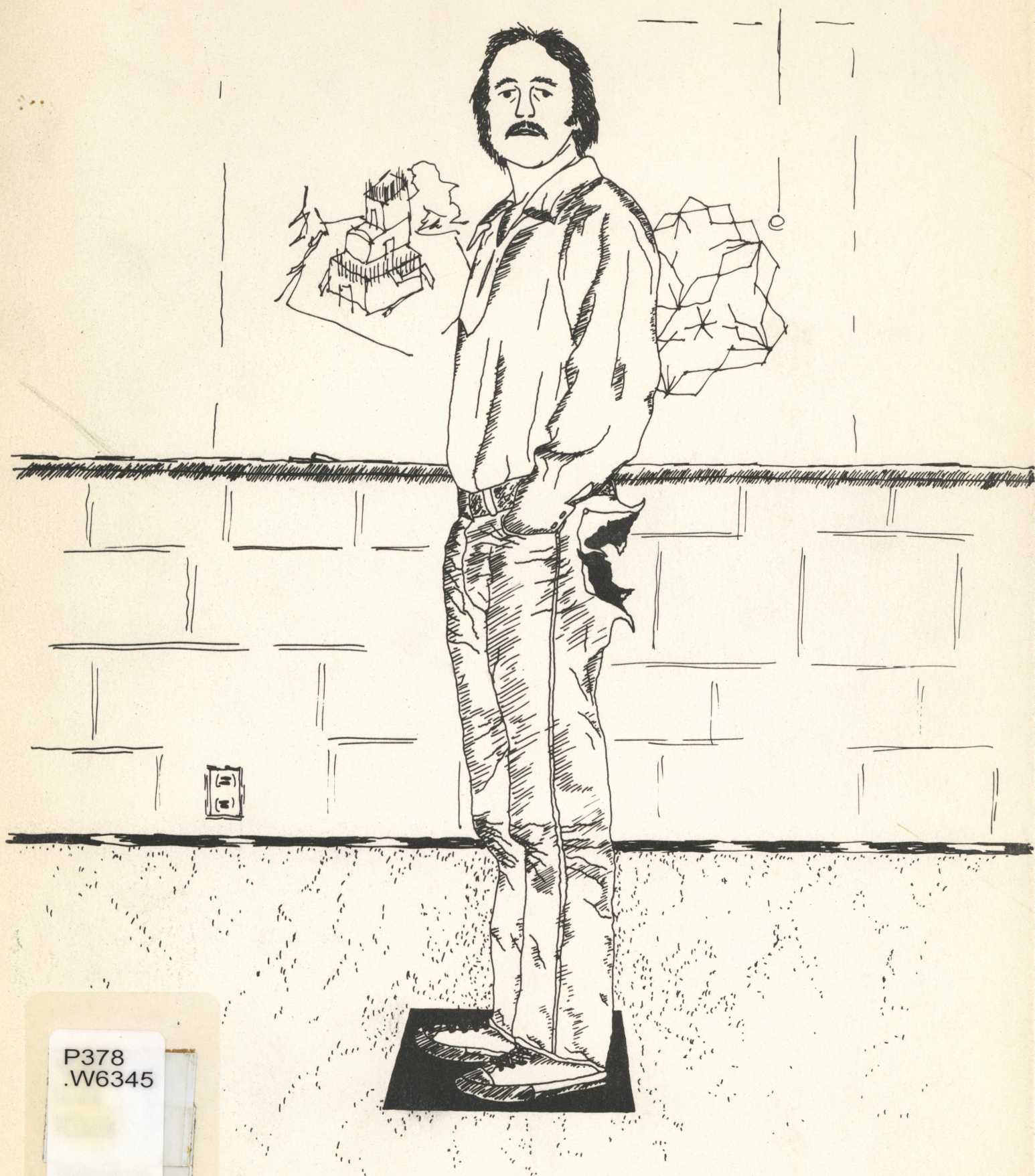


Tolerance in Architecture



P378
.W6345

Oh, nothing serious. Just a little pre-lim.

LIBRARY
MONTANA STATE UNIVERSITY
BOZEMAN

TOLERANCE IN ARCHITECTURE

by

FRITZ WIEBELHAUS

A thesis submitted in partial fulfillment
of the requirements for the degree

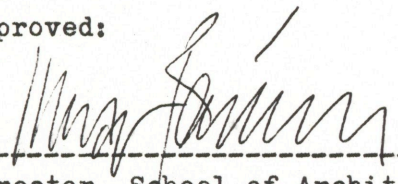
of

BACHELOR OF ARCHITECTURE

IN

ARCHITECTURE OF COURSE

Approved:



Director, School of Architecture



Major professor

MONTANA STATE UNIVERSITY
Bozeman, Montana

June, 1976

P378
W6345

NA 2540
1206
M 76
W634

STATEMENT OF PERMISSION TO COPY

In presenting this thesis in partial fulfillment of the requirements for an advanced degree at Montana State University, I agree that the Library shall make it freely available for inspection. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by my major professor, or, in his absence, by the Director of Libraries. It is understood that any copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Frity Wiebelhaus
d 4/23/76

Contents?

Introduction: THE NATURE OF STRUCTURE AND DESIGN

HAVE WE ALREADY SEEN THE FUTURE OF ARCHITECTURE?
to catch the uncatchable — THE FUTURE — we can
only ask the question.

DREAMER INSTITUTE INC.

Research community — an attempt to involve the
general public in research activities.

HEARTBEAT OF THE MARSH

Where else could the marsh inhabitants build
their homes?

CAN THE EAST BE SAVED?

The marshes — factories for human food — are
surviving, but in too many places, only barely.
And yet, if we all awaken to the danger, it is
not too late to save them.

THE QUEASY SPECIES

To learn how science and architecture can be

used to rehabilitate particular populations —
maybe even our own — is just one of my interests.

SHELL FACTS

The fact is: that in building his houses and furnishings, man is learning to choose simple, efficient designs. Shells show us how Nature was doing this long before the first man appeared on earth.

SO WHAT'S THE PROBLEM?

The problems we seem to be having now in housing might be related to the trend of not considering the individual sufficiently.

SOME YET MORE SPACIOUS SPACE

Challenge the imagination! — we can imagine a more spacious space.

THE CHICKEN OR THE EGG

A study of the young should lead to a better understanding of the old.

I WISH IT WERE POSSIBLE

A quote from Benjamin Franklin.

BITCH, BITCH, BITCH

Houses, whether architect-designed or mass-produced, strangely ignore the needs of people —

even their measurements.

THROUGH THE MIST OF YEARS

A quote from some unknown Philadelphian, 1830.

WHY DID I DO THIS?

Summary: WHY DO ANYTHING?

