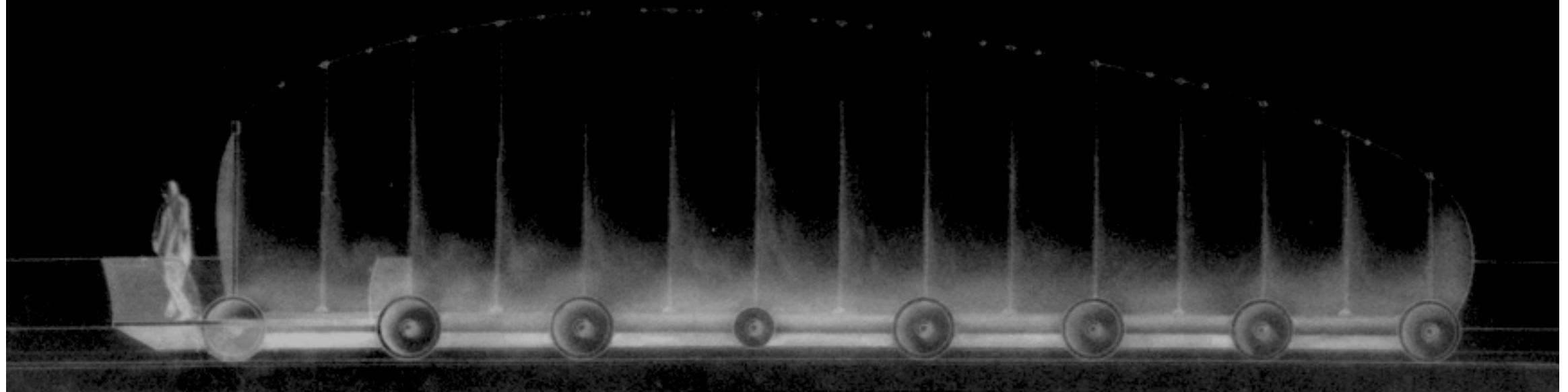


A PAVILION FOR TIME
An Exploration of the Phenomenology of Time

Mark E. Little



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(ABSTRACT)

The purpose for this thesis, "A Pavilion for Time", is to allow an unhindered exploration of phenomenological time. It is to go beyond, to transcend a convention towards empiricism. The result is an uncritical state, unhindered, uncluttered, a place of pure perception, an existential autoclave.

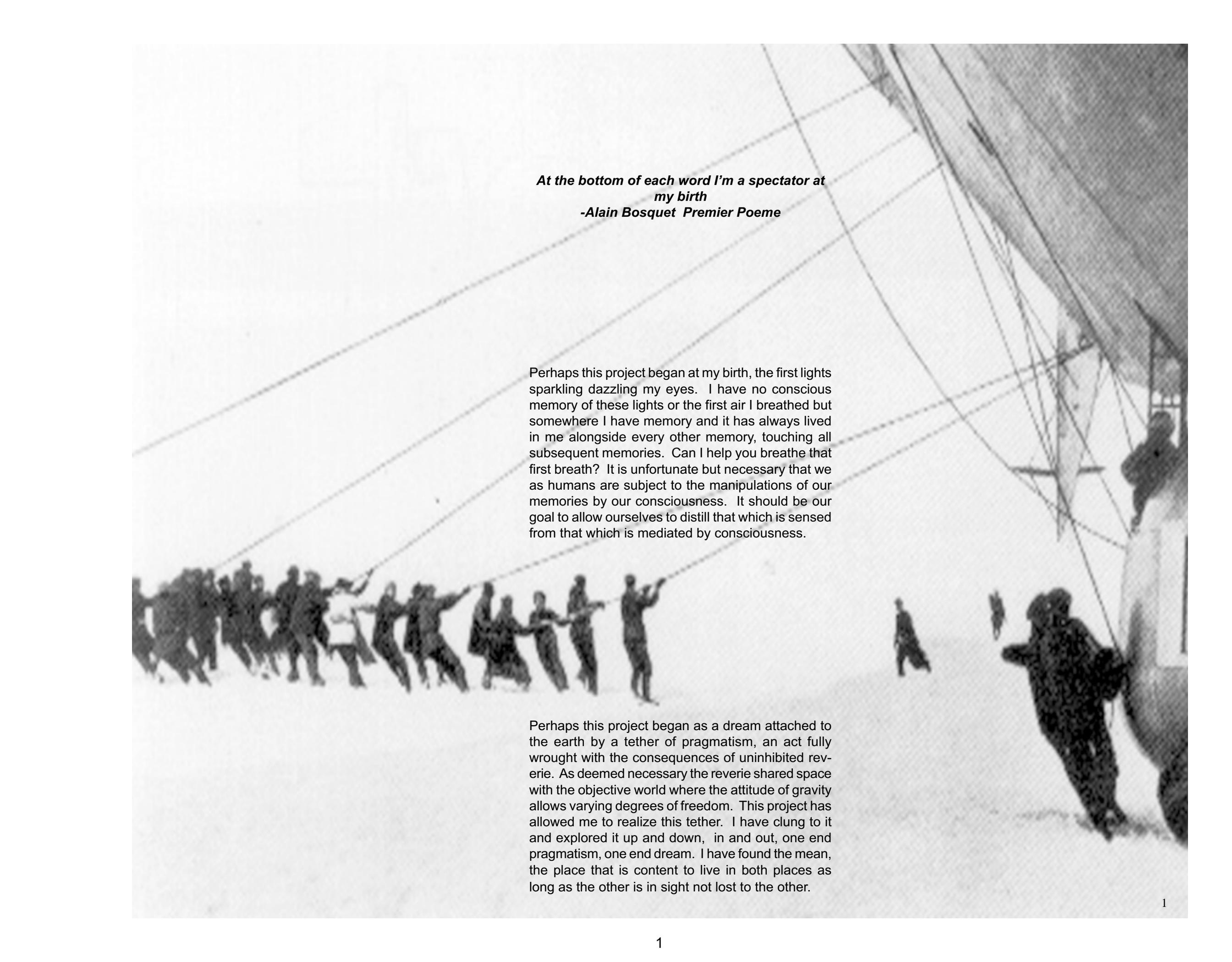
As a phenomenological exploration with architecture as the vehicle, this project investigates time as experienced. It is a heuristic exercise. Its goal is to encourage or rather enhance an understanding of phenomenological time. This thesis does not attempt to answer the question "What is time?" but rather, with architecture, examines the question "How do we, as cognizant human beings, exist with time?"

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***At the bottom of each word I'm a spectator at
my birth
-Alain Bosquet Premier Poeme***

Perhaps this project began at my birth, the first lights sparkling dazzling my eyes. I have no conscious memory of these lights or the first air I breathed but somewhere I have memory and it has always lived in me alongside every other memory, touching all subsequent memories. Can I help you breathe that first breath? It is unfortunate but necessary that we as humans are subject to the manipulations of our memories by our consciousness. It should be our goal to allow ourselves to distill that which is sensed from that which is mediated by consciousness.

Perhaps this project began as a dream attached to the earth by a tether of pragmatism, an act fully wrought with the consequences of uninhibited reverie. As deemed necessary the reverie shared space with the objective world where the attitude of gravity allows varying degrees of freedom. This project has allowed me to realize this tether. I have clung to it and explored it up and down, in and out, one end pragmatism, one end dream. I have found the mean, the place that is content to live in both places as long as the other is in sight not lost to the other.

And we, spectators always, everywhere, looking at, never out of anything

-Rilke, 8th Elegy

We as humans are uniquely capable of abstraction. Abstract time is clock time, watch time, a concept fraught with inconsistencies and paradoxes. Clock time has its beginnings in monasticism when the monks needed an alarm to signal their daily activities. In this way, the first clocks were merely mechanisms to remind and structure. From its origins the clock has developed into an omnipresent ordering device intruding on every aspect of our lives.

This thesis, however, does not deal with clock time or measured time. "Time does not lie at the basis of a measuring device, rather a measuring device lies at the basis of public time." (1) Time lies at the basis of human consciousness.



In An Introduction to Metaphysics, Henri Bergson distinguishes two kinds of knowing: relative and absolute. The former is achieved by moving around an object or by coming to know it through symbols or words that fail to render its true nature. Absolute knowledge is achieved by experiencing something as it is from within. (2) To equate time with clock time is a relative way of knowing it. It is a symbol of an abstract concept. The clock is a physical symbol of a way of thinking about time in which the second, minute, hour and subsequently day, week, month, year,

etc. become the primary attributes of time.

This way of thinking about time, however, has nothing to do with the phenomenology of time. Essential to an absolute understanding of time, we must **transcend** our previously held conceptions about time. "Knowing must therefore be accompanied by an equal capacity to forget knowing. Non-knowing is not a form of ignorance but a difficult transcendence of knowledge." (3)

Non-knowing is an essential aspect of this project. When we think of time we immediately think of the clock or the calendar. This project is intended to encourage non-knowing, this forget-knowing in order to experience being-in-time. This phenomenological basis eschews the abstract clock and instead brings to light what is already there. To do this we must strip away all conventions of measured time to find that base condition of phenomenological time which exists in all of us yet is obscured by the clock.



"To say that the time revealed by physics is real and that what we perceive is stubborn illusion is to confuse the map with the landscape." (4) Here the landscape is phenomenological time. We are charged with the task of contemplation. Contemplation affords us a deeper view of things and in doing so this deep view penetrates the translucence of our previous concepts.

We must employ all our senses to motivate consciousness and our senses are motivated through perception of the world.

There is always in everything a way to its center, not its core but the center, the mean where what is perceived has just begun to be acted on by consciousness. The mean is somewhere before thought and allows the soul to dance on the fine line interface between perception and thought. Robert Irwin through his in depth dealings with western philosophy became convinced that "perception precedes conception, that every thought or idea arises within the context of an infinite field of perceptual presence which it thereupon rushes to delimit." Perception is "the individual's originary interface with the phenomenally given...the plenum of experience. With conception, the individual arises as a being differentiated from its surroundings...and isolates zones of focus." (5)

The phenomenology of time will only present itself to us if we go back to this place where perception begins to be acted upon by consciousness. Here are none of the trappings of measured time and we can begin to realize what it is to be in time: that which shows itself from itself.

1. Copleston, Frederick, ed., *A History of Philosophy*, New York: Doubleday, 1994, p. 215.

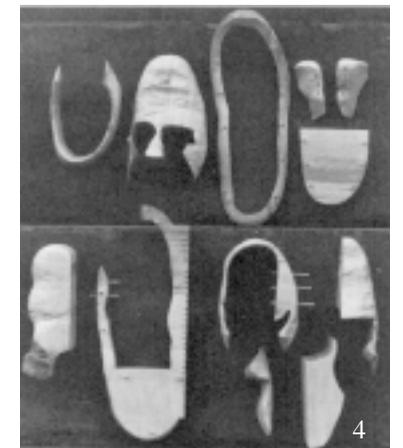
2. Bergson, Henry, trans. Hulme, T.E., *An Introduction to Metaphysics*, New York, Liberal Arts Press, 1949, p. 43.

3. Jung, Carl G., *The Basic Writings of*

C.G. Jung, New York, Modern Library, 1993, p. 330.

4. Cassirer, Ernst, trans. Langer, Suzanne K., *Language and Myth*, New York: Harper & Bros., p. 90.

5. Weschler, Lawrence, *Seeing is Forgetting the Name of the Thing One Sees*, Berkeley: University of California Press, 1982. p.180



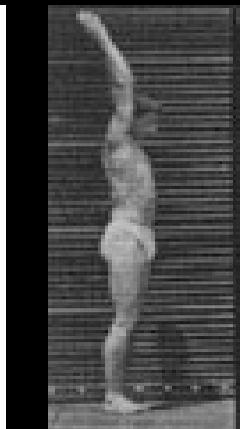
Something about the matrix of his obsession made him think otherwise. Bound feet hands and mouth were all he felt, coat and tied. His days were spent incognito. Others knew nothing of his obsessions. How could they? They never asked and he never told.

He, B., knew of himself. He was aware of his body and of his relationship to his body and of his relationship to others and of his body's relationship to other's bodies. What he did not understand was his relationship to the world. This was his constant struggle and it was his current obsession. B. liked his obsessions, they didn't allow him to think of much else, and they allowed him to think freely.

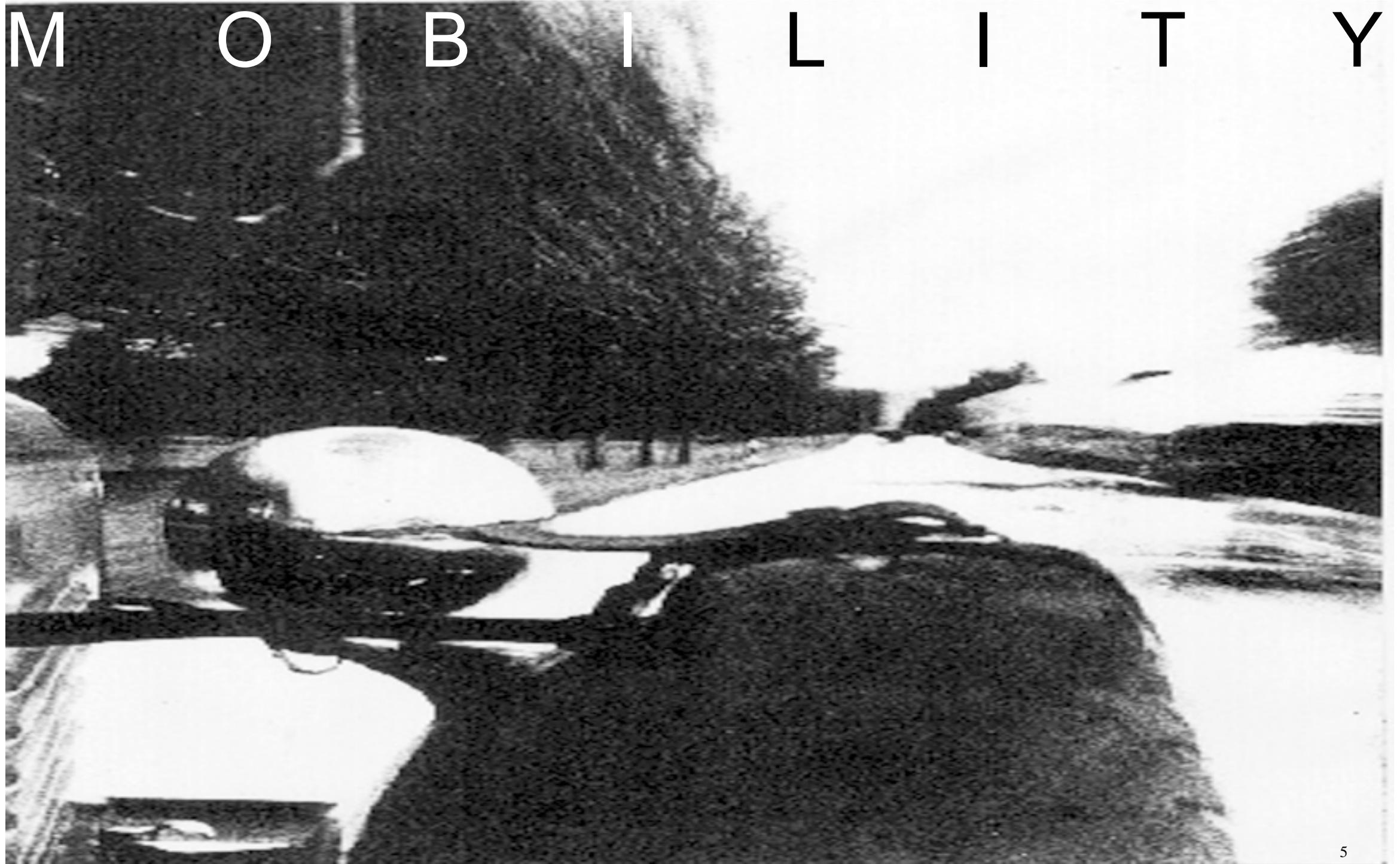
B. enjoyed his walks on the edges by the ocean. The solitude allowed him to wander, while the cold salty air allowed him to feel. He always thought of that air as the expired breath of millions. Breathing to live, that air carried part of their souls. It was rich with feeling and charged with thought. To breathe it deeply helped him realize averages.

B. walked through ruins, the bunkers left from war. They were concrete and heavy and cold. There seemed inside to be a sort of perpetual dampness inspired by the cold salty ocean air, a place where the damp air decided to stop and to rest from the other air. The insides he didn't like. He was intrigued though. They were hidden well yet their presence didn't allow them to hide. They screamed out more than anything, that by being partially hidden they beckoned their exploration.

He took with him one day a hammer and chisel and food. For five days in June he chiseled a curved slot in the roof and at sunrise on June 21st the sun shone directly through and followed the slot he had carved in the roof. He watched all day as the light illuminated the words he had placed on the floor. Brass letters: "All of this was born of my breath, While my soul spoke



M O B I L I T Y



5

and my breath listened, my breath spoke and my hand played.” The movement of the light, the light of the sun, the memory of the place. It got dark and he couldn’t read anymore.

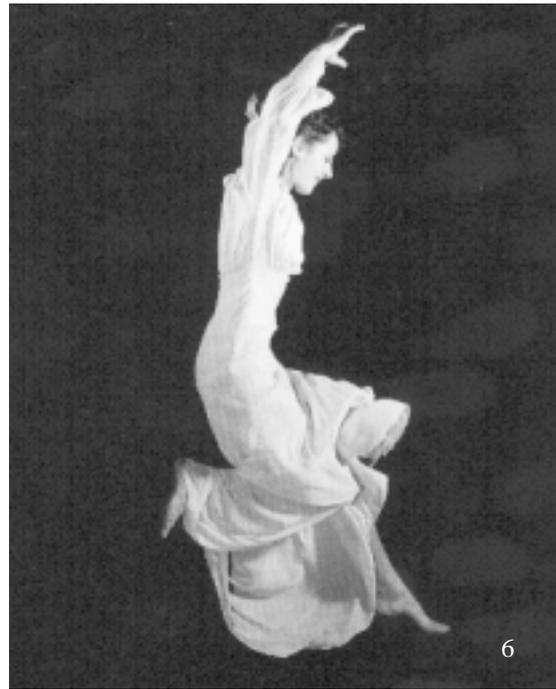
B.’s office work made him move. He obliged grudgingly to Blythe, CA. It seemed a small hot town on the Arizona border, on the Colorado river, on the border between two time zones, on the edge of two landscapes. He couldn’t walk the edge near the ocean so he walked the edge near the river. In Arizona was a landscape red, rocky, and eroded, sloping towards the river and the greener California side. Here there was no cool damp breeze but a wind heated by the sun and carrying with it little pieces from California to Arizona. It was a manic wind fast and slow.

