elevated platform by 85%.
Hole Diameter

A 3.0"  
B 4.5"  
C 8.0"  
D 1.0"
The CANOPY BEAM

Six curved cantilevered beams provide support for the 1,700 sq.ft. deployable canopy. Each beam, spaced 9' on center, consists of four curved, telescoping carbon fiber tube sections. Each section, extruded along a continuous radius of 32'-4", is made of a composite carbon fiber material chosen for its strength and lightness. Having a density of 0.056 pounds per square inch, its weight is about 60% of the weight of aluminum. Its modulous of elasticity is 33 msi, 10% higher than that of steel.

Located at the ends of each section is a molded outrigger designed to provide constant force on the tension rod and tieback cable.

In their fully collapsed position, during transport, they stand up and down and have a total height of 9'. When fully extended, they are angled into position and telescoped to their full length of 36'.
The STABILIZING ARM

The ten (10) Stabilizing Arms which attach to the left side of the truck, to the cross members of the chassis, are responsible for counteracting the large rotational forces which act upon the main axis of the truck bed caused by the cantilevered Canopy Beams. They are attached to the chassis and are rotated down from their vertical position when the beams are lowered. They are not responsible for supporting the bed above the ground, only for maintaining rotational stability. The jacklegs, located within the chassis, maintain an elevated and level platform.

When the arms are in their down position, a steel floor decking system is rotated and locked in a horizontal level position. This floor system is attached to four of the five sets of arms, within the five “bays”. Removable aluminum plates connect the separated floor pieces. The additional floor area accounts for an overall floor area increase of 75%.

The fifth bay (the rear end) has a special flooring system that unfolds to a stair creating the access to the elevated platform area.
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