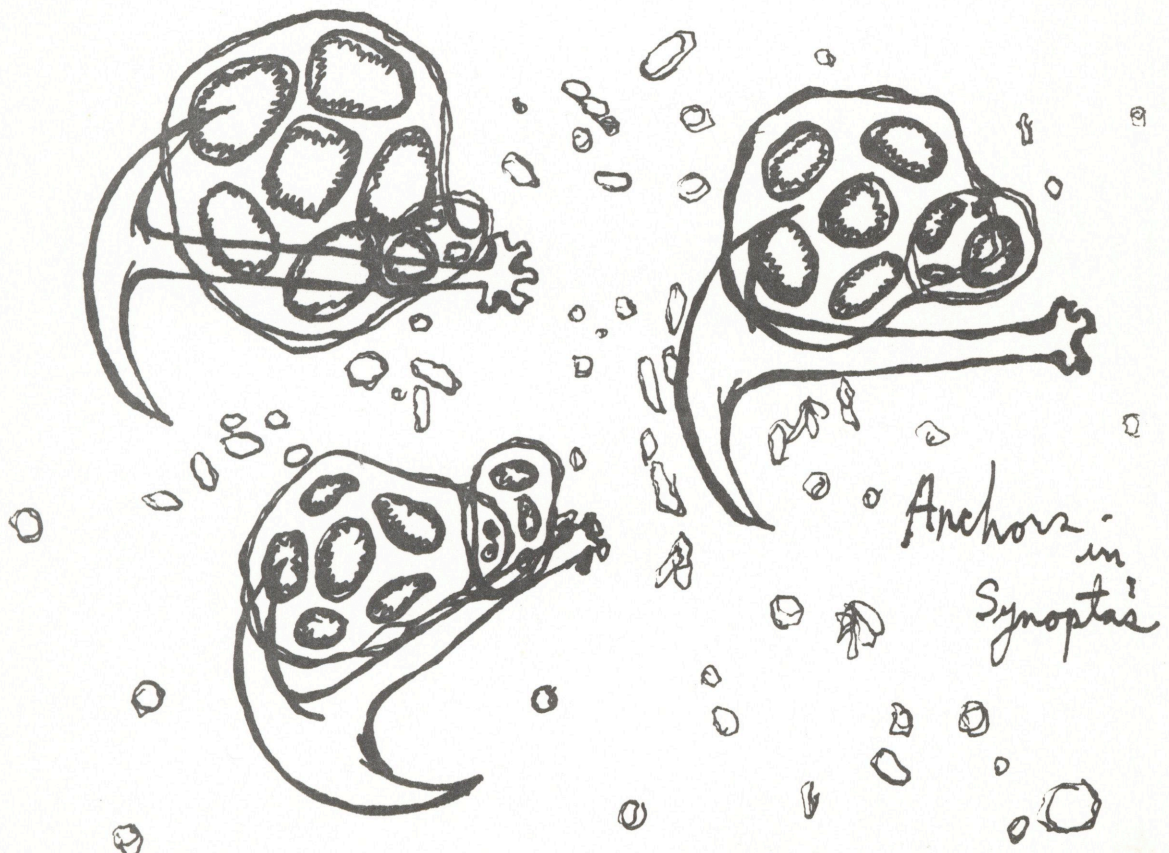
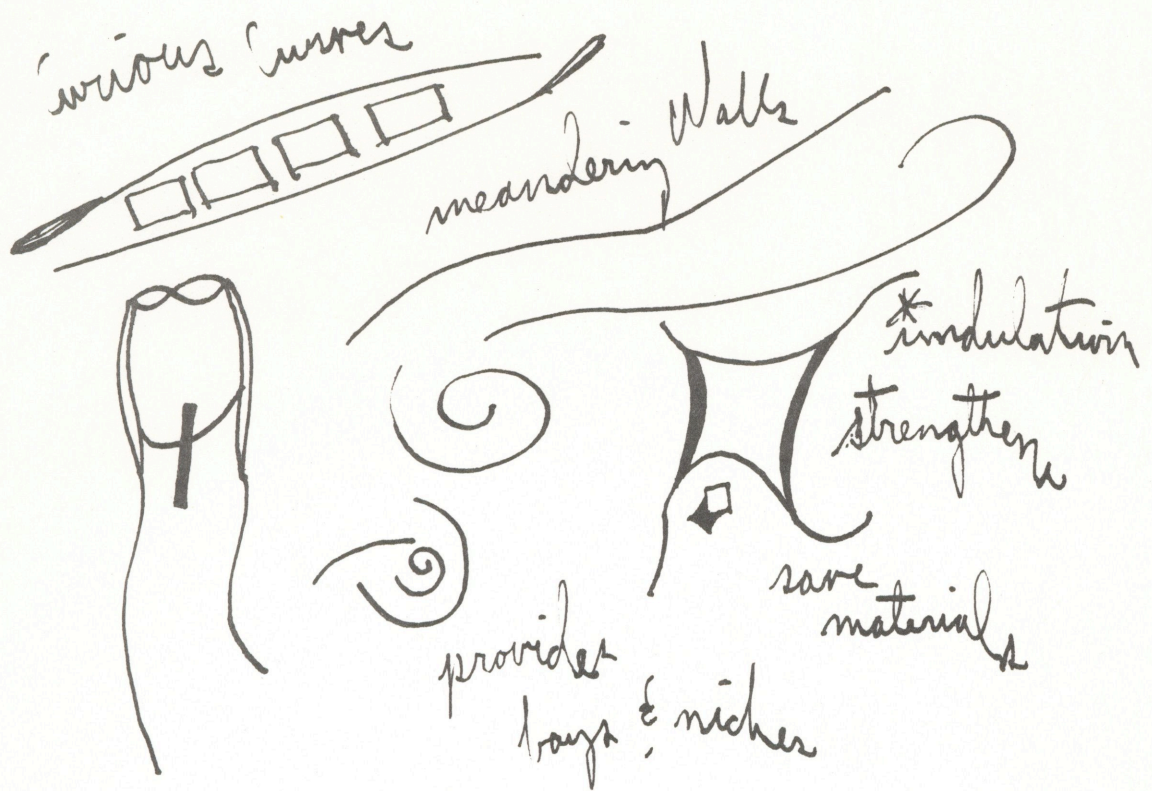
Things to come: SOMEDAY