His walk took him to a bridge, a span, a span between two sides going from the steep slope across the river to the flat. There were two concrete ends and these ends reminded him of the bunkers. Even though the hot wind blew through his hair he was chilled by the cool damp inside. B. wandered the span. The reverie it sparked fascinated him. He felt himself in two places at once. He wasn’t sure which was more real but he was sure of the power of the inspiration. B. walked the length of the span to the other side and back again noticing the shape of things. There seemed to be a place to walk and beside it a series of grooves. He figured it was a track but for what he didn’t know. He figured it must have been a track for moving people across the river, maybe the track continuing past the end had been destroyed or was never finished or was still being built. His imagination saw the span being built, the concrete being poured, the forms being assembled, the work, the original thought. That was the key: the original thought, the originary interface, perception.

As B. became more familiar with the town he became more enthralled with the span. He wondered who had built it and why. He began imagining with the help of his memories. It became



19a



The pavilion for time is mobile. Time as it is experienced is movement. Henri Bergson called this “duration”. “Duration implies both the preservation of the past and the anticipation of the future. The present itself corresponds to a certain density of duration.” (6) We accomplish movement through muscular contractions. Mobility is not limited to physical action though. It also corresponds to consciousness. A consciousness liberated from the constraints of empirical stasis is allowed to roam and explore. “The consciousness leaps with distance and time. And by this reaction man can be made aware that consciousness is a material to build with. “From this material space is created. Space is passionate energy liberated by an act of

consciousness” (7)

It is essential that the pavilion be mobile and it is through human action that the pavilion becomes mobile. Since we accomplish movement through muscular contractions, it is also possible to accomplish movement with muscular contractions acting upon a mechanism. In this way the mechanism becomes an extension of ourselves. The pavilion does not move as a result of exterior forces such as internal combustion or electricity, but rather its impetus is human muscular contraction. In this way one is making move, acting in the making of one’s present. For



Heidegger this idea of making present is important. He does not see the present as that in which something occurs but rather the actual carrying out of an action. It is what we are doing at any moment that makes the present significant. (8) The significance of any given present moment lies in the fact that one is directly aware of one’s own activity as an action. The user then is charged with the act of making move to give significance to the present through that action. If the pavilion were to move through external sources then once again it would be back in the world of abstractions, separate from



the user. The user would only be an observer and not a participant.

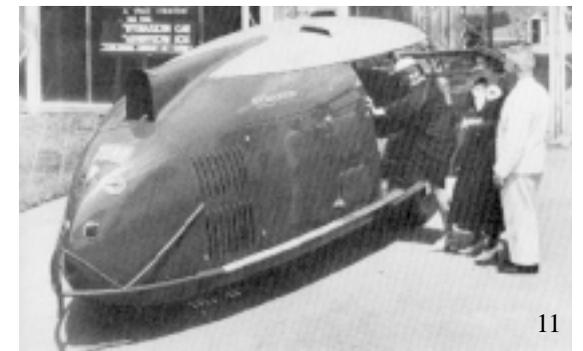
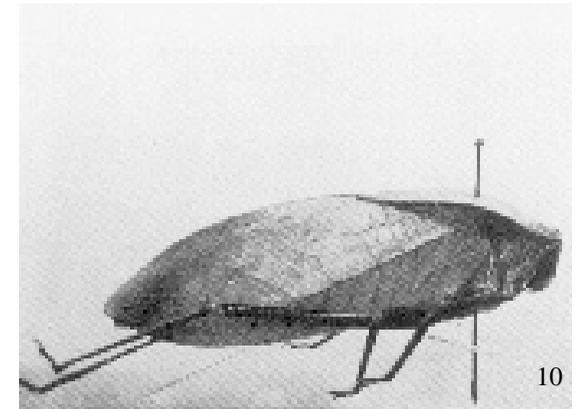
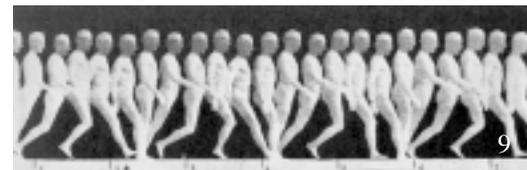
The movement is slow, almost imperceptible. The pavilion moves one inch every ten seconds, 720 feet in twenty four hours. A quick glance would not make the movement apparent, one has to take time to look at it. In this way the pavilion takes time. Since its movement is not immediately apparent it encourages observation. There is a certain beauty in the slowness of things. Speed actually encourages homogeneity since everything travels too quickly to be observed. Slowness encourages detailed observation.

The shape of the pavilion implies motion. Its rounded, eelongated shape, with one end wider and taller evokes thoughts of speed and aerodynamics. The wheels on which the pavilion moves are exposed.

6. Baudson, Michel (ed.), *Art and Time*, London: Barbican Art Gallery, 1986, p.7.

7. Stanishev, Georgi (ed.), *The Second Trend in Japanese Architecture and the Poetics of Hiroshi Nakao*, Progressive Architecture, June 1995, p.91

8. Copleston, Frederick, ed., *A History of Philosophy*, New York: Doubleday, 1994, p. 364.



his new obsession and he delighted in its depths. He wasn’t sure if it was memory or imagination after a while, they seemed very close.

He overheard one day two women talking. They said words like “hot” “noise” “memory” “moved” “slow” “inside shadows” “for time”. He noticed a general buzz around the town, people were excited about something. They talked about this thing coming, this thing for which they had waited a long time. It was for the track they said.

B. thought about the track. He liked the track in and of itself but his imagination couldn’t help him discover its full potential. Then the thing. It struck his memory when he first saw it. He only saw it from a distance but from that distance he could see its shape. The shape was kind and fast. It looked soft and of the nature of things called vehicles. He noticed where it was and what time of day it was.

The next morning he looked for the thing. It wasn’t in the same place. He knew it moved, the shape and the wheels told him so. B. wondered if maybe it wasn’t some sort of clock, but then at the same time of day yesterday it was in a different place. The shadow of the thing fell over him and he felt the cool ocean air.

That night B. dreamt.

the manipulations no longer pliable,
relegated to the place of souls felt.
simultaneous perception



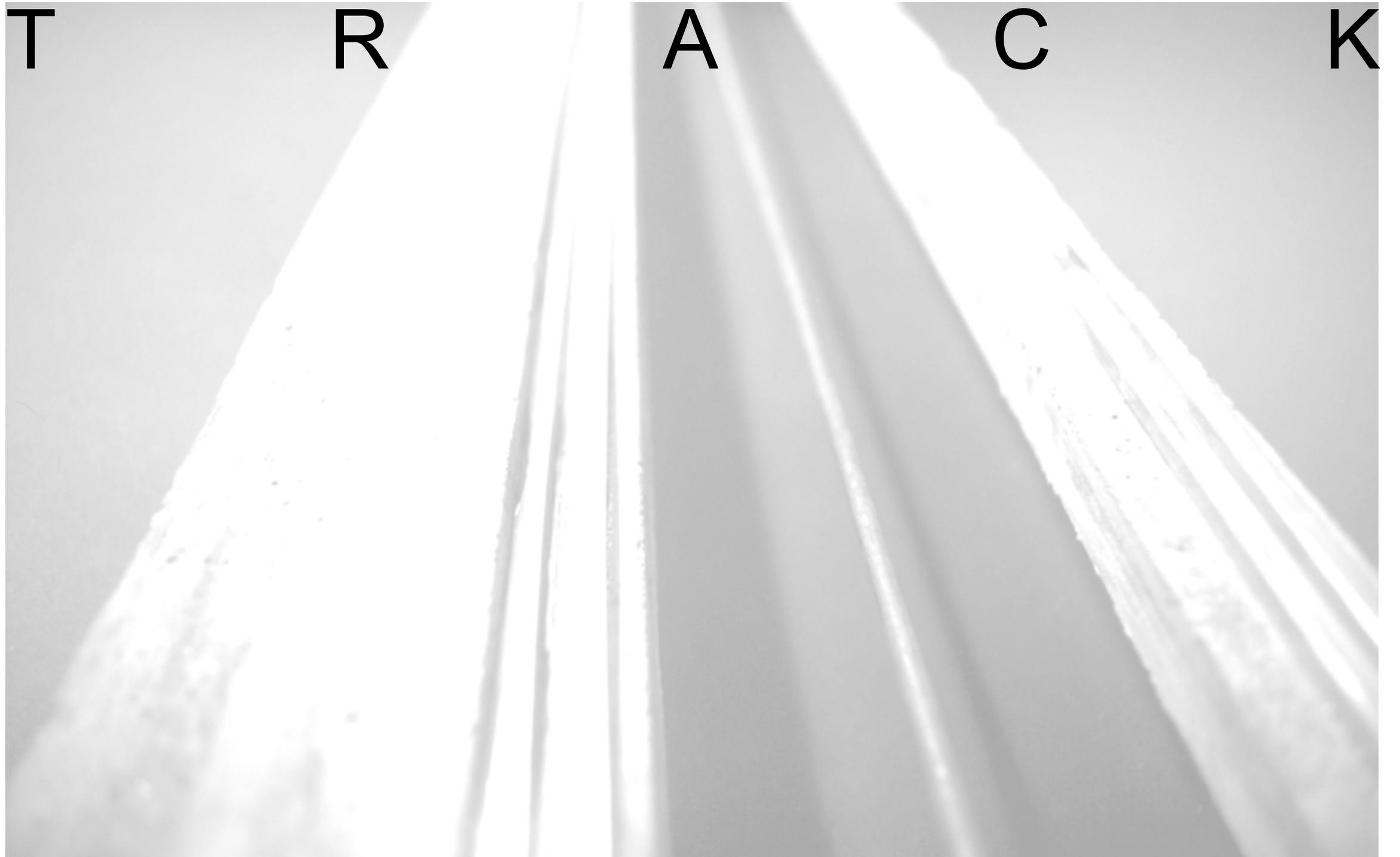
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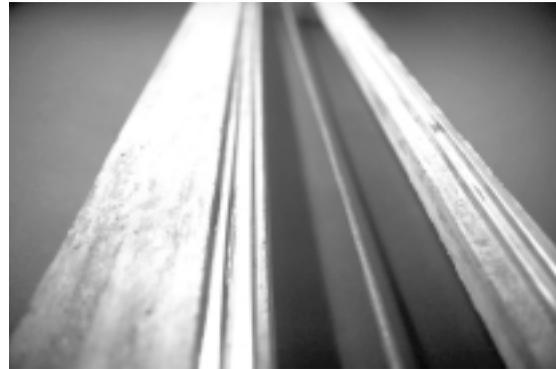
no language, symbol
 a place simple beyond mere means.
 a place empty,
 with opportunities homogenous.
 all perceive the same,
 only language divides us.
 light touches before it is "light".
 metaphora-transport
 here I am not a philosopher.
 here I do not attempt an
 explanation
 but rather effect an actuation

of realization.
 human nature cannot be discovered
 through empiricist dilemma,
 human consciousness will be
 born through myth,
 flying consciousness its
 information.
 no longer able to dream he thought and when
 he thought he awoke and went to see the
 thing.

To begin with there is the thing. By its shape it reminds us of
 something, of some way, and in this thing or way lie pieces of ourselves
 which attach to it. In this way the thing carries with it pieces of everyone
 and everything ever to come into contact with it. These pieces are
 allowed to detach, reattach and recombine to charge the thing. It is this
 charge that creates the space of the thing, for space is created by and for
 the soul while place is for the body.
 B. began his walk across the span towards the thing. He thought
 at first he should hurry to catch up but as he approached he saw it had
 stopped. As he walked he thought in rhythm with his feet. He wondered
 what all of this had to do with time. Stop,



There are 24 sites around the world, and at each site lies a track on which the pavilion moves. There is a track on each time zone line. With the introduction of "standard time" at the end of the 19th century the earth was divided into 24 zones of 15 degrees in order to organize a way of standardizing time around the world. These time zones, however, are subverted to political boundaries and natural features such



as mountain ranges and oceans. The result is a very non-uniform set of time zones which really do not resemble the original 15 degree delineations. On each time zone line, the track which accepts the pavilion is something permanent, something

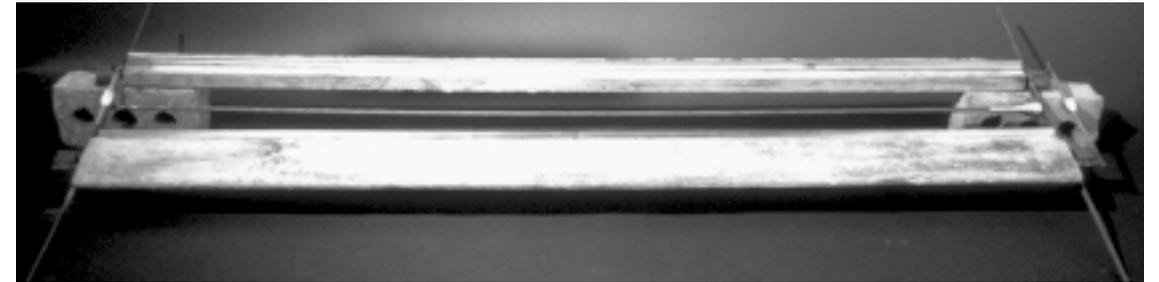


which carries with it memories as well as potential. The track which is uniformly concrete and 720' long relates to each site differently. It is a foundation as well as a relic. It is cast with slots over its length. Within these slots are bronze tracks on which the pavilion rolls. The track is cast in two parts: the north and the south track, and is always oriented east-west. To gain access to the pavilion there is a walkway on the north side of the track in the northern hemisphere and on the south side in the southern hemisphere. One is always walking towards the sun when one enters the pavilion.

Each track is unique in its relationship to its site. It takes cues from and begins a dialogue with the specific conditions inherent in each site. In *Anchoring* Steven Holl says, "Architecture is an extension; a modification establishing absolute meanings relating to a place. Even when a new work is an inversion of inherent conditions, its order attempts to embody an aspect or illuminate a specific meaning distinct from generalities of abstract space." (9) It is in this search that each track gains its significance relative to those inherent conditions. It gains significance through the meeting of track and land in ways specific



to each site, and its significance is compounded when the pavilion is present. There is, however, time when the pavilion is not on the track and each site must in



and of itself transcend its functional requirements by fusing with and complementing the place. These times when the pavilion is absent are in a way as important as those times when the pavilion is present. Each site was considered fully in its potential to hold the track with or without the pavilion.

For this thesis three sites were developed fully. One site straddles the Colorado River in Blythe, CA. It is on the border between California and Arizona and it is the time line between Mountain and Pacific time. One site is in Greenwich Park, London, on the Prime Meridian, 0 degrees longitude. This is the line from which all time zones originate. The final site lies between the Diomedes Islands in the Bering Strait on the International Date Line. This is the Line where all time zones in effect end. By locating the tracks on time zone lines the pavilion may easily cross these lines of demarcation, these human constructs which exist as invisible matrices somewhere above, on, and below the earth. In its crossing between time

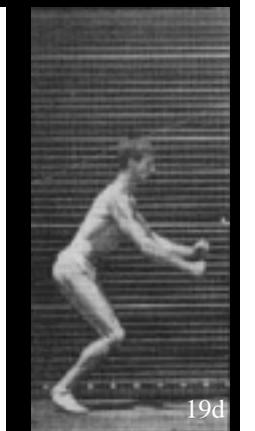
zones the pavilion and its users are in effect dismissing the lines. The unhindered unremarkable crossing is a sort of non-celebration of the line. The user is crossing

from one time of day to another without any acknowledgement of it, a sort of heightened awareness of the futility of the time zone system by simply ignoring it, something which would be impossible if it were not on one of these lines.

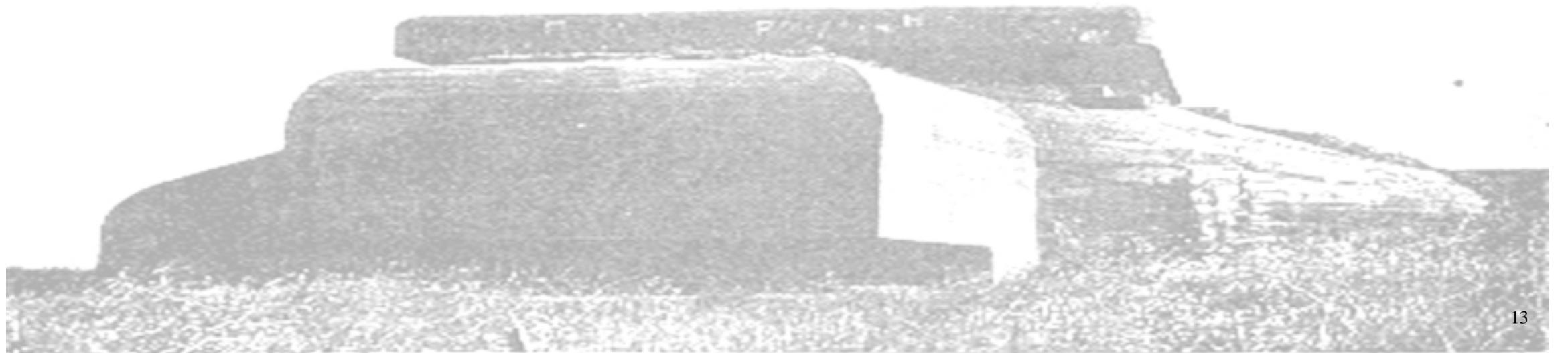
9. Holl, Steven, *Anchoring*, New York, Princeton Architectural Press, 1991, p. 9.

start, fast/slow, not his watch, it must not be his watch time. He stepped onto the platform offered to him by the thing. The crunch of his steps on the concrete became a metallic clank as he walked across the metal grate of the platform. He looked down towards its end and noticed how its ribs stretched against its outer skin and he tried to imagine inside. Then he was inside. Inside was light. He stood in a small space and as he looked forward his space narrowed and formed a sort of spine which divided the larger space in half. He noticed the heat of the sun and the smell of the steel cage in which he stood. He liked the smell of heat. His steps propelled him forward and because of this he had to decide to go left or right because his space became too small to go forward. He decided to go right. His footsteps turned to wood as he approached a wheel, almost as big as himself, near the edge. The wheel beckoned to move, begged to move so he made it.