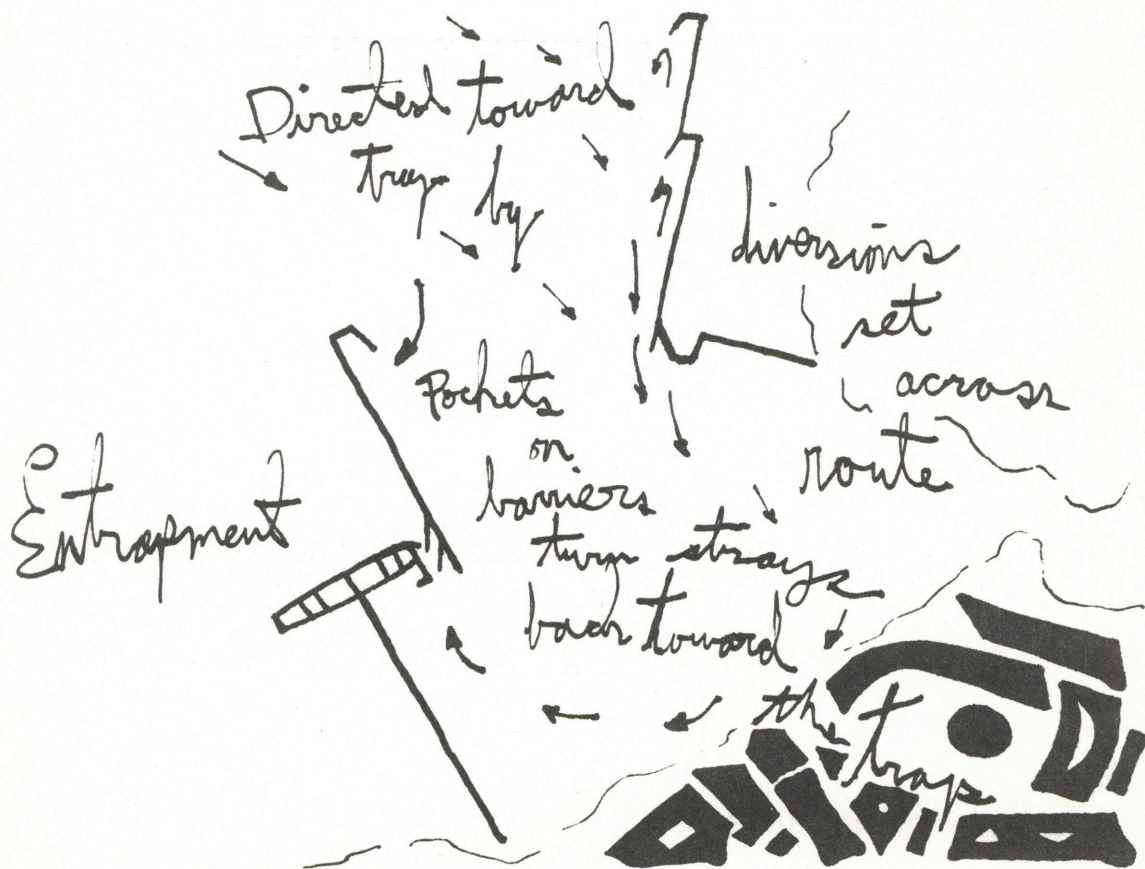
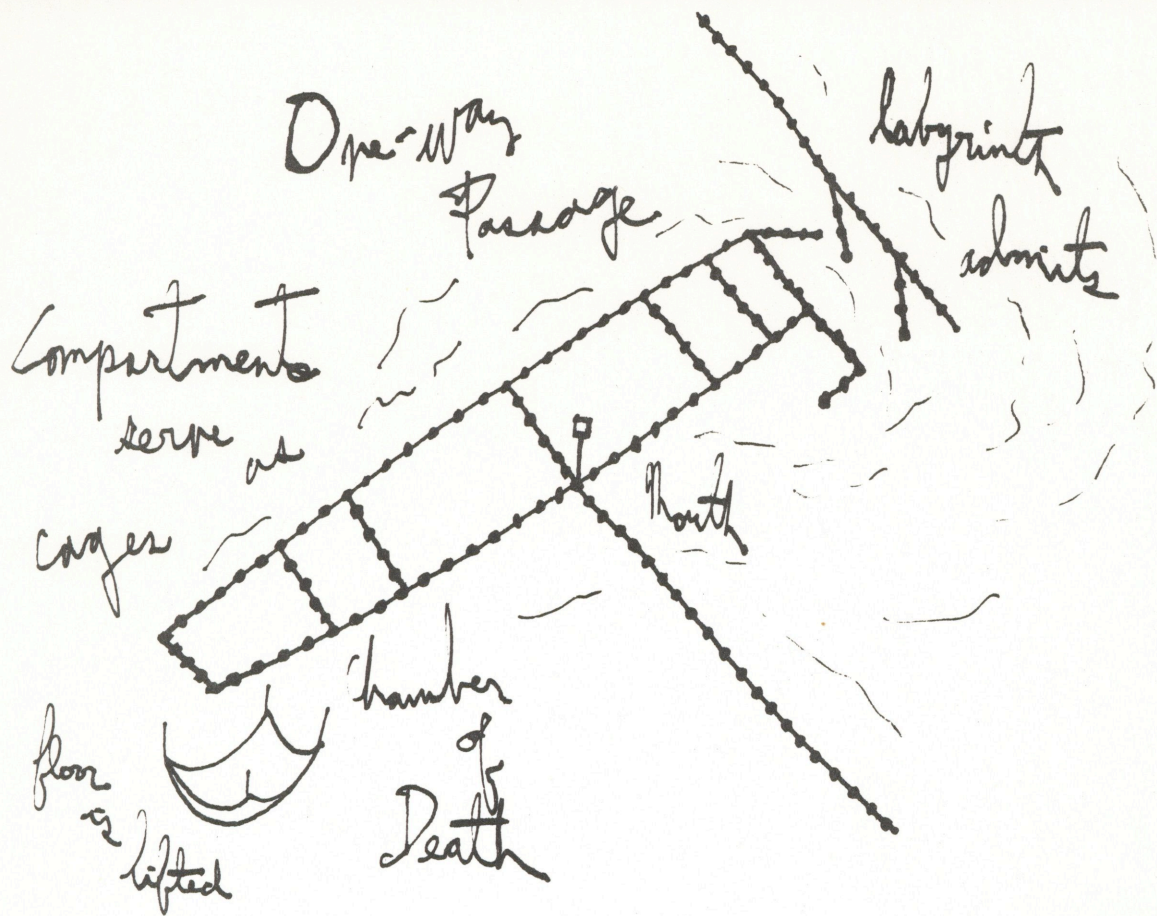
The nature of Structure and deSign

"It's back to Nature" for this young hopeful.

Many of the ideas in this thesis evolved from a study of Nature, as well as, a study of myself. Speaking of myself — look at my bone! Bone is the structural steel and the reinforced concrete of the human body. It supports the body the way a steel framework supports a skyscraper, and it protects its vital organs the way a cast-concrete roof protects a building's occupants. In filling these structural assignments, the human body solves problems of design and construction familiar to the architect and engineer. Among them are how to support a tower that cannot stand by itself, and how to build a protective covering that combines strength and lightness. To achieve its results, architecture uses a wide variety of materials — steel, aluminum, concrete; the skeleton uses bone only, but bone fashioned into a wide range of shape and size for a wide range of uses. Yet, the solutions are remarkably similar. It is not that

architecture copied nature (much less the opposite) but that, for given problems, the best solutions — in architecture as in the human frame — often are similar.