B. thought this act through. He felt obliged to retrace his steps, to make an effort towards the purpose and volitive significance of each act. To move, to make move seemed to him a making of the thing. The winding of the wheel created a physical interface between himself and the thing and they became contiguous as they moved. He had a hand in making the thing and through this act he was making shadows, sounds and sensations. B. considered movement and time. He was sure now that this thing was not meant to explain the time that was created by his watch. Instead he felt like he was with time, that this thing was somehow meant to allow his conscious to realize what it is to be in time. He took off his watch and laid it down on the floor. He walked toward the end and back and forward again, retracing his steps



S I T E S



13

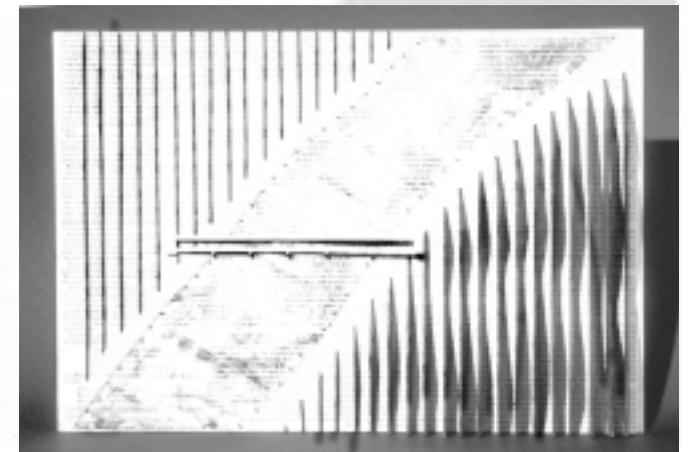
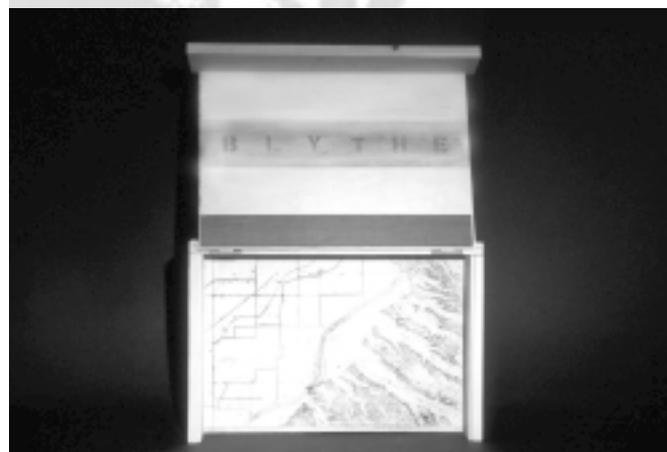
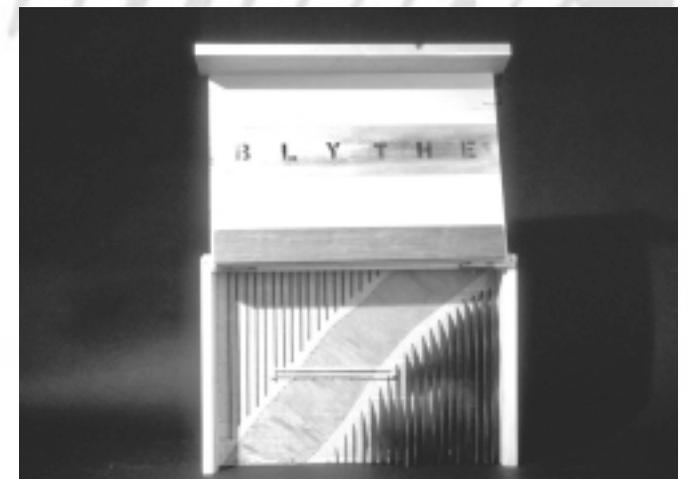
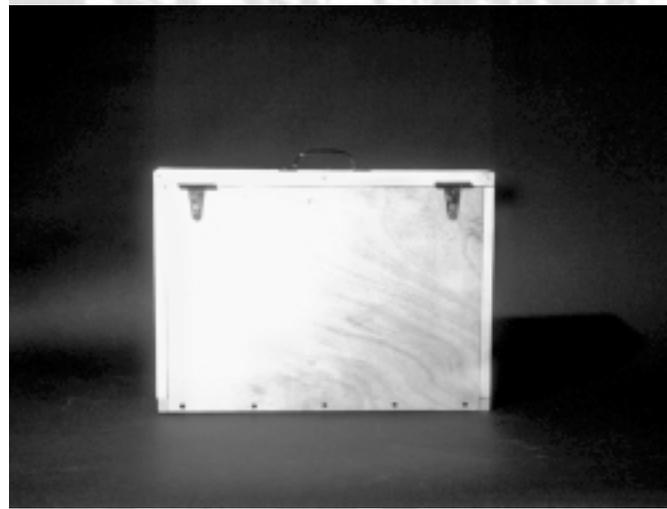
back and forth. He liked the way the skin felt: taught, smooth, forgiving. If he was being in time was he not also navigating his past and future by walking through the thing? He considered his present of past and future. He considered his memory, his action, and his expectaions.

B. noticed himself staring at a shadow on the floor on the other side of the spine. He walked through to the other side and watched the shadow. A cursory glance didn't reveal any movement of the shadow but as the thing moved slowly so did the shadow. He sat and decided to watch the shadows. He considered the singularity of this event, about how this exact pattern of light was unique since the thing was never in the same place at the same time twice. He was witnessing the consequences of his actions and taking joy in the fact that he was creating and experiencing unique events. Through that creation he was initiating time, his own time. He let go his concepts previously held about time. He forgot-knowing and in doing so transcended knowledge. His senses' quivering bypassed his circuits of knowledge and let his soul run free throughout the world. He took time out of the realm of dogma and placed it into the realm of the phenomena of consciousness. He had found that interface where his body and soul met and it was time. Something had happened outside of his body and mind which did not appeal directly to his conscious but rather touched his soul and B. was closer to understanding his world. He closed his eyes and listened to the wheel slowly move, he felt the sun and shadows warm and cool his face as they moved.



19e

BLYTHE, CALIFORNIA



The landscape here nearly defies description. The Colorado River is not only a border between California and Arizona, and Mountain and Pacific time, but it is also the place where two dramatically different landscapes converge. The Arizona side is a high desert plain. It is red, rocky, windy, hot, barren, eroded, convoluted, twisted, unforgiving. Erosion has carved out dramatic, folding crevices which snake their way down to the river. These crevices are almost like fingers reaching out of the plain to grab hold of the river. The California side is flat and green. It is the flood plain for the Colorado River and as such collects the water runoff from the Arizona side. There is a symbiosis between the two, California and Arizona. Most landscapes seem to be carved by a river. Water decided on a path and took it in order to make itself a place to go, essentially cutting through a homogenous landscape. Here though, the water joins two disparate landscapes and collects the character of both.

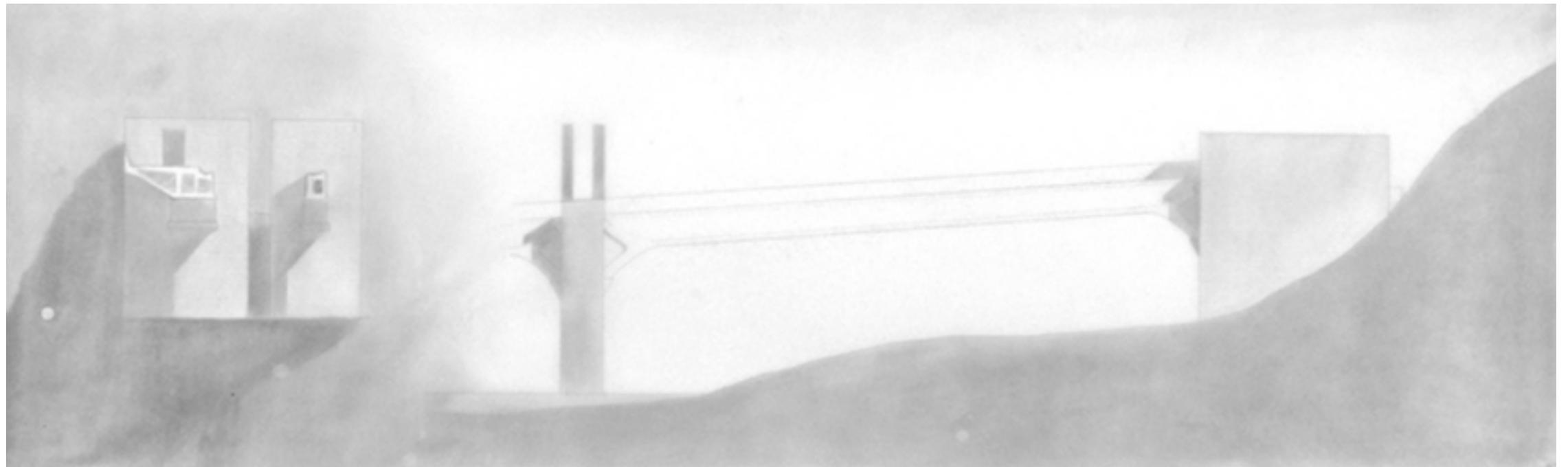
We are unable to see the transition between landscapes under the water. The track at this site takes advantage of this condition. Here the track seems to grow out of both landscapes and converge over the river. At either end of the track are two massive concrete piers. These piers are inspired by the concrete bunkers left from war. These bunkers are fantastically beautiful in their form. Here concrete is a purely functional

object which gains significance when seen differently. These are objects which were created for a certain purpose: to protect defending soldiers. They were created as temporary sanctuary. Their temporality, however, was lost as soon as they were deemed unnecessary and abandoned. Their permanence was established and they stand today as reminders of a specific time, relics, and also as incisions into or protrusions from the earth. They are solid tactile form beautifully wrought and breathtaking in their unintentional beauty.

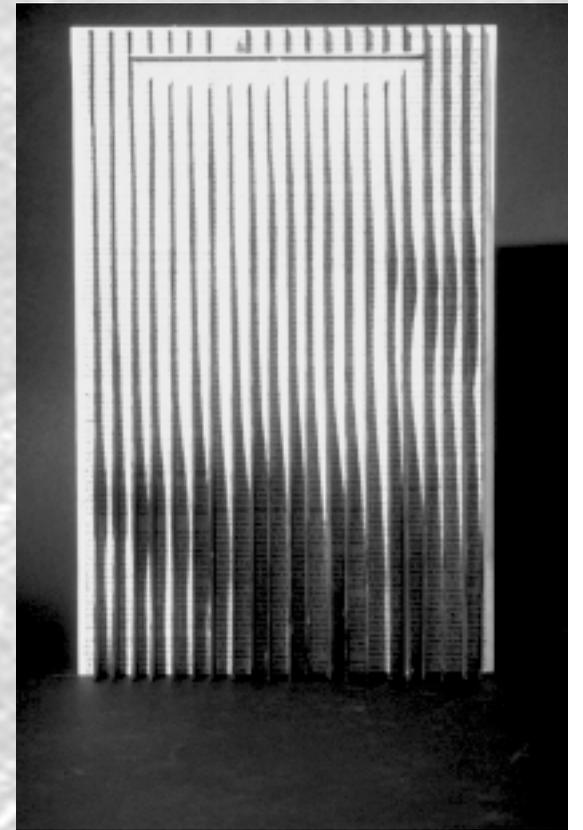
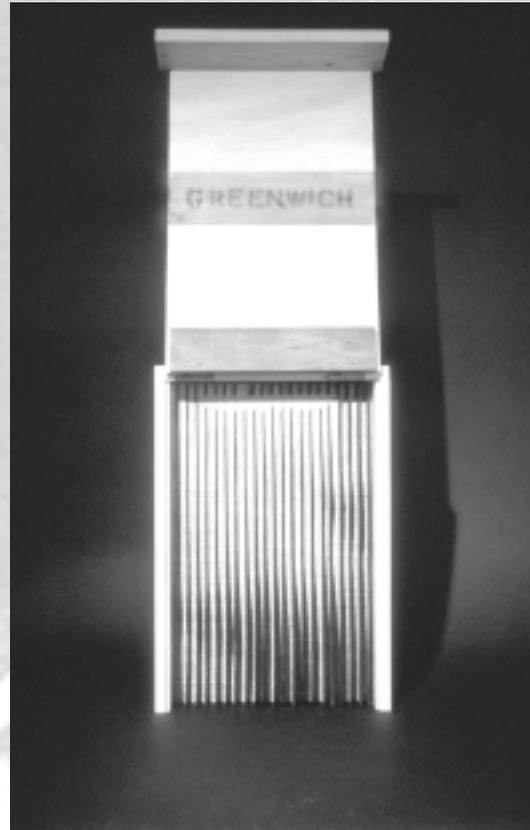
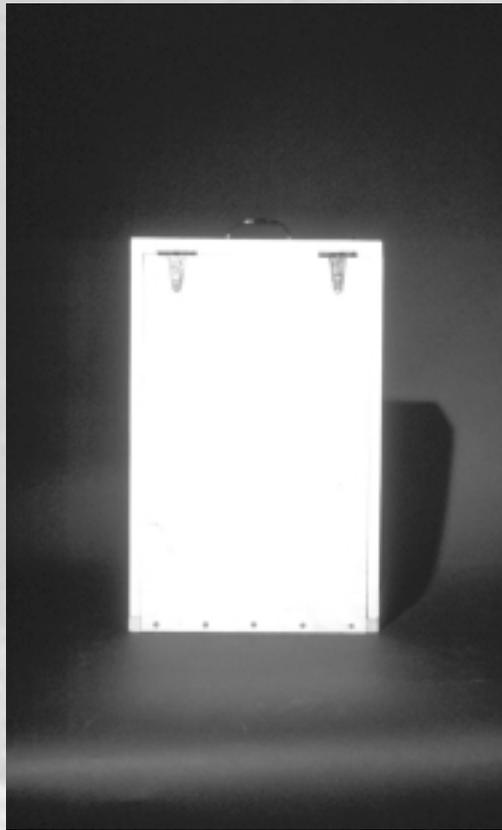
These bunker "ends" are roughly board cast, like the bunkers, while the tracks and walking platform are smooth cast, exceptionally finished. The track itself slopes from the flat of the California side to the slope of the Arizona side. The supports for the track are also rough cast and can be seen as belonging to the same family as the "ends". From these supports protrude cor-ten steel posts, two from each support. These, unlike the ends and supports which seem to rise from the flat to the slope, maintain a datum from the level of the slope on the Arizona side. Their rust red reminds one of the Arizona side and they carry the rust red across to the California side. These posts continue past the California "end" for several hundred feet to indicate that the ends are merely interruptions of the track, as if one were to excavate along the line continued by

the posts one would find the track buried beneath.

The track may be approached from either side. The California end is located in a park. The track and walkway grow out of the ground and begin their slope up to the Arizona side. The Arizona side is set back from a road which follows the river. A set of stairs rises through to the back of the pier, turns left and left again back through the pier. In this way one gains an appreciation for the mass of the pier.



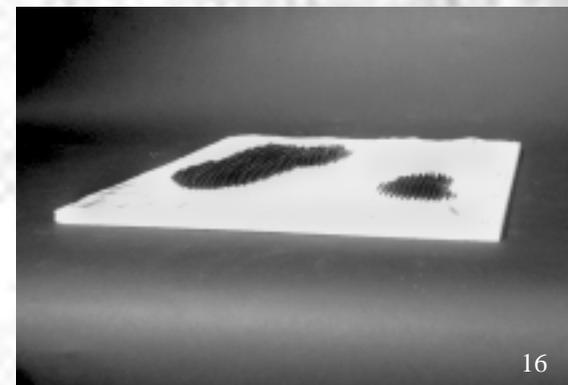
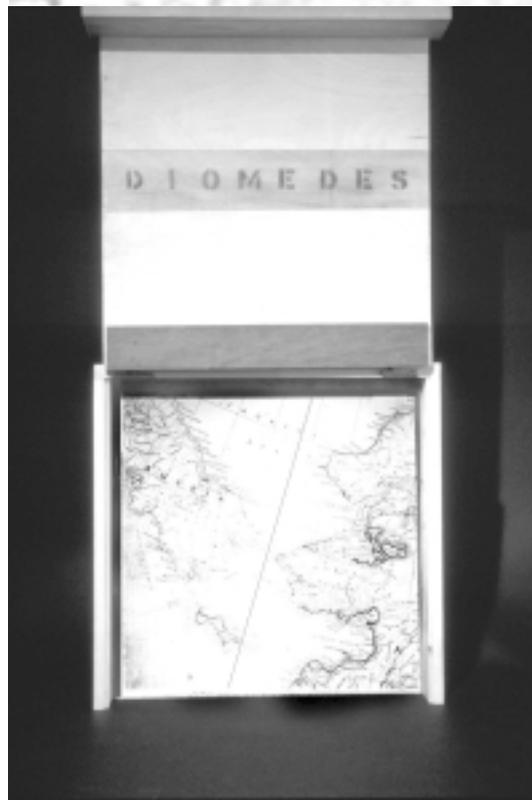
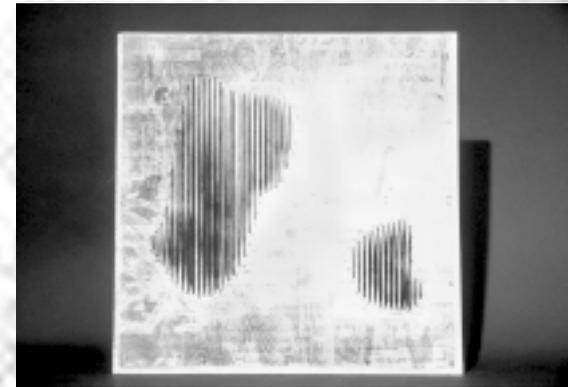
GREENWICH, LONDON



The track is bisected by the Prime Meridian. It is from the Prime Meridian that all time zones are established. Greenwich Park is also the site of the Royal Observatory which lies on the Prime Meridian at the top of a hill. Here the track is a cut in the earth. It can be seen as something which has been excavated, an archaeological fragment of a foundation or ruin. It is in the ground and as such brings the focus of the astronomer back to the earth. The track lies to the North of the Observatory at the bottom of the hill. It is entered from the North side through a long walkway on the Prime Meridian. The walkway appears to slope down but actually remains level as the land slopes towards the observatory. The experience of walking to the track is not so much a descent into the earth as it is the rising of the earth to enclose the path. The walking path and retaining walls are smooth finished white concrete so they are highly visible from the top of the hill. The ends are rough cast "bunkers".

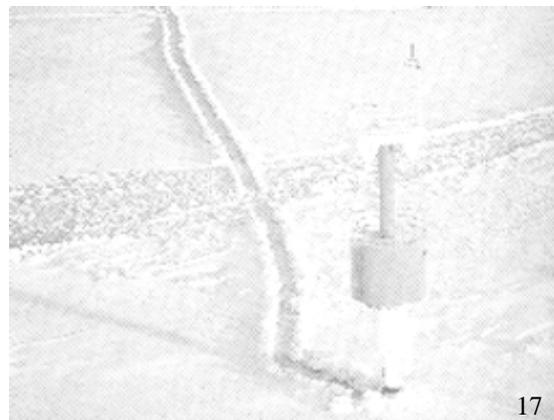
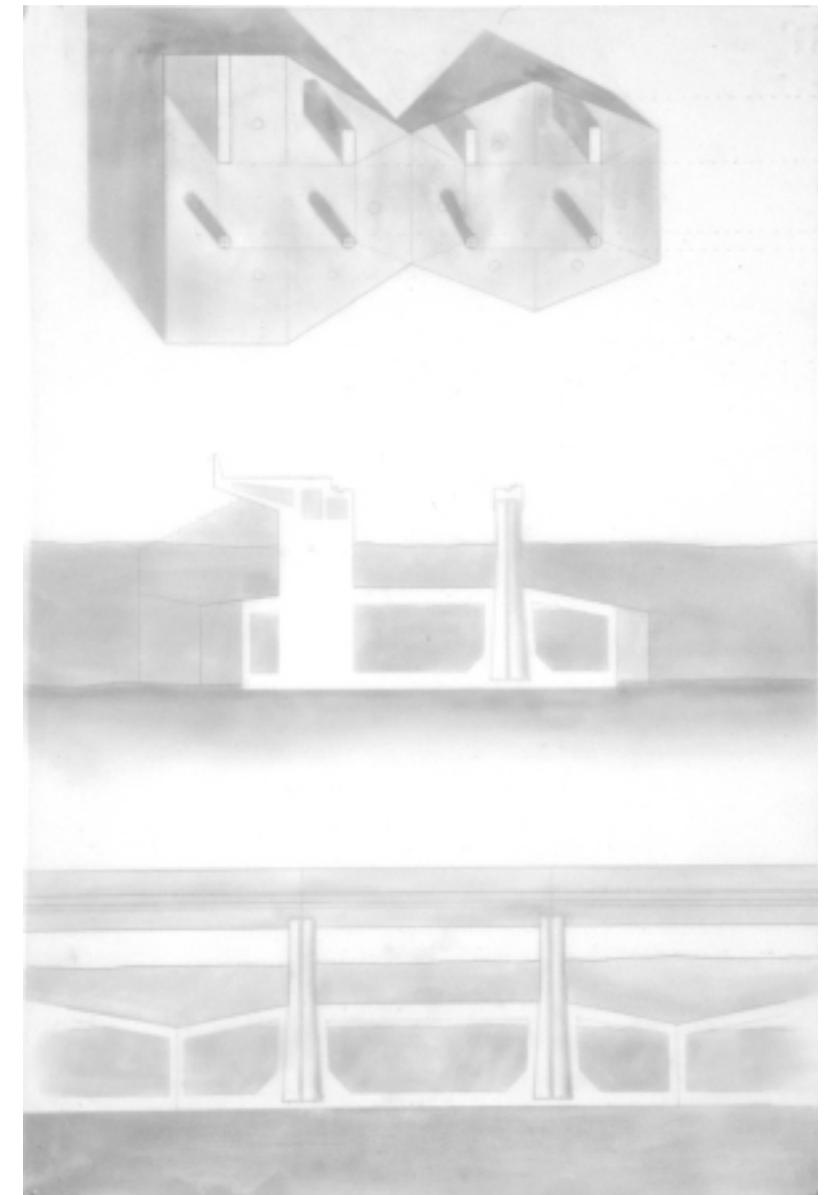


DIOMEDES ISLANDS



The Diomedes Islands straddle the International Date Line in the Bering Strait. Little Diomedes belongs to the United States. Big Diomedes belongs to the former Soviet Union. These two parts of the same geologic mass are inhabited by indigenous people of the same origin and are islands only because they are separated by water. Their separation is enhanced by the man made national border and the man made International Date Line. The International Date Line is where all the time zones which originate in Greenwich converge. Since every time zone to the east of Greenwich increases by one hour and every time Zone to the west decreases by one hour, when it is Saturday on Big Diomedes, it is Friday on Little Diomedes.

The track here straddles the International Date Line. It is located in the water between the two islands. It is a connection between the two islands whose inhabitants can meet every winter when the sea freezes. The track is supported by a series of caissons. The caissons are hexagonal and measure 60 feet across. They are hollow concrete precast on land and floated to the site where they are sunk into place by adding wet sand to the cavity. Their mass and low center of gravity resist the forces of the moving ice. The posts which support the track cut through the ice and leave a scar in the ice which is a physical trace of the movement of the ice over time.



P A V I L I O N



Since this project began as a dream it has been a struggle to keep its tether anchored. Dreams come easy. The physical world comes much harder, it is full of solid things and light and there are rules of combination. Every aspect of this thesis has been examined and re-examined, formulated and re-formulated. Everything started at a certain place and subsequently journeyed somewhere else in order that it may be the most perfect way of thinking or doing or acting. Usually this journey involved stripping away unnecessary complication to get back to the original thought. There is always a reason for a first thought, and as soon as it is brought into the real world it is compromised by unnecessary complications. The task then is to distill the original thought back out and examine it.

The pavilion is approached by movement on the walkway. The walkway runs the length of the track and allows access to the pavilion. On each walkway is a bronze strip twelve inches wide which runs the length of the track. This bronze strip is the threshold between the walk and the pavilion. (fig.2) At each threshold to the pavilion and through the pavilion there is a change of materials. Materials have been chosen for their aural or tactile qualities. Materials sound differently when walked on or feel differently when touched. They can conduct heat or oxidize or clang. It is through these qualities that we become intimately connected with architecture. It is a rule of the physical world that things must age. Every material chosen will age differently, some quickly, some slowly, some graciously, some reluctantly.

The pavilion has an aerodynamic shape. It needs to imply movement even

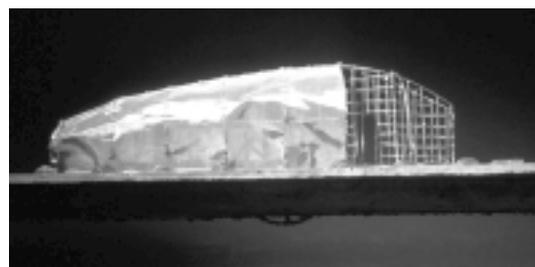


fig.1

when it is not moving. The aerodynamic shape hints at movement and suggests it. The most aerodynamic shape is an elongated egg shape, with the large end facing the wind. The pavilion is thus oriented with the larger end facing west. This way the pavilion appears to move east to west only, almost following the sun. The pavilion, however, is also able to move west to east (fig.1). Even though it suggests unidirectional movement it is actually capable of bidirectional movement. As humans we live time in one direction only but we experience it in many directions through memory and anticipation.

One enters the pavilion by stepping onto a platform offered to the user. The platform extends out over the walkway. It clangs when stepped on because it is metal grating. As one walks from the concrete to the bronze threshold to the platform there are three distinct sounds. The platform is supported by the chassis of the pavilion. The chassis is a skeleton. There is a spine which runs the length of

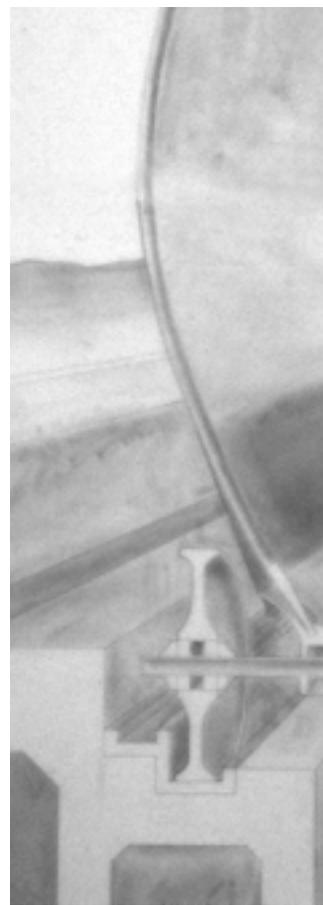


fig.2

the pavilion. The spine supports the skeletal structure of the chassis. (fig.4) The chassis began as a steel laticework of I-beams and heavy steel members. Throughout the design process the chassis was refined according to the goals of the thesis.

The pavilion moves not only on site but it also moves from site to site. There is only one pavilion which travels around the world to the different sites. Originally the pavilion was simply moved intact from site to site. By moving it this way there were limitations as to the length and width if it was to be towed on a highway or placed on a cargo ship to be transported across water. Throughout the design process the chassis was refined to allow a more generous space and also to allow complete disassembly for transportation. This way the pavilion could be designed to accommodate human activities without the size restrictions mandated by the way it was transported.

The chassis, as well as the rest of

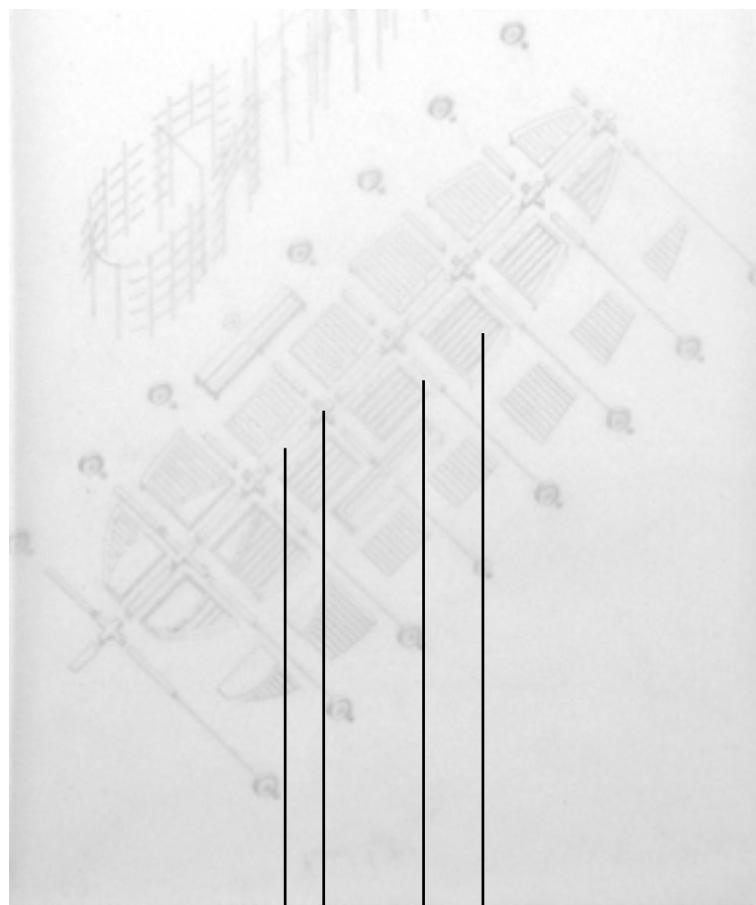


fig.3 a b c d

the pavilion, was subsequently designed with an organic sensibility which would allow for economy of materials, light weight, and provided clues for the process of making. The chassis became a skeleton with a spine, arms, and ribs. The main longitudinal support which runs the length of the pavilion is comprised of cast aluminum vertebrae every eight feet, and carbon fiber beams between vertebrae. (fig.3a) The vertebrae are designed as T-shaped lugs onto which the carbon fiber beams are fitted and bolted. (fig.3b) The carbon fiber arms which support the wheel axles also attach to the vertebrae. (fig.3c) The carbon fiber arms and beams are teardrop shaped because of the structural properties of that shape. Sitting on top of the beams and arms are cast aluminum frames which help make the floor and also provide rigidity for the chassis as the arms do not have much lateral stability in themselves. These frames accept wood floor planks which make up the floor surface. These wood planks are laid flush with the edges of the frames so that the planks and the frames are visible and make up one continuous floor surface.(fig.3d)

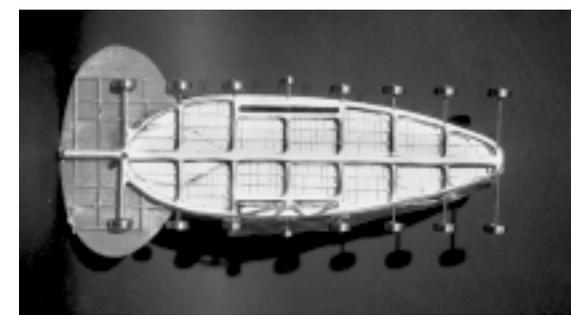


fig.4

Emerging from the vertebrae is a series of vertical members which become part of the spine.(fig. 6) The spine runs down the length of the pavilion and not only helps give it shape, but also allows itself to be modified by the user and allows entry. When one steps onto the platform from the walkway one is presented with an entry. This entry is formed by the spine as it bulges to a teardrop shape and pushes through the enclosing skin. The spine is two rows of extruded aluminum vertical members supporting ribs containing translucent cloth panels.(fig.7) These panels serve a dual purpose: first, they provide a visual division between the two sides of the pavilion. Second, they allow the spine of the pavilion to be inhabited and modified by the user. These panels become seats when leaned against. Hydraulic units in the supports allow the panels to deform when weighted and return to their original position when unweighted. These seats give the user a place to sit and participate in the pavilion. The spine widens and becomes an aluminum cage to allow entry. The door to the pavilion is the end of the spine and is divided into two sliding doors.

The spine has undergone several transformations. Original designs had the spine as a sort of trans-optic wall which modified light coming in from the south side. These early designs were heavily dependent on observation as opposed to participation. The spine evolved through several iterations into a series of shelves which were meant to hold pieces of memory: trinkets, pictures, memorabilia. At this stage the spine was used as a collecting device to allow all users to in a way participate in the memories of other users. When the spine

was full it would be left at that site and a new spine would be built.(fig.8) The final iteration has the spine simply as it is: a support for the ribs, a divider, and a place in which the user may participate in the making of the pavilion.

When entering the pavilion, one is given the choice to go either left or right into the main space. Choosing to go right would take one towards the side on which the sun shines. Here the skin of the pavilion is able to be modified by the user. The skin of the pavilion is a stainless steel wire mesh fabric. This fabric has the ability to allow obscured views because of its translucency and affords some degree of shading. In addition, when seen in the light its ripples and creases have a powerful visual effect.(fig.9) The skin is given shape by the ribs. The ribs are carbon fiber, but unlike the arms and beams of the chasis they are engineered to be flexible. These ribs slide through sleeves sewn into the skin. The ribs are attached every eight feet to either side of the spine with cast aluminum connectors. The connectors cap the vertical spine members and allow cross-bracing of the members as well as provide a receptacle for the ribs which have cast aluminum ends. The ribs are attached to the floor through recessed connections. On the sun side the skin is able to be modified through the opening and closing of slits in the skin. There are sets of two ribs placed between the main ribs. These ribs again slide through sleeves in the fabric but are allowed to separate partway down the sleeve so that the skin may be peeled back or pulled in. This allows the user to create views and let in direct sun.(fig.11)

This modification of the skin, like

the spine, has undergone several transformations. The original design had the sun side as a solid wall sheathed in sheet metal. In this design the wall was a series of small doors which could be opened or closed to let in light. This system worked in conjunction with the trans-optic wall. (fig.12a) Subsequent designs saw the skin become softer. At one point it was heavy canvas with holes cut intermittently to allow a changing pattern of light inside.(fig.12b) As it is now the skin allows some degree of ventilation, light and view which are able to be modified by the user. In addition, the skin plays an integral part in how the pavilion is seen from the outside.

Choosing to go left at the entry brings one to the mechanism by which the pavilion moves. The mechanism is based on a clock works.(fig.13) There is a large spring which stores energy when wound by the user. This spring in turn releases its energy through a series of reduction gears and entrapments which in turn drive a giant gear. This giant gear measures approximately 14' in diameter and is constructed of carbon fiber with an aluminum gear surface. The center of this wheel is connected to an axle which turns the drive wheels for the pavilion. This gear, like the pavilion, moves almost imperceptibly slow. Its huge size and slowness, combined with the fact that it is what makes the thing move, makes this the outstanding feature of the pavilion's interior. It is where most of the user's and pavilion's energies are focused.