Have we already seen the future of architecture?

Some days I find myself very pessimistic about the future of architecture. In fact, sometimes there have been occasions when I swore I would never spend another minute of my time studying the subject.

Then I stumble onto some incredible little building while breezing through an ancient history book. Visions of Well's Time Machine go whizzing through my head. Suddenly it is a thing, instead, of a forgotten past. It seems to be a caricature of modern architecture, not because of its primitiveness but because of a modernity that reaches farther than its own. And at this time, I find myself sketching my concept of the architecture of the future—where in reality— it has already come, and lived, and crumbled to dust. In such a mood I turn the pages of "Progressive Architecture" and, like it or not, come straight on to a description of the architecture of the future already being built somewhere in Japan.

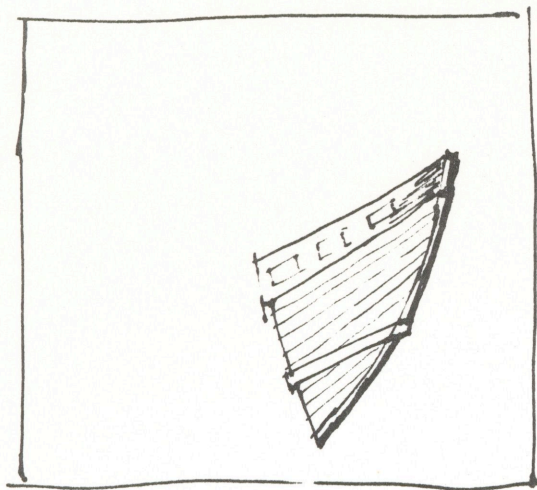
The descriptions are never pessimistic; they always, with extreme confidence, involve just one variety of architecture — BIG BUILDINGS — and they are always ingeniously flattering.

Just look at all the students leafing through these magazines. They find it highly comforting. Thinking that somebody with a lot of imagination will save us all at the right time. They look at this "futuristic architecture" and say "it's all right." "It's O.K. Somebody is keeping an eye on things. Our cities are getting bigger and our country is getting smaller. Look!"

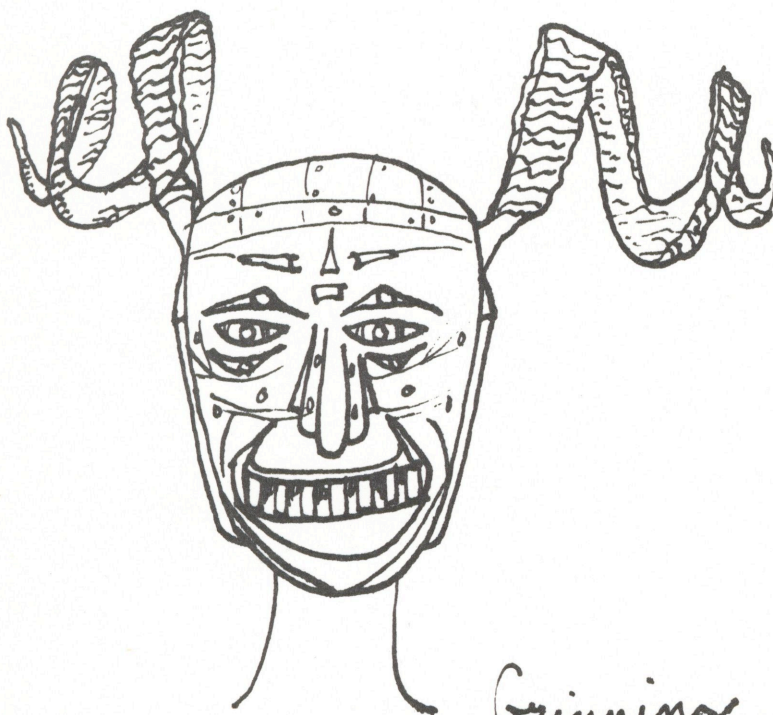
Now — look down at that image on your drawing board at the future you are in the process of creating. Where did it come from?

THINK! Has it already happened? Back there in the past, maybe a long time ago. The architecture of the future.

What happened to it? Nothing. Goodness gracious, what if there isn't any future? Or, if there is, maybe it's only what you can find in a pile of rubble somewhere in a vacant lot.