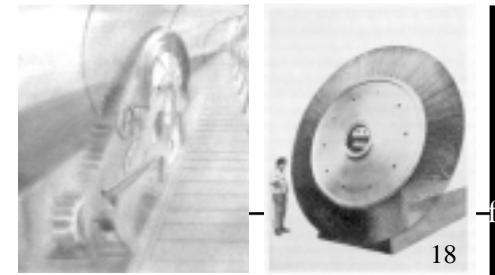


fig.14

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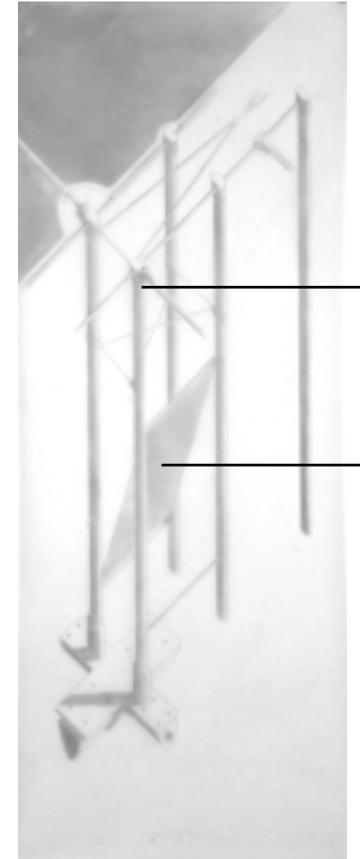


fig.10

fig.7



fig.13

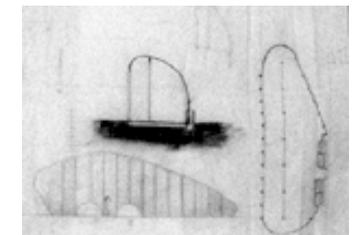


fig.12a



fig.6

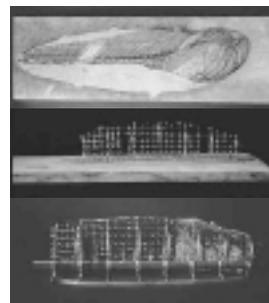


fig.8



fig.9

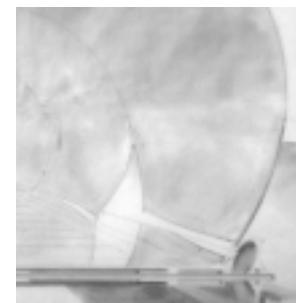
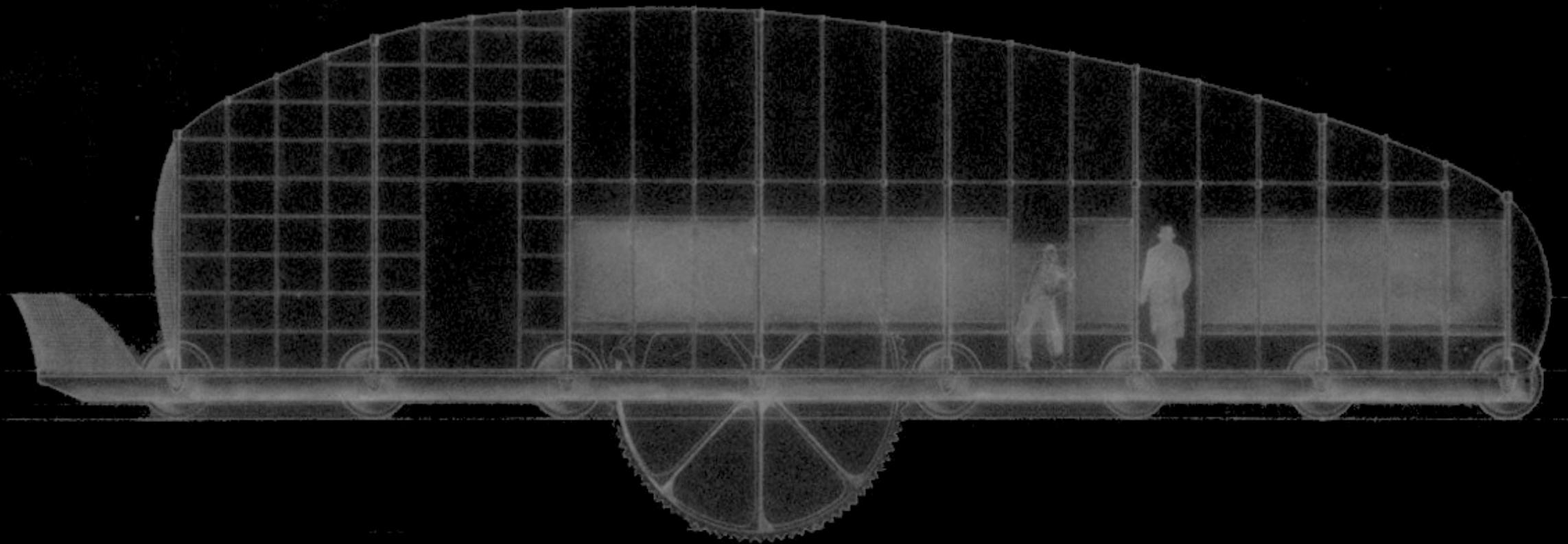
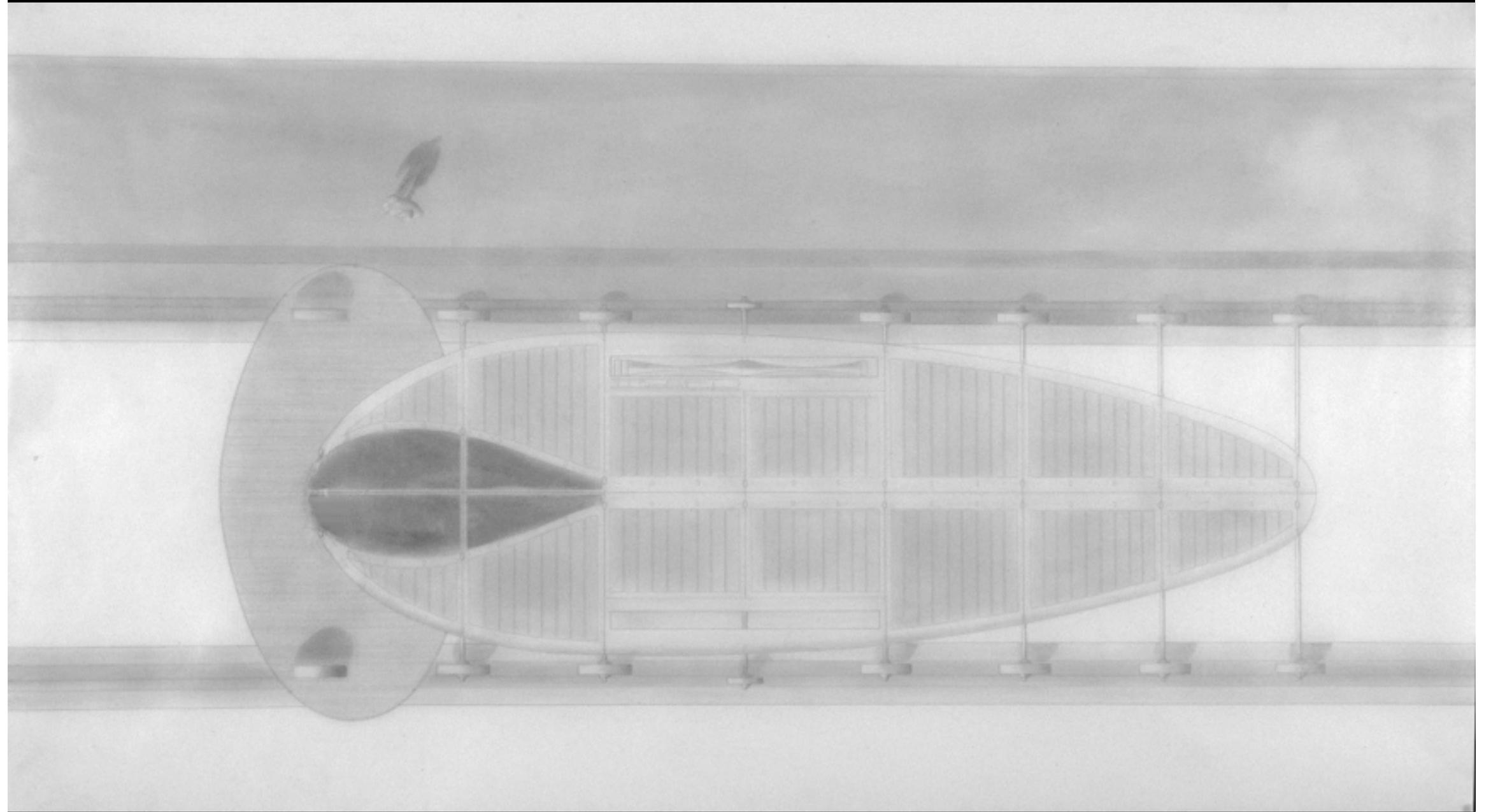


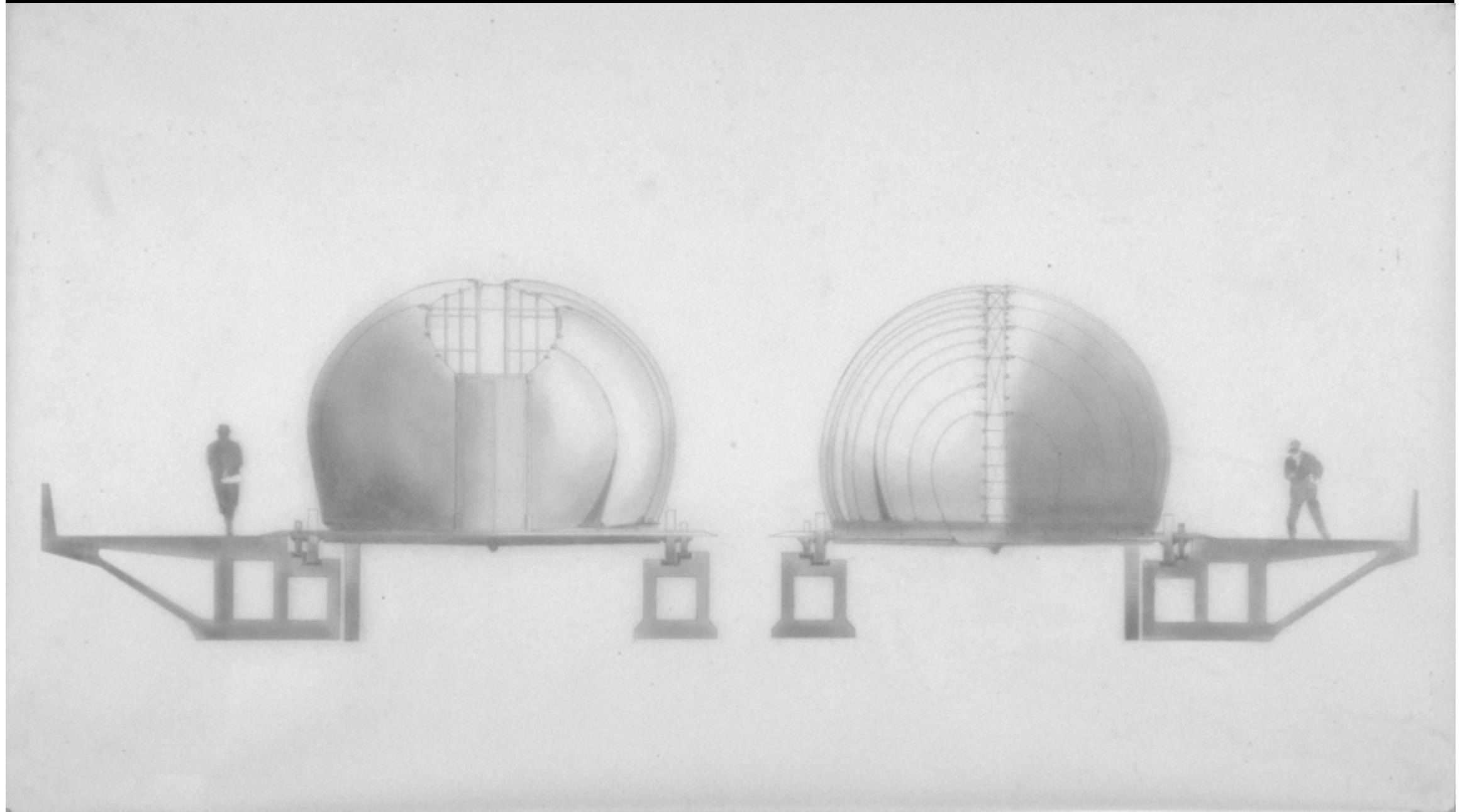
fig.11

D R A W I N G S

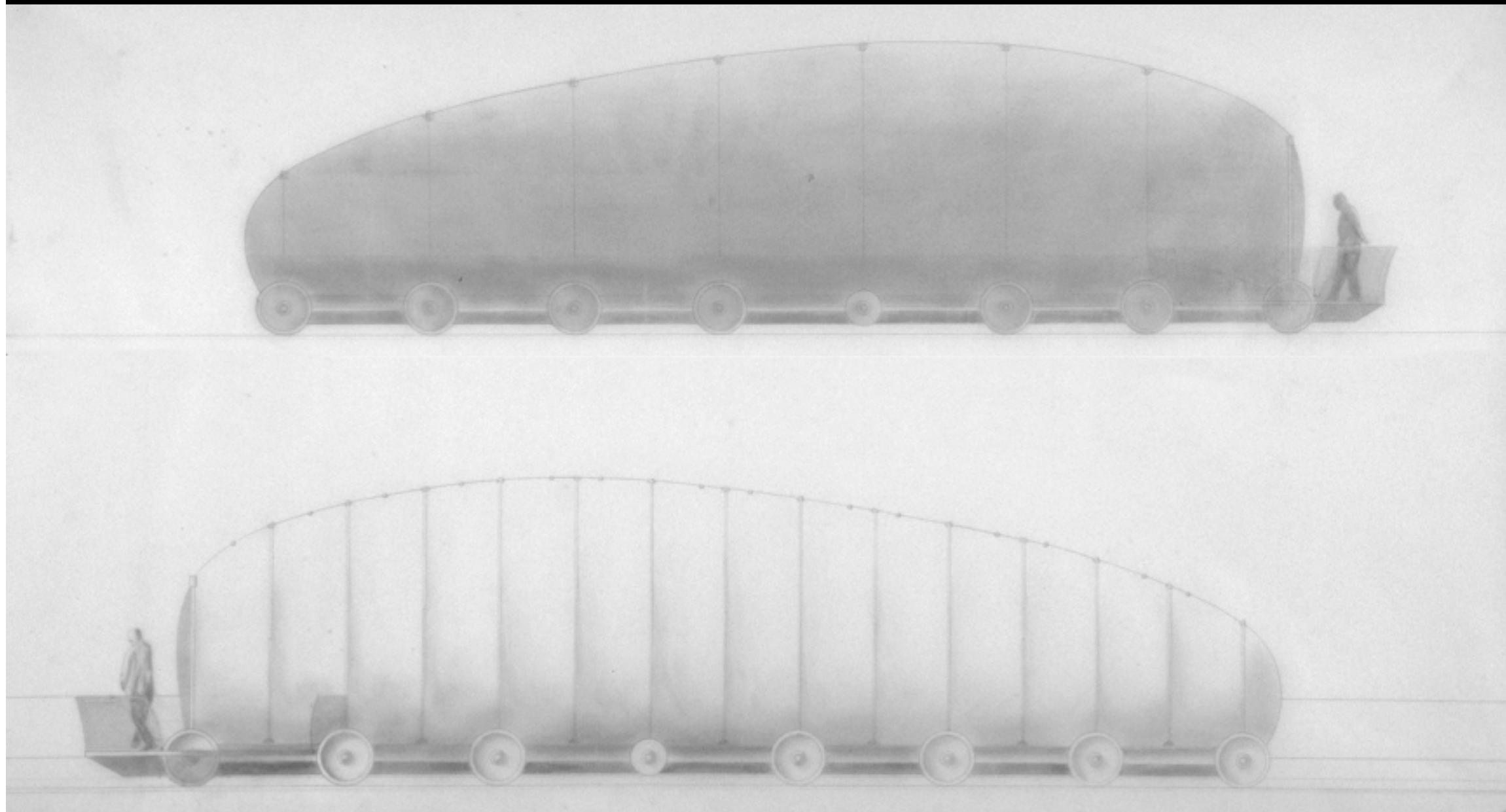




PLAN



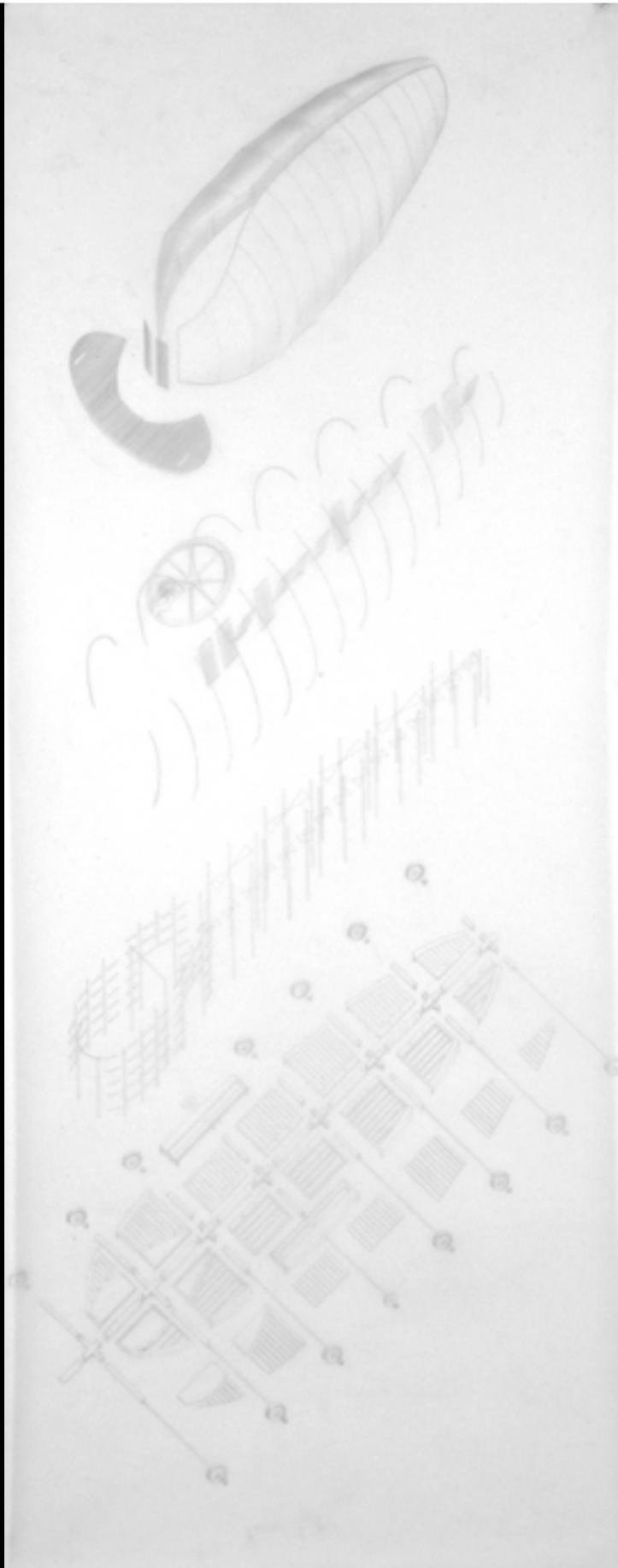
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NORTH AND SOUTH ELEVATIONS



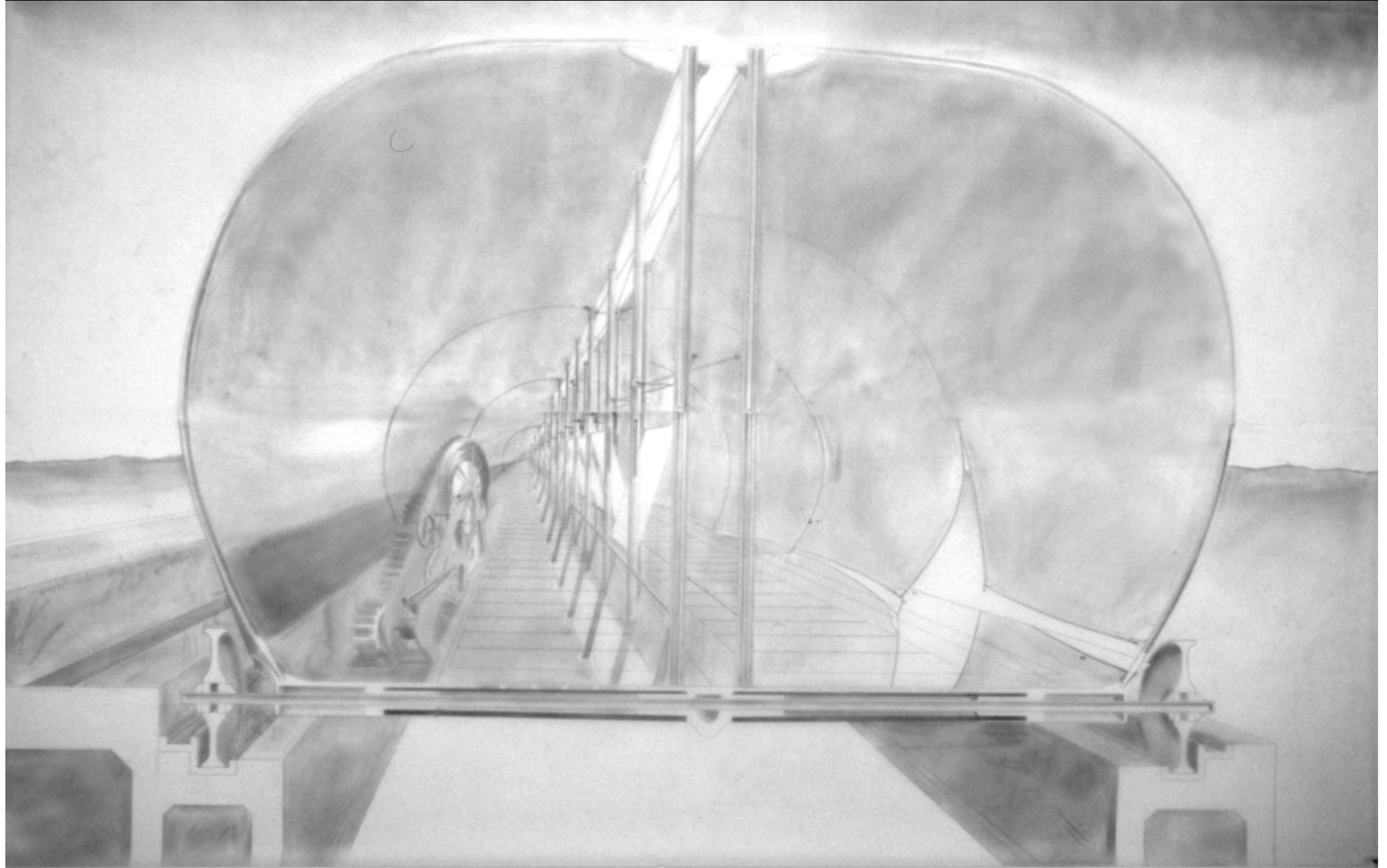
SECTION



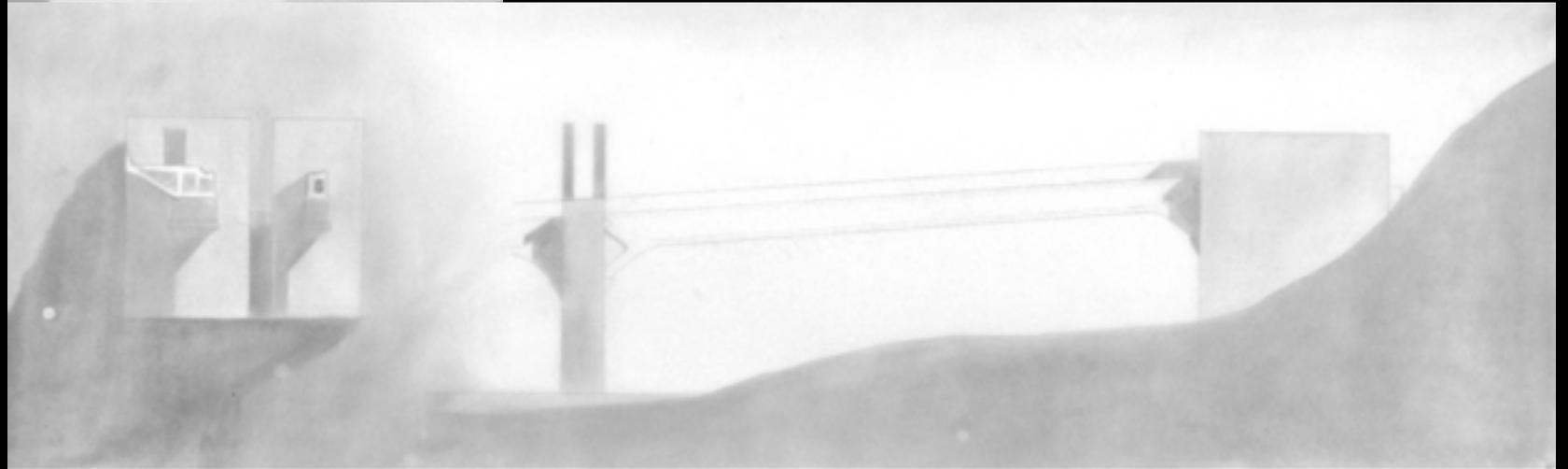
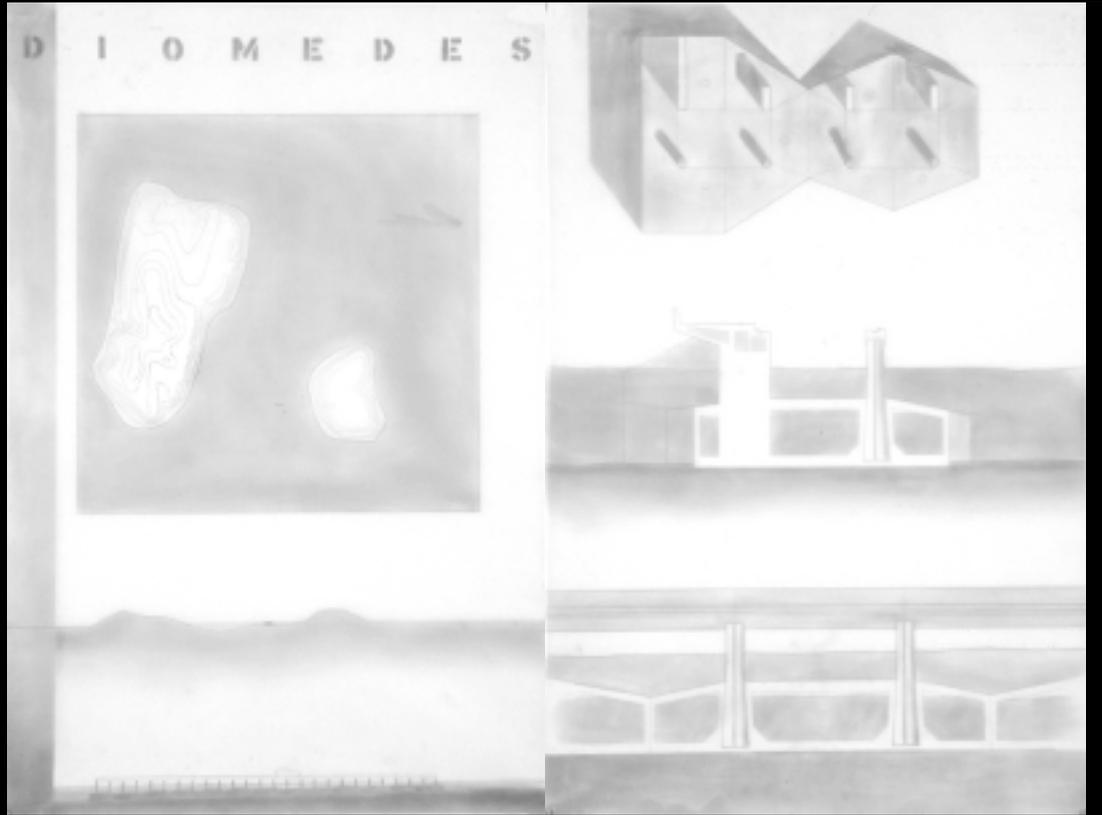
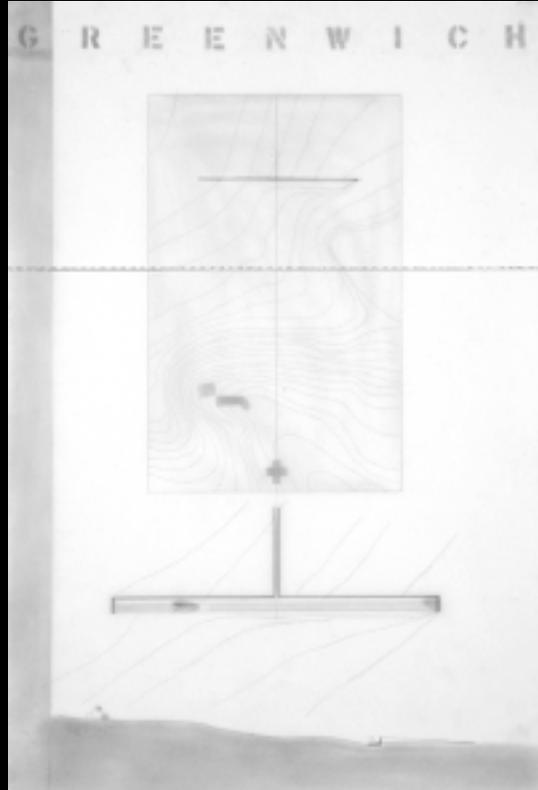
EXPLODED AXONOMETRIC