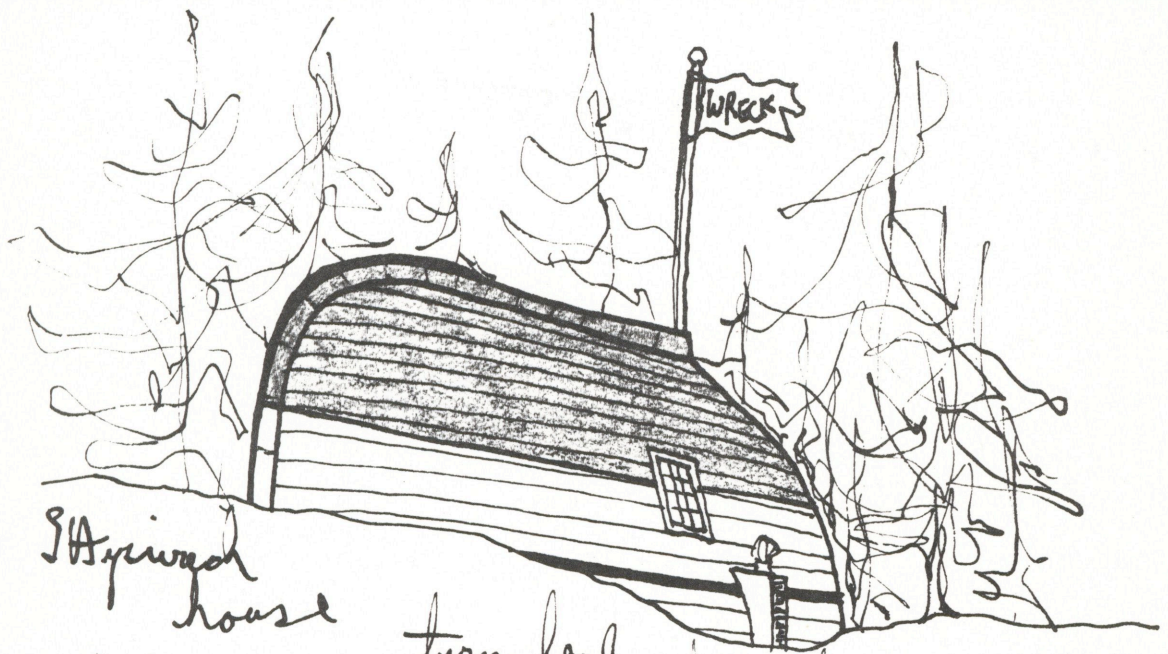
Poking Prow



Grinning

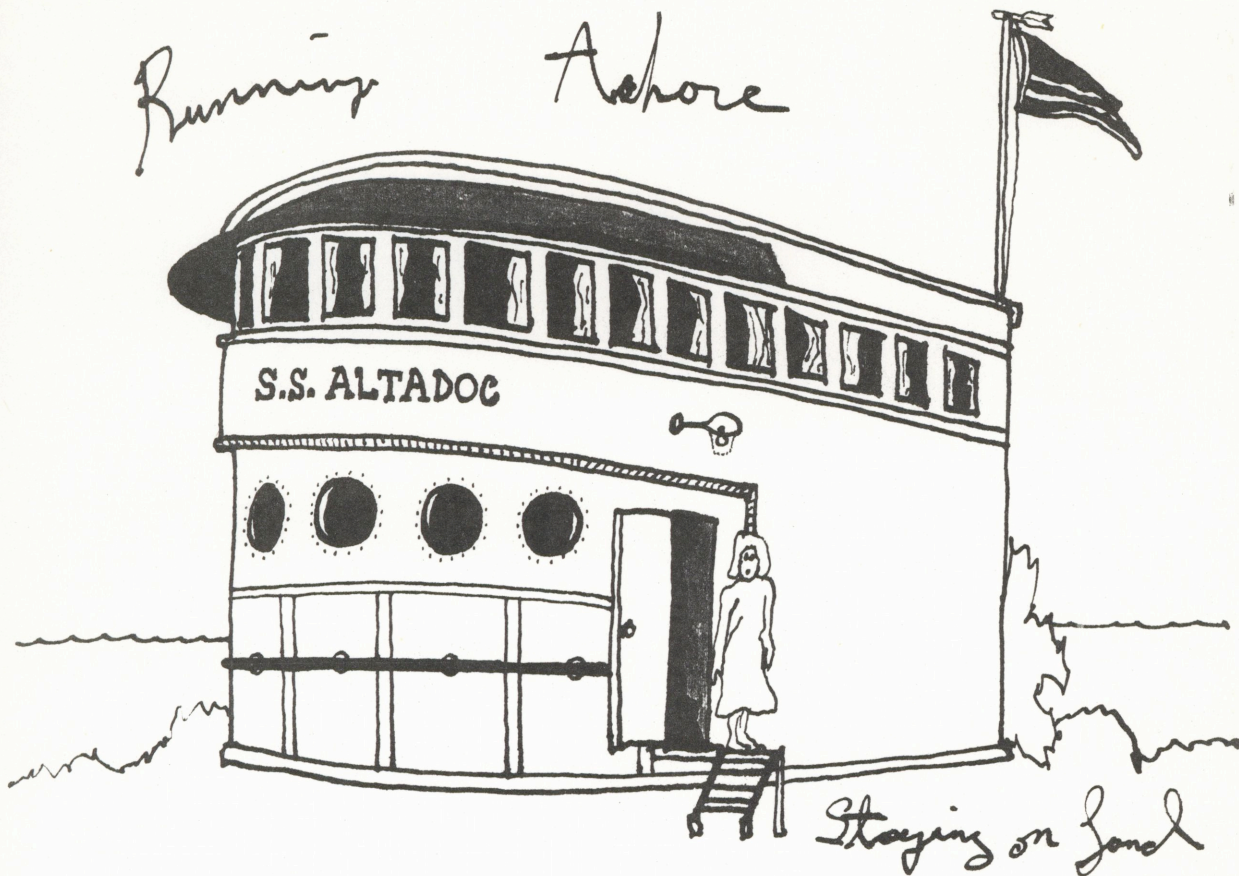


He used to be a fisherman

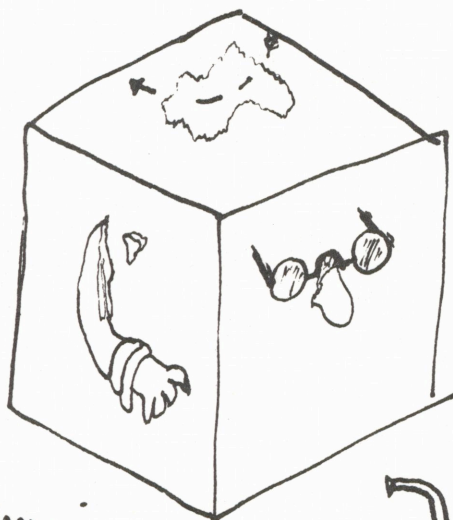


Spencer house
 turn heel skyward as a snug &
 into door and windows in hull and replace
 deck with flooring tight roof.

Running Ashore



We discard
the art
works
inherited
from our
golden memories



Our antiquities could be protected
by preserving the fragments in a
miped architecture



Protrusions

Dreamer Institute Inc.

The ultimate objectives of the institute are to provide support for various aspects of architecture related research. It will be an attempt to involve the general public in research activities.

A program will be developed where private contributors will receive visitations or participation privileges involving them in current research, in and around the institute's research center located at Manahawkin, New Jersey.

During the initial stages, investigations will reflect the interest of the institutes founder and director, me, and will involve investigations with the local "wetlands" and its inevitable architecture.

Fritz Wiebelhaus

Who can afford research communities? Only the government? Maybe. "The team may be ahead of everybody in designing for man on the earth." The national interest could be to keep the "community" in the lead with a "new type" of research community.

How about placing the community under a non-profit foundation? Ask some rich dude to provide a grant. Nonprofit research with backing from institutions. Manufacturers, may sense the testing potential, and may lend or give equipment to the community. Will have to find the money to hire a full professional team.

There certainly won't be enough money to hire personnel for "household duties", so the guests as well as the residents must cheerfully accept it. I do believe that in the mutual joy of heading for rare adventure, everyone will pitch in where needed.

We must seek out scientists who would like to use architects and engineers for certain projects. Such an offer would appear to be completely unheard-of; usually architects and the like are looking for scientists rather than vice versa. Scientists, with their clutter of instruments, calculations, and chemicals, have

a great deal to teach us; and they, in turn, could appreciate our direct knowledge of design and morphology that they may never have seen or much less taken part in. We just can't be expected to go very far without each other.

It should be decided from the beginning that those living in the community are companions in the adventure, whatever their particular jobs might be. For instance, there will be a communal kitchen and dining area where everyone can eat together. Thus giving the opportunity during the mealtimes for everyone to discuss plans, make decisions, and learn from each other. No one bossing others, and no one obsessed with authority. A pride in the entire outfit must be developed, and expressed in terms of our own individuality.

As stated earlier, "I will be the director of the institute I have founded," but in no way does this mean that I will be the inventor of the "quirks in personality" of the team. Such "quirks" would be the simple expression of the attitude with which we may try to meet adversity. Also, in no way, will the director even try to set a style.

Amusement is essential! Incidentally, there will be a wine cellar at the institute. Not very institutional, but, so what?

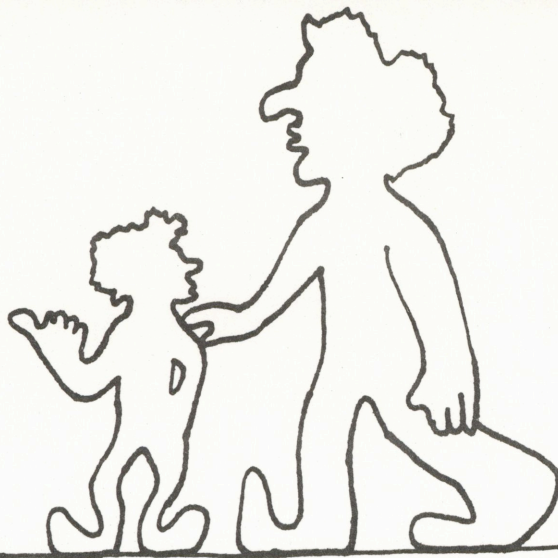
Eventually, such an organization could become international. A research and experimentation committee, "THE HUNTERS," will be seeking financial support from various societies and corporations — and will keep on their tails annually for renewals.

I'm sure that this kind of set-up will be lacking in certain architectural traditions, possibly even architects. Who knows for sure?

FREE ADVICE FOR ARCHITECTURE

The sign
says this
way

my
friend



DREMER

Point
the
way

There's
not
architecture,
make
history.

Telling
of
culture
and
achievement



MY INTENTION IS TO
PRODUCE A TRULY
TOLERANT ARCHITECTURE
FRITZ WIEDELHAUS
1976

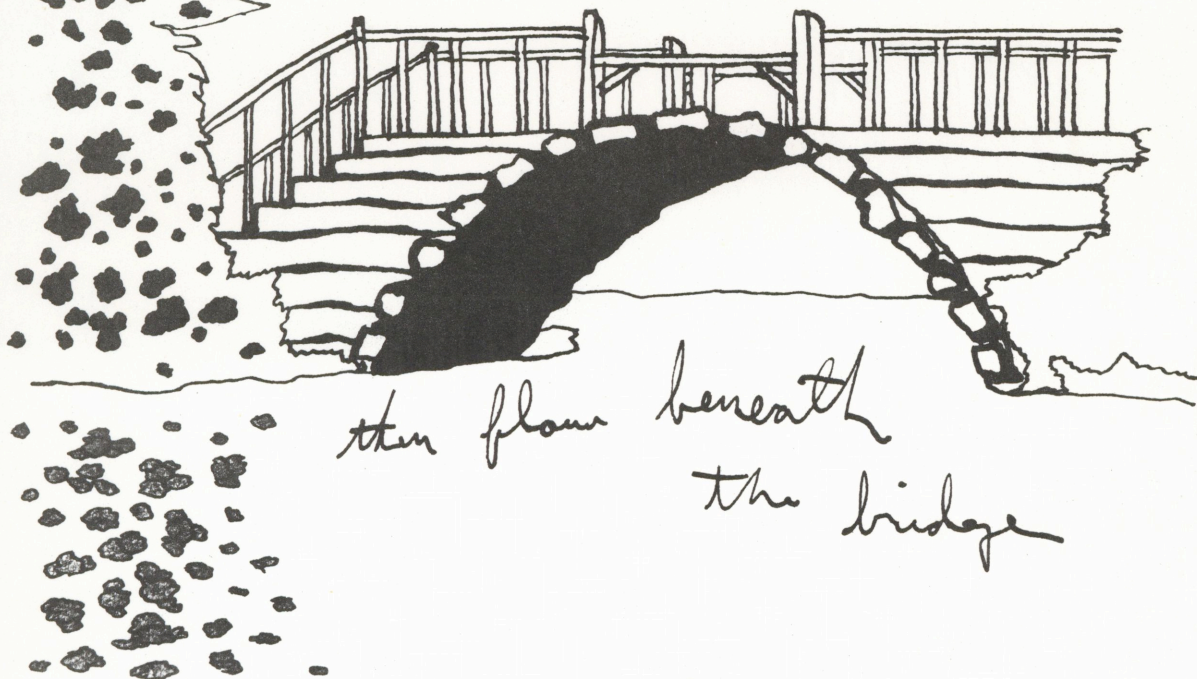
Heartbeat of the marsh

The joint of land and sea spawns the salt marsh, a huge pantry on the ocean shore. The marsh begins to form when waves shape sand into off-shore barriers; tidal creeks cut through these protective bars, flooding the coves behind them twice daily with seawater. Safe from the battering sea, cordgrass sprouts in the shallows; its dense growth slows the tidal currents so much that they drop their cargo of silt to form a floor of nutritious mud. The luxuriant grass forests rank among the most organically productive areas on earth, often supporting more life per acre than the richest of fertile prairie land.

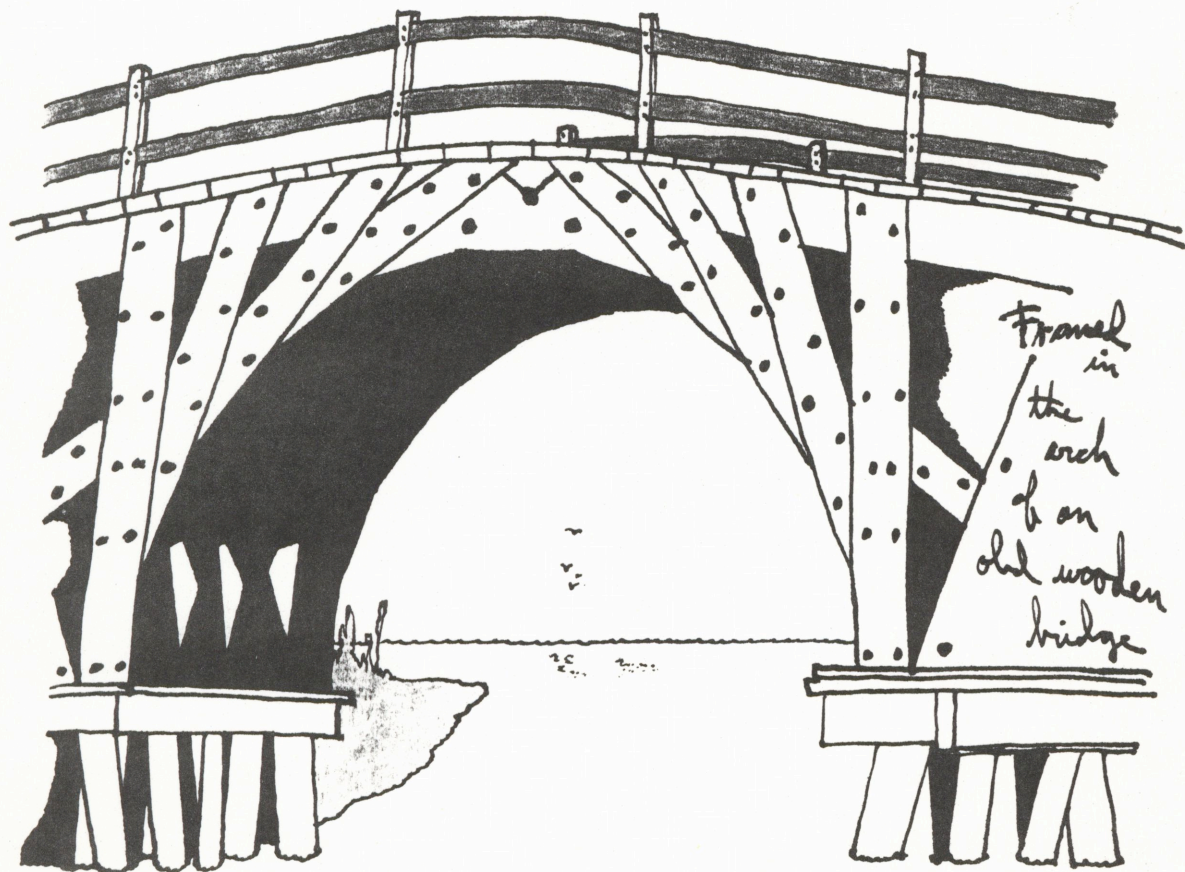
Fed by both salt water and fresh, the marsh nourishes an immense number of creatures of sea and land. Fiddler crabs scoop up algae with their claws. Grasshoppers fatten on spartina leaves and are in turn eaten by birds, spiders, and fish. Anchovies wait for bacteria to turn fallen

grass into a fine soup called detritus. The filter feeders — clams and mussels — strain the soup from the water, along with microscopic plant and animal plankton. These mollusks in turn feed larger creatures. Incoming tides bring striped bass, flounder, and sea trout in search of the marsh inhabitants. Many of the large fish return to the sea on the ebb tide, which also flushes out detritus and other nutrients to feed marine life offshore. Nearly all the commercially valuable seafood netted in East Coast waters owes its existence directly to the marsh. So there you have it — this balanced ecosystem becomes a factory for human food!

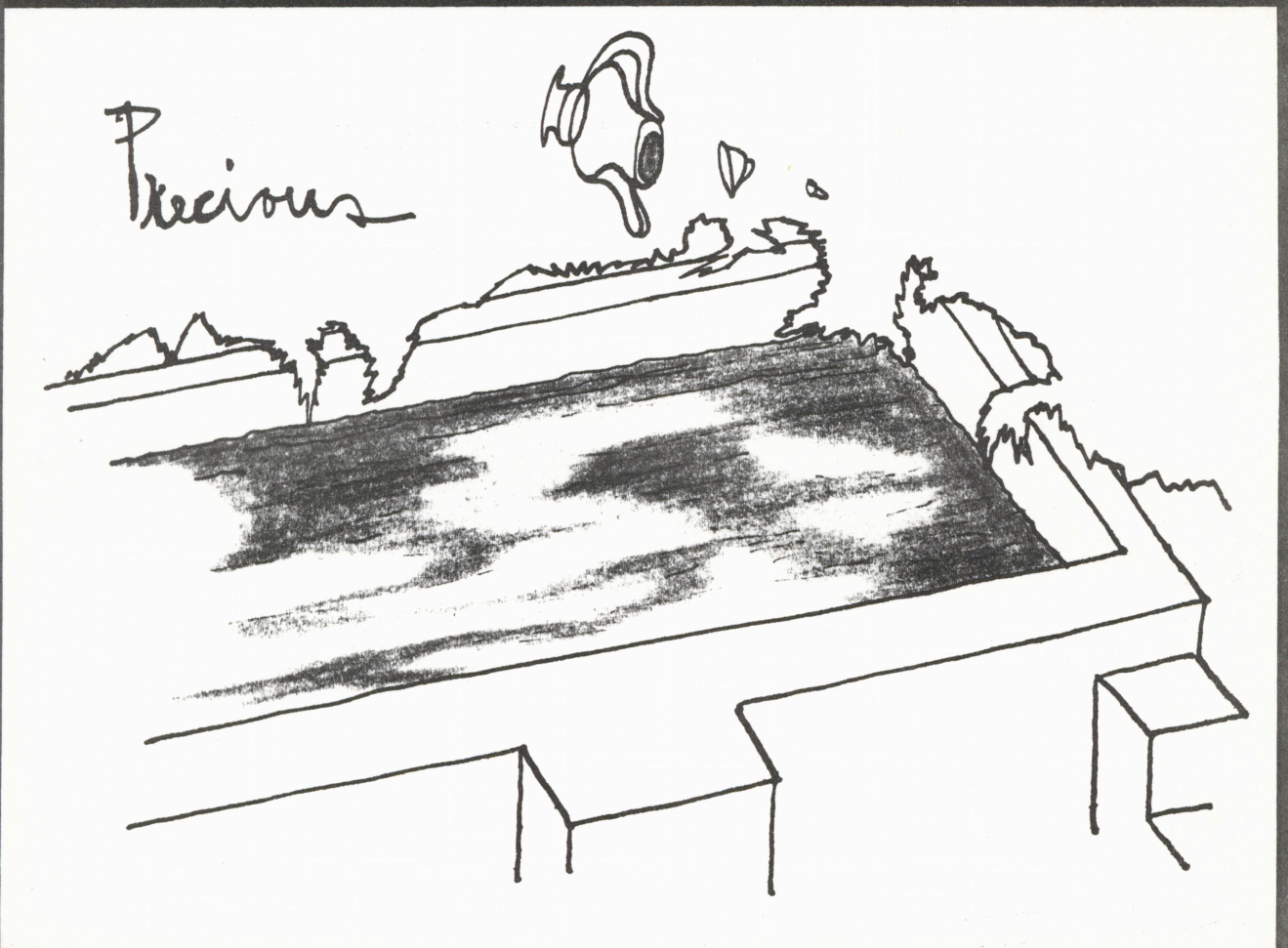
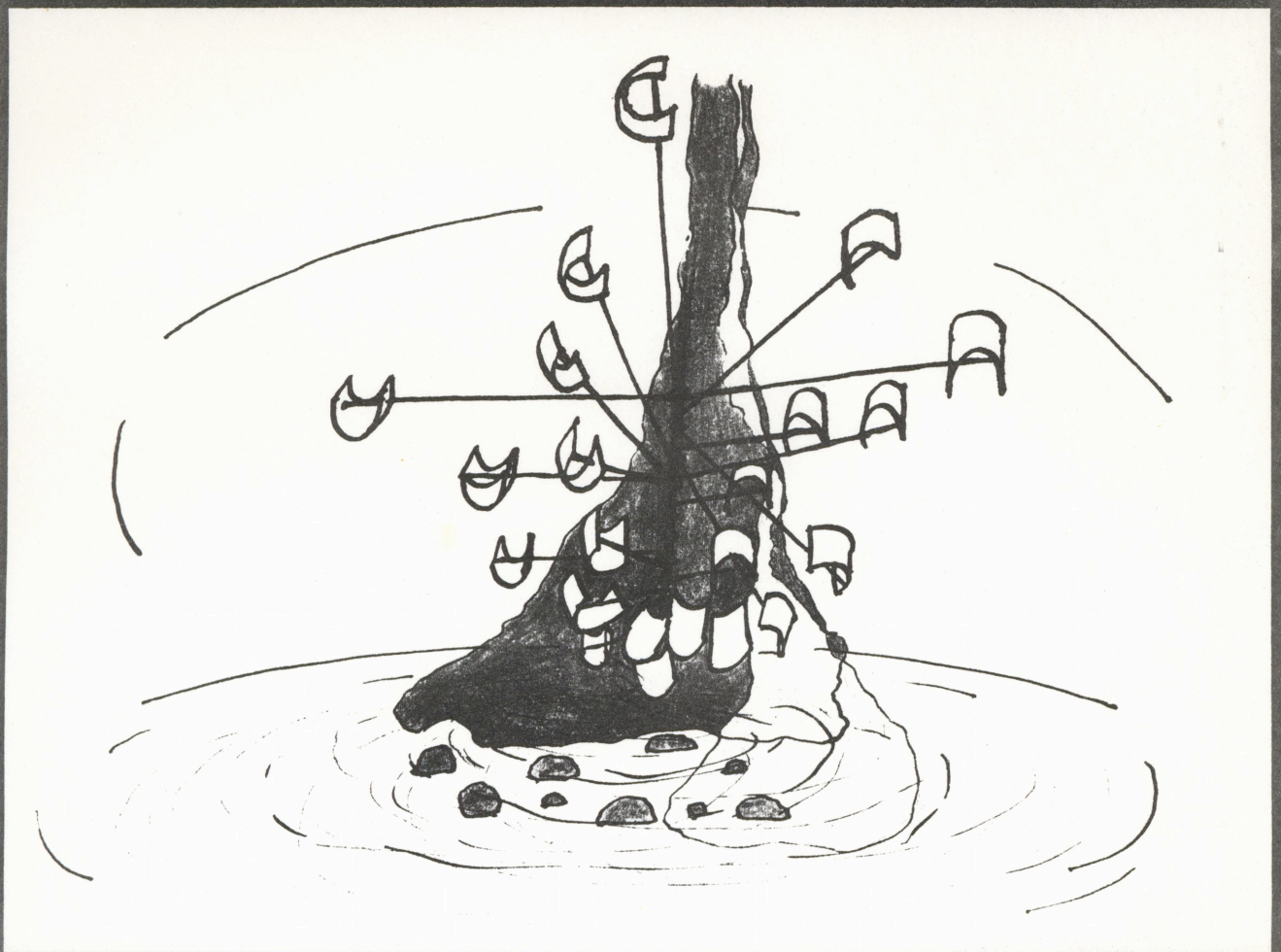
Dark waters mirrors
the pines