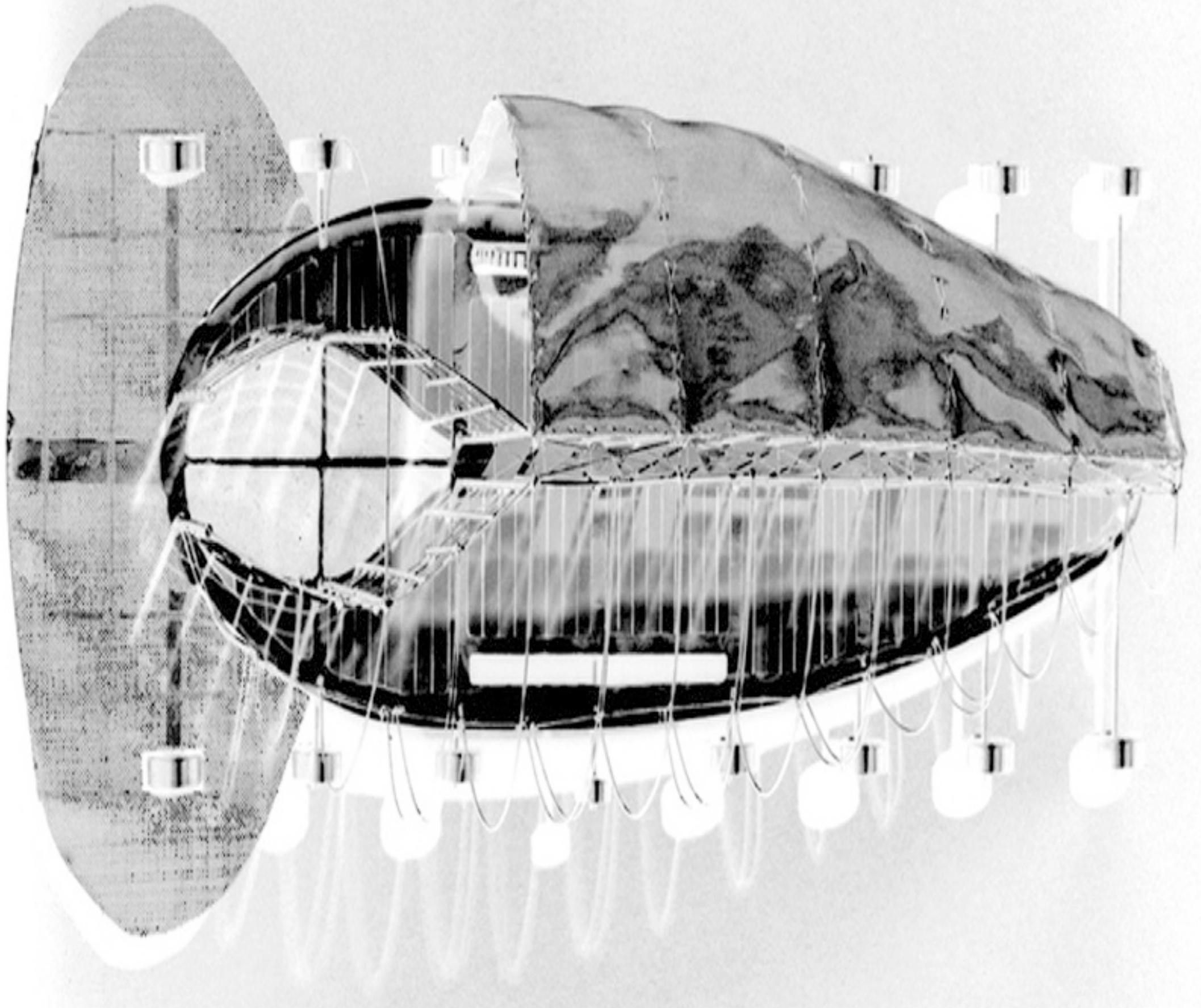
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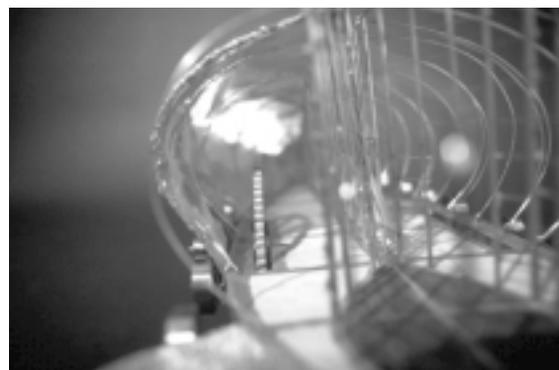
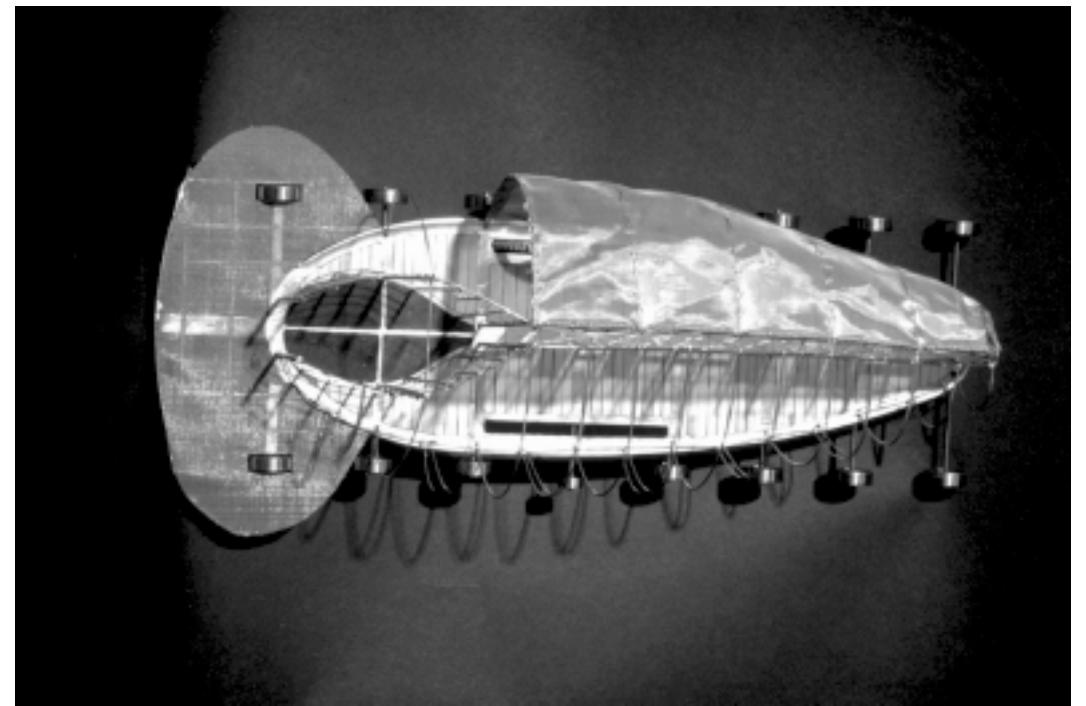
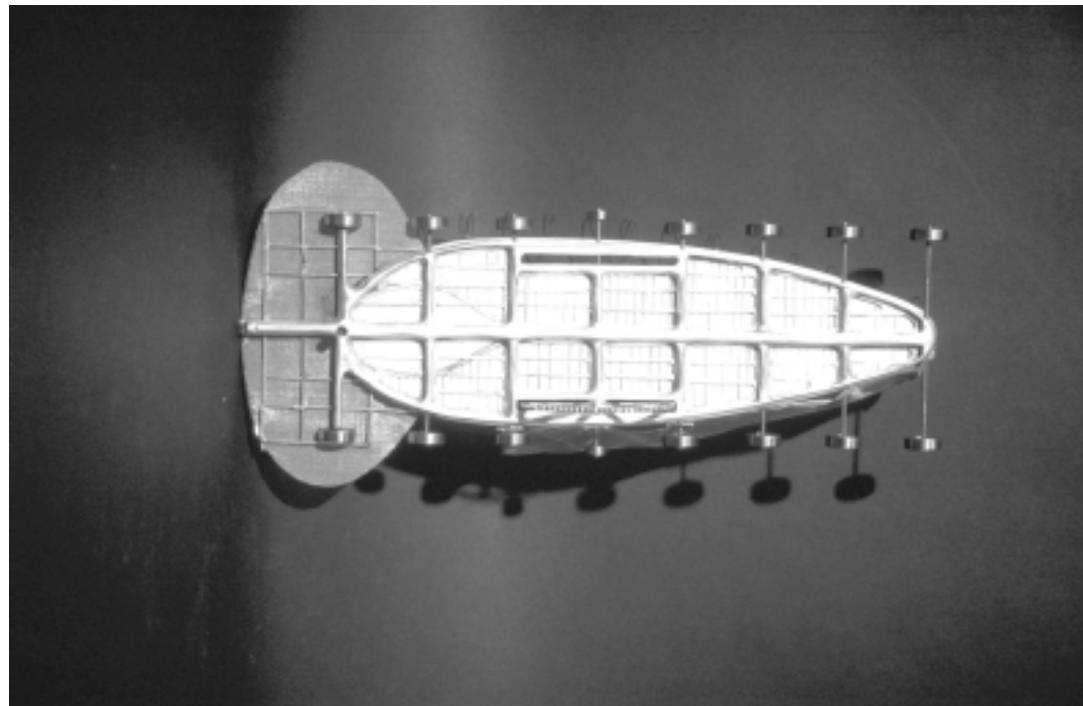
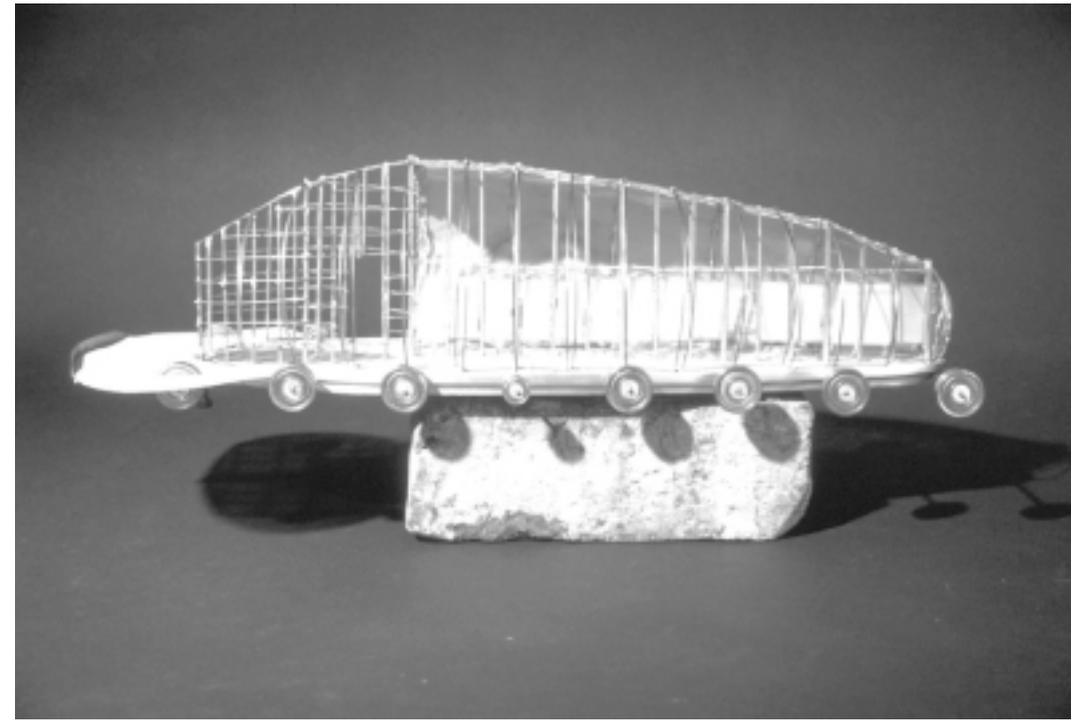
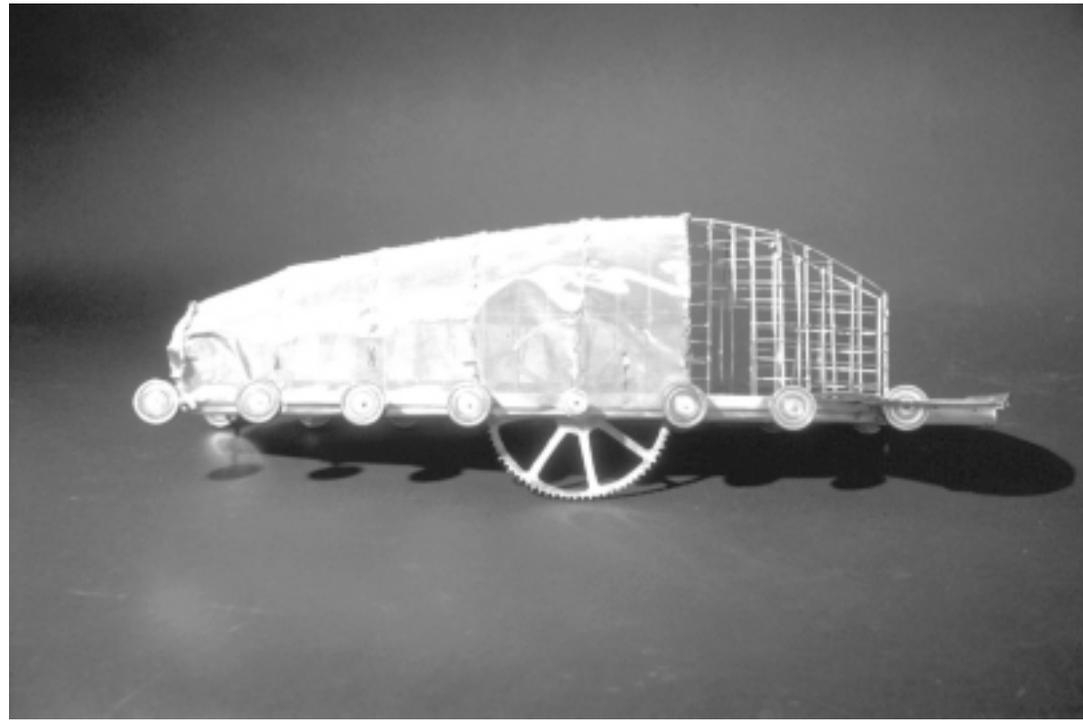


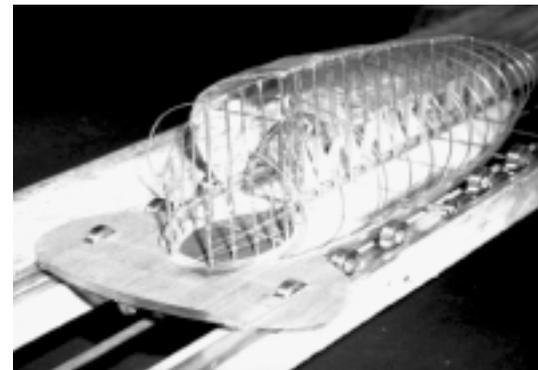
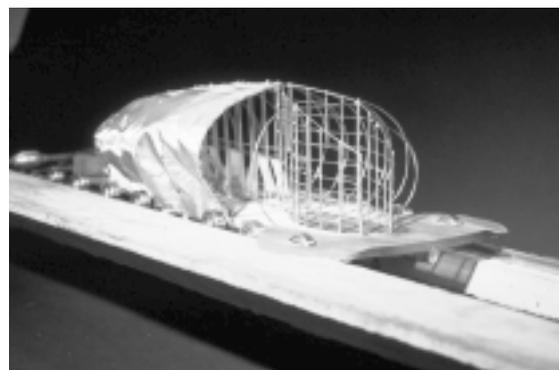
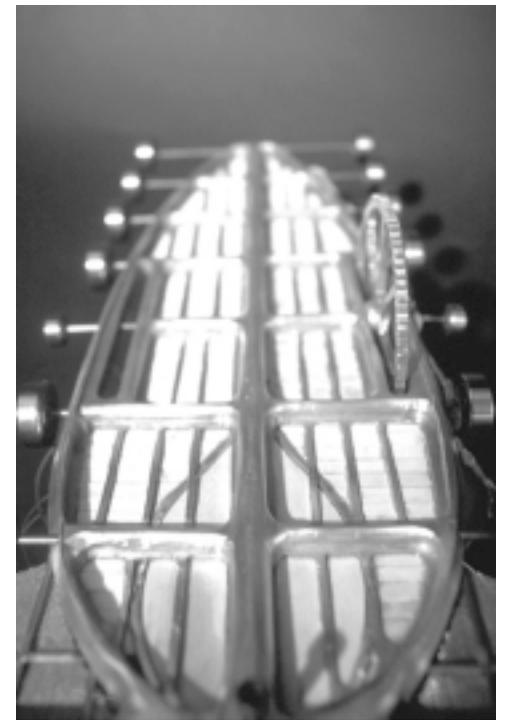
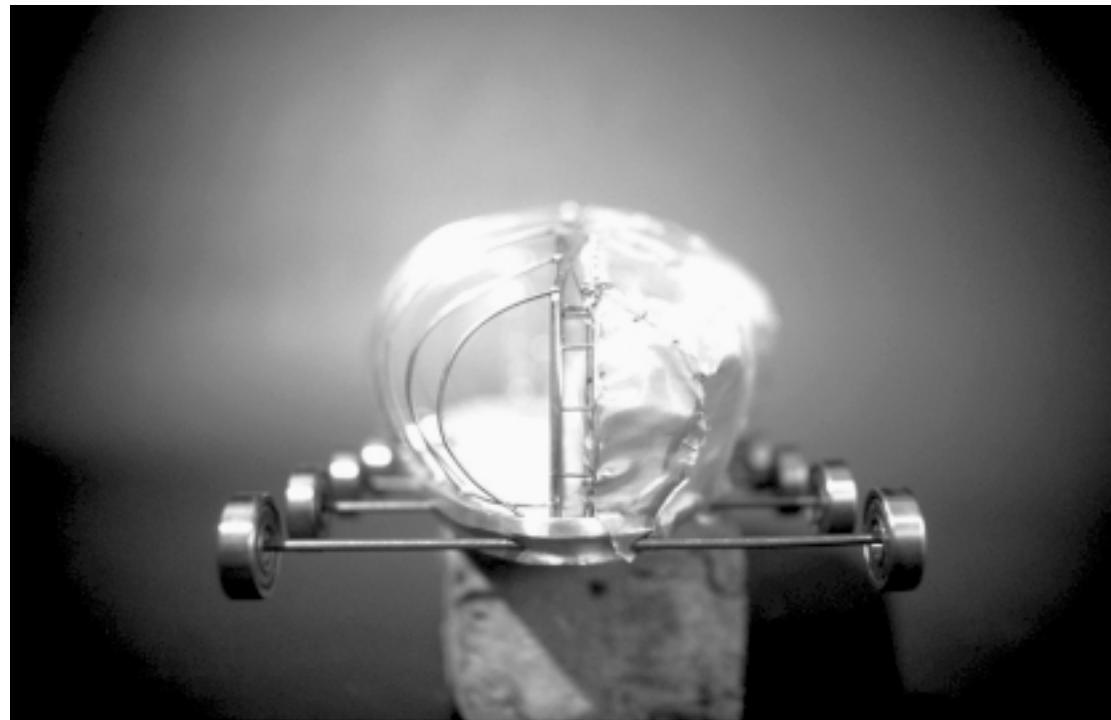
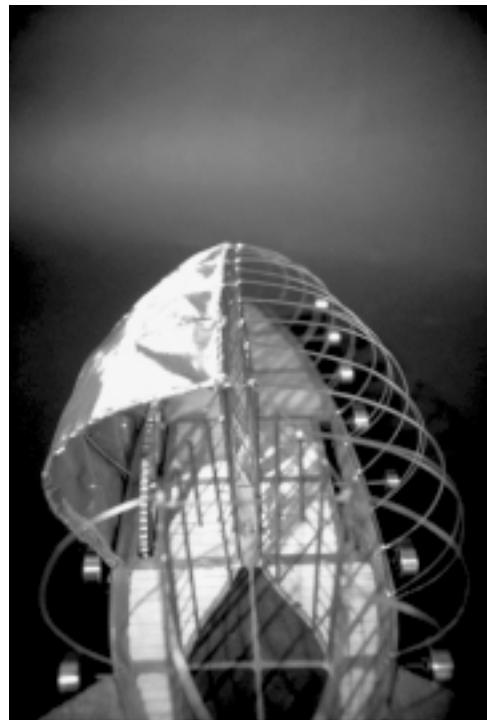
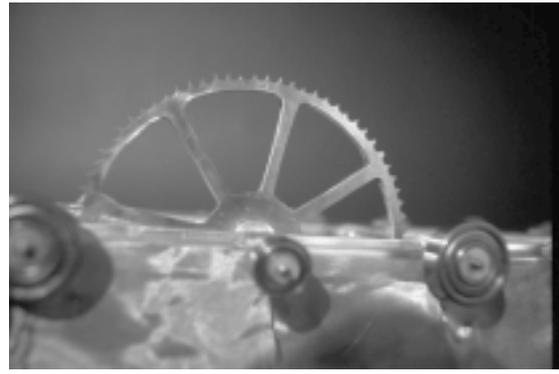
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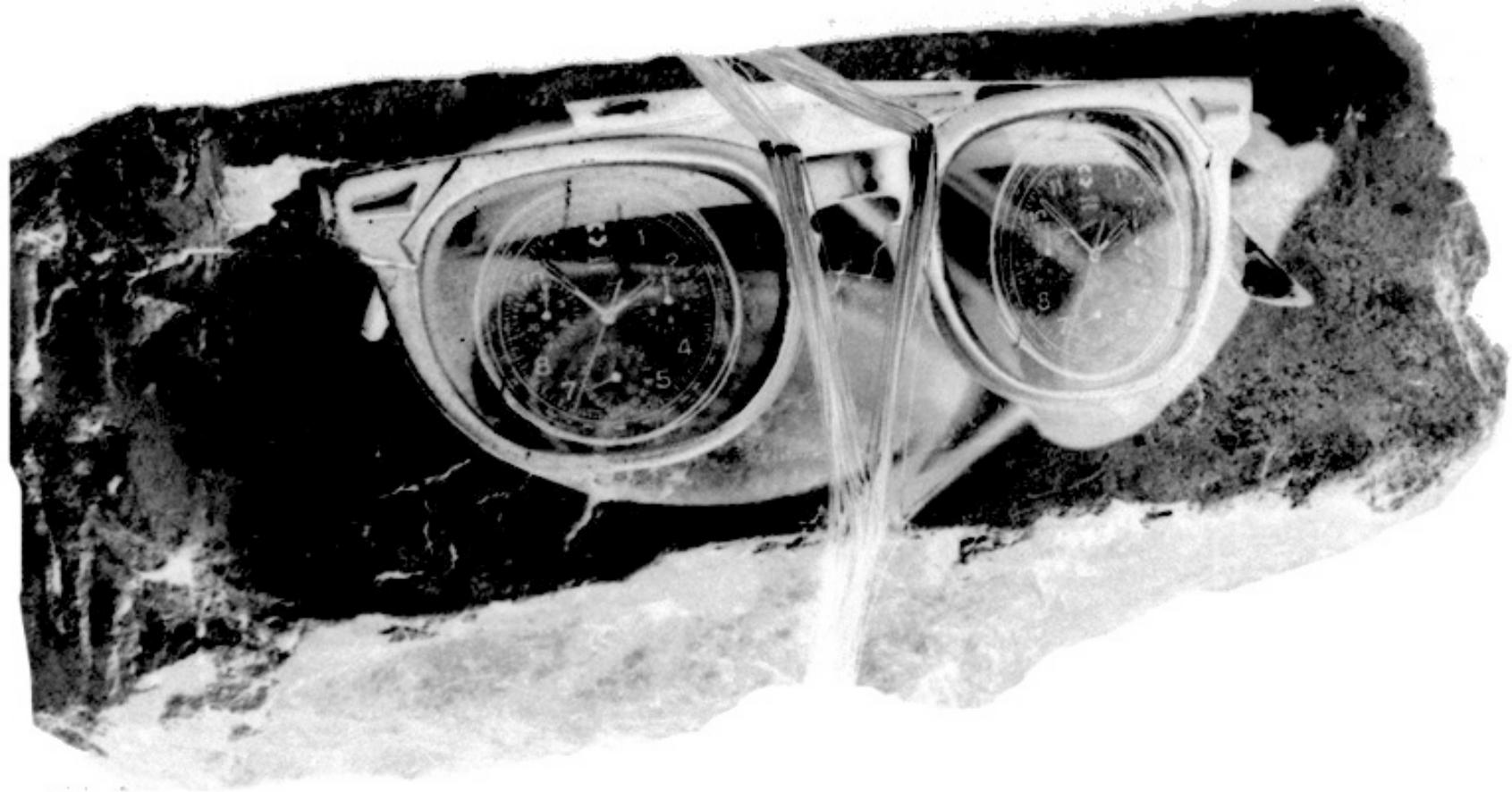
M O D E L S