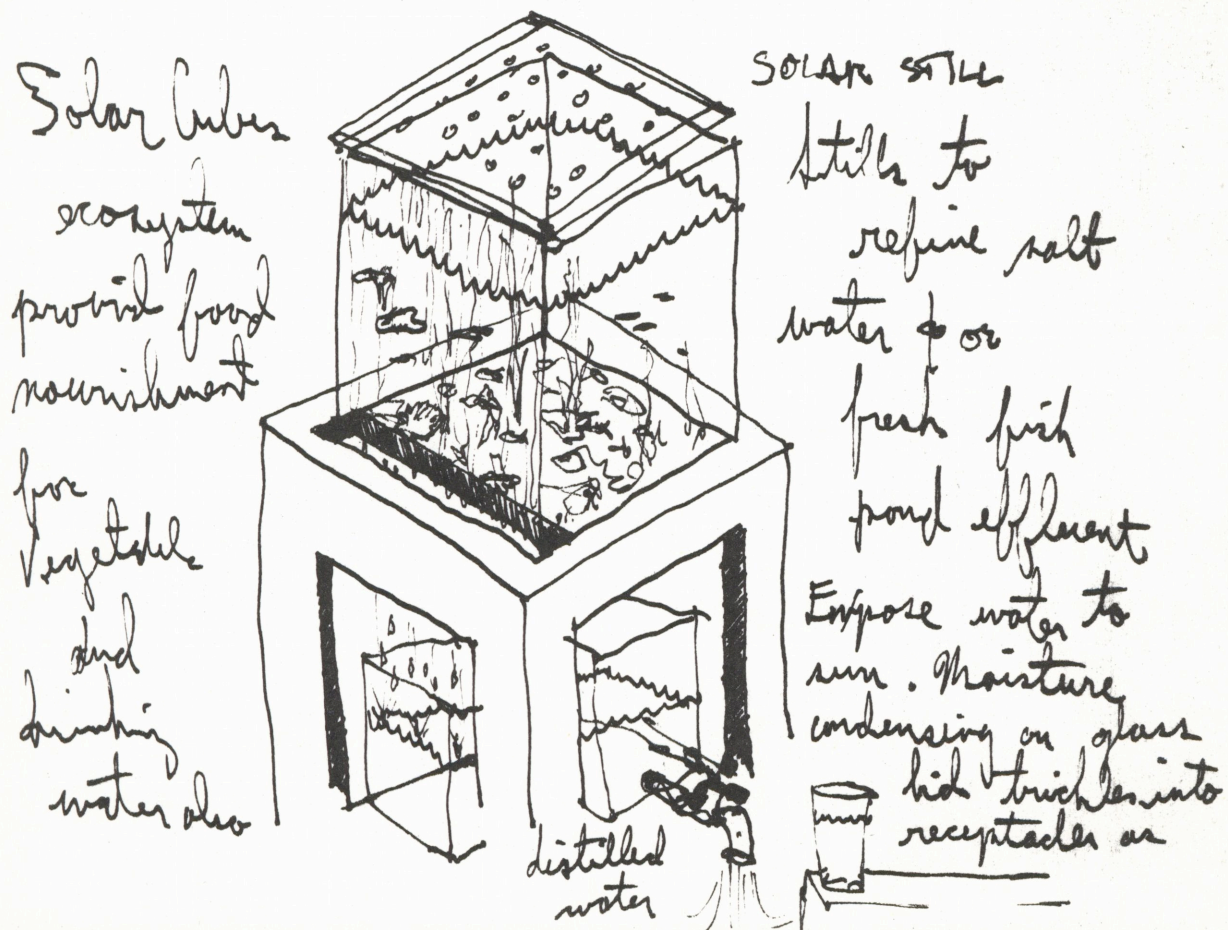