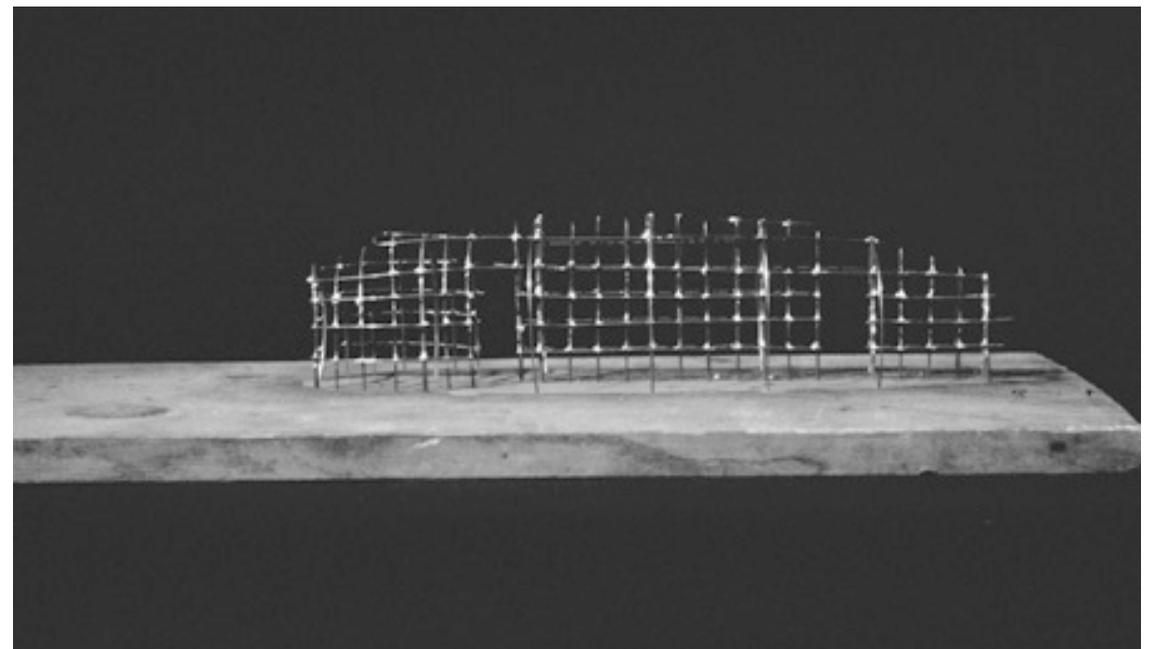
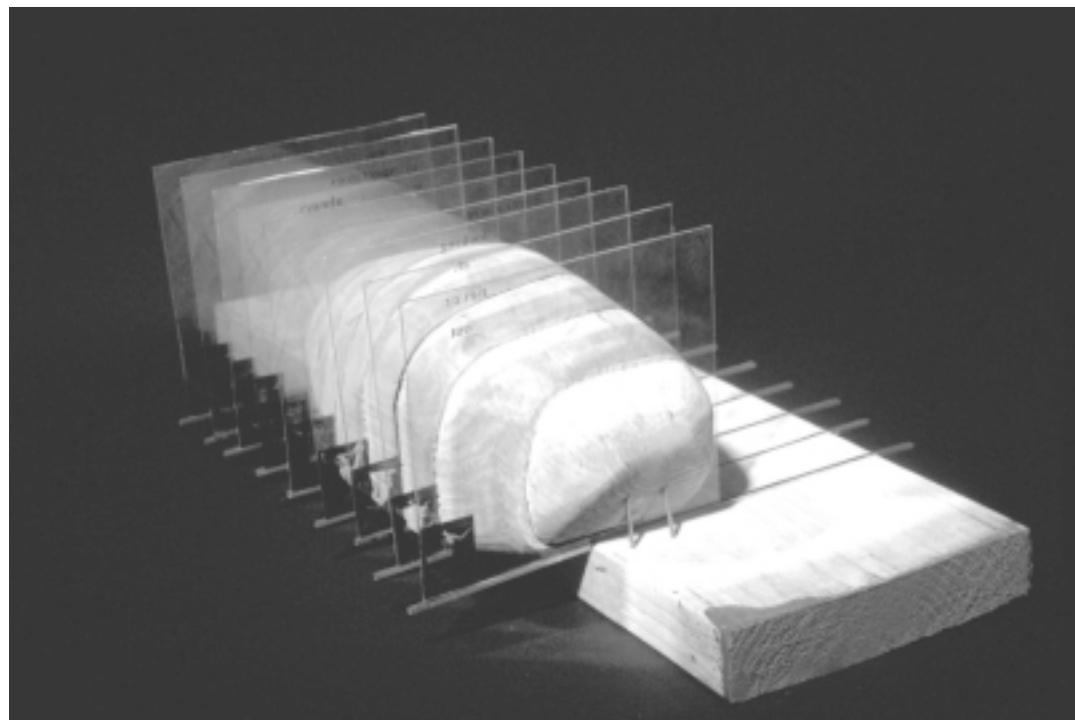
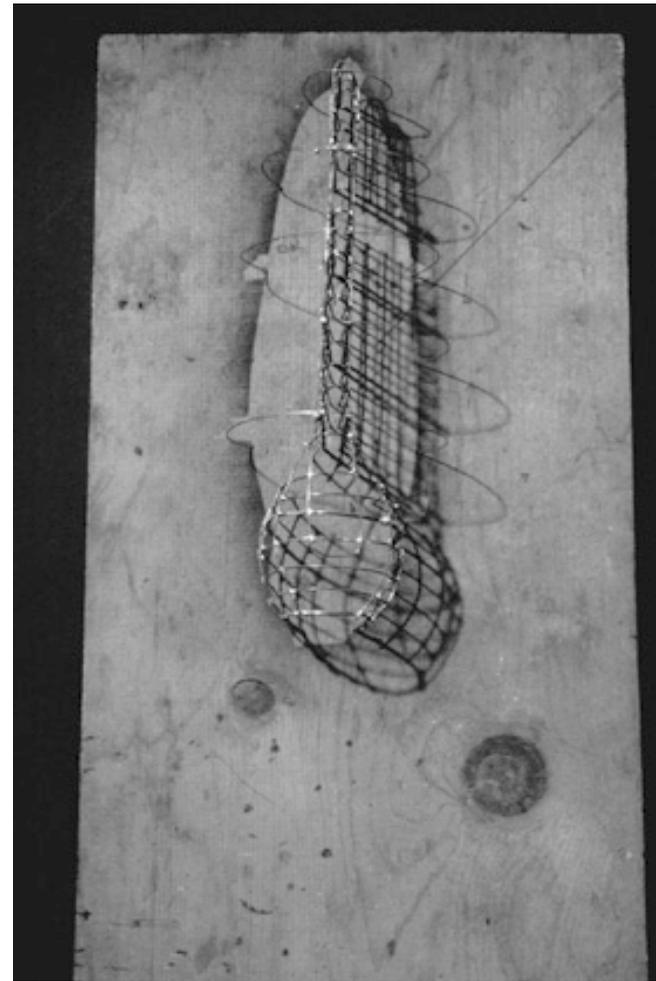
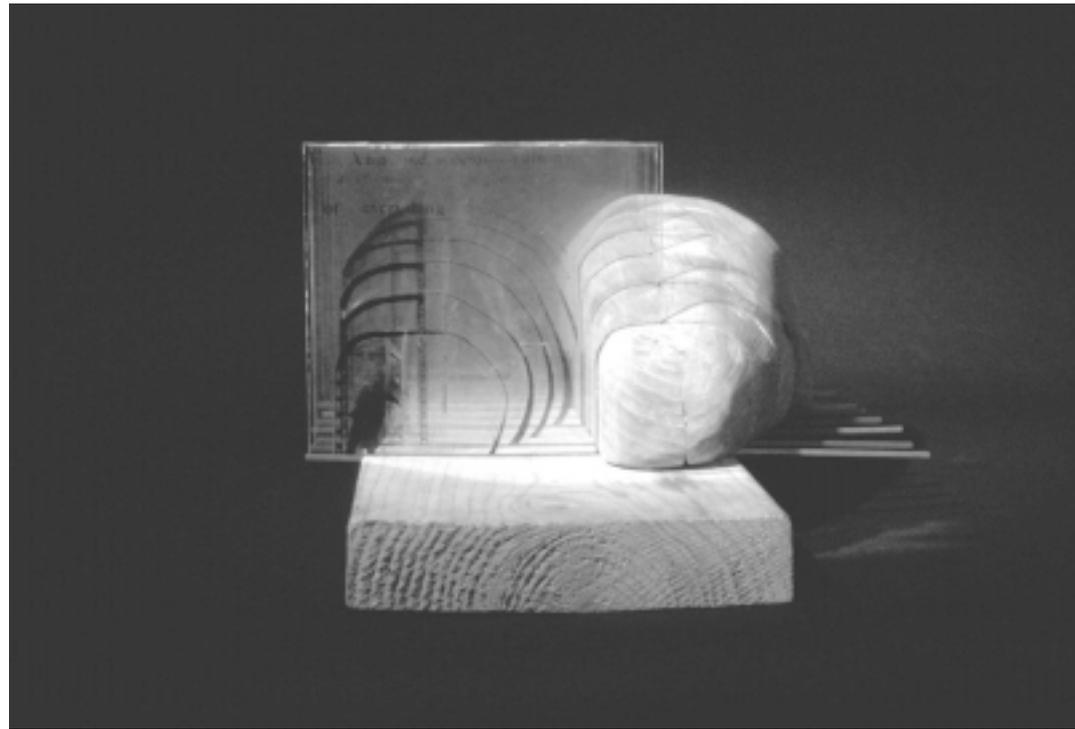


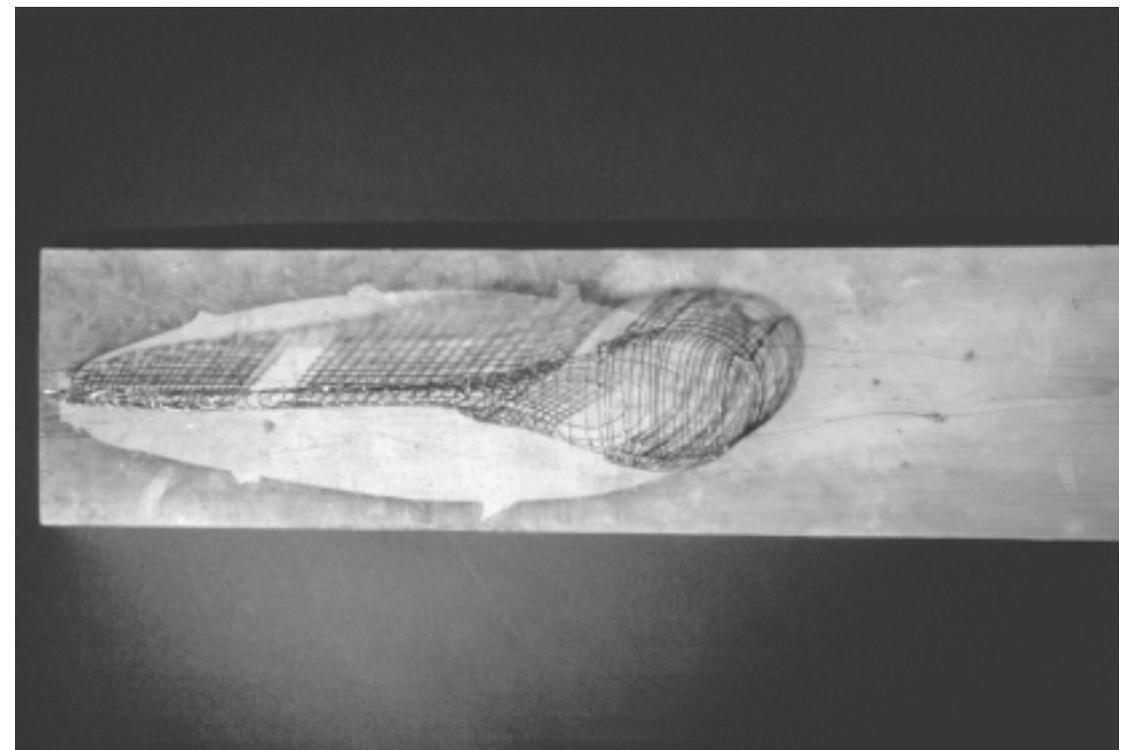
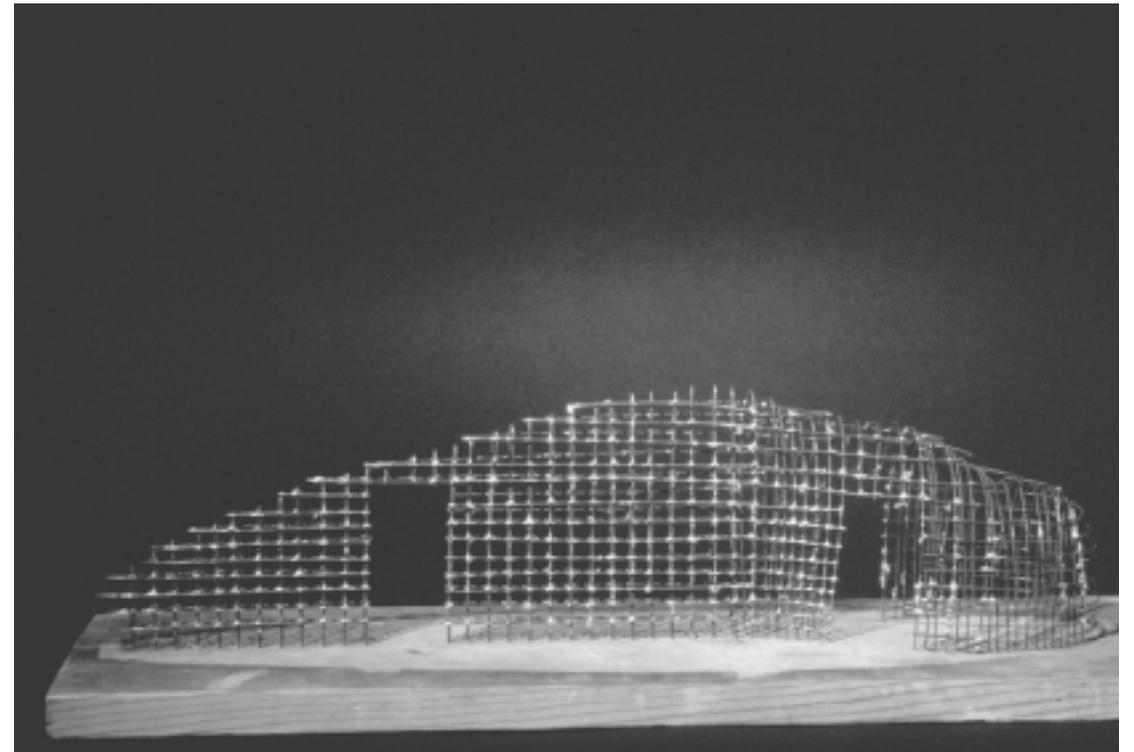
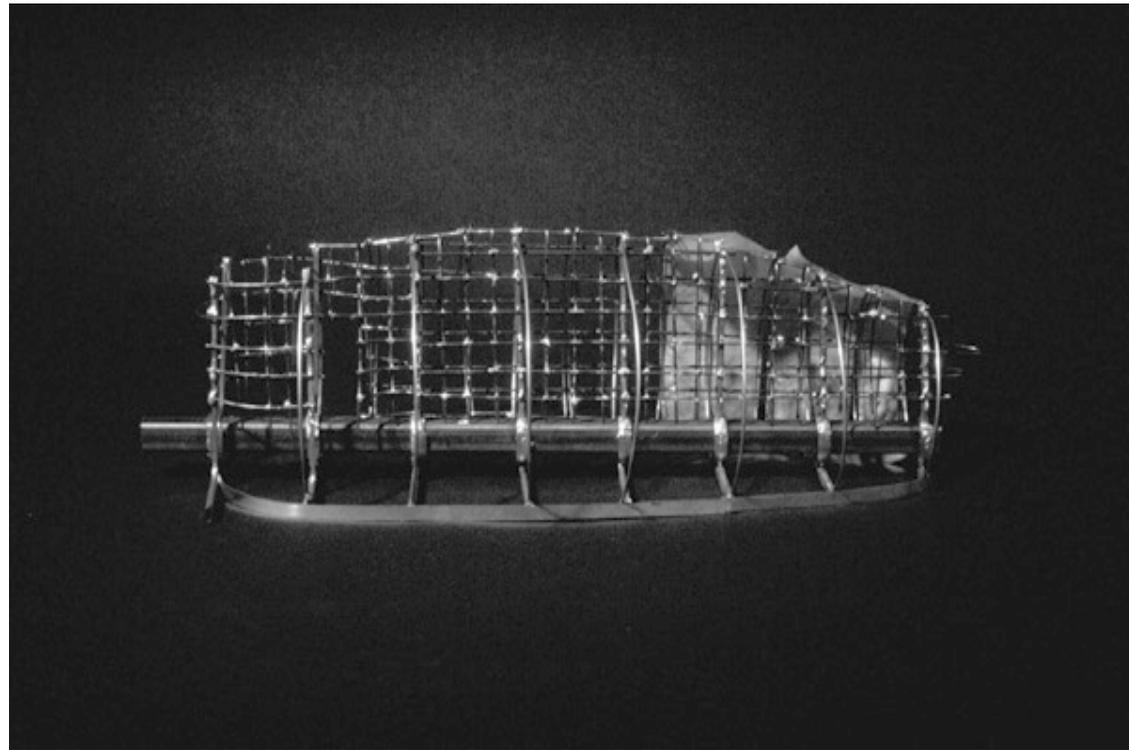




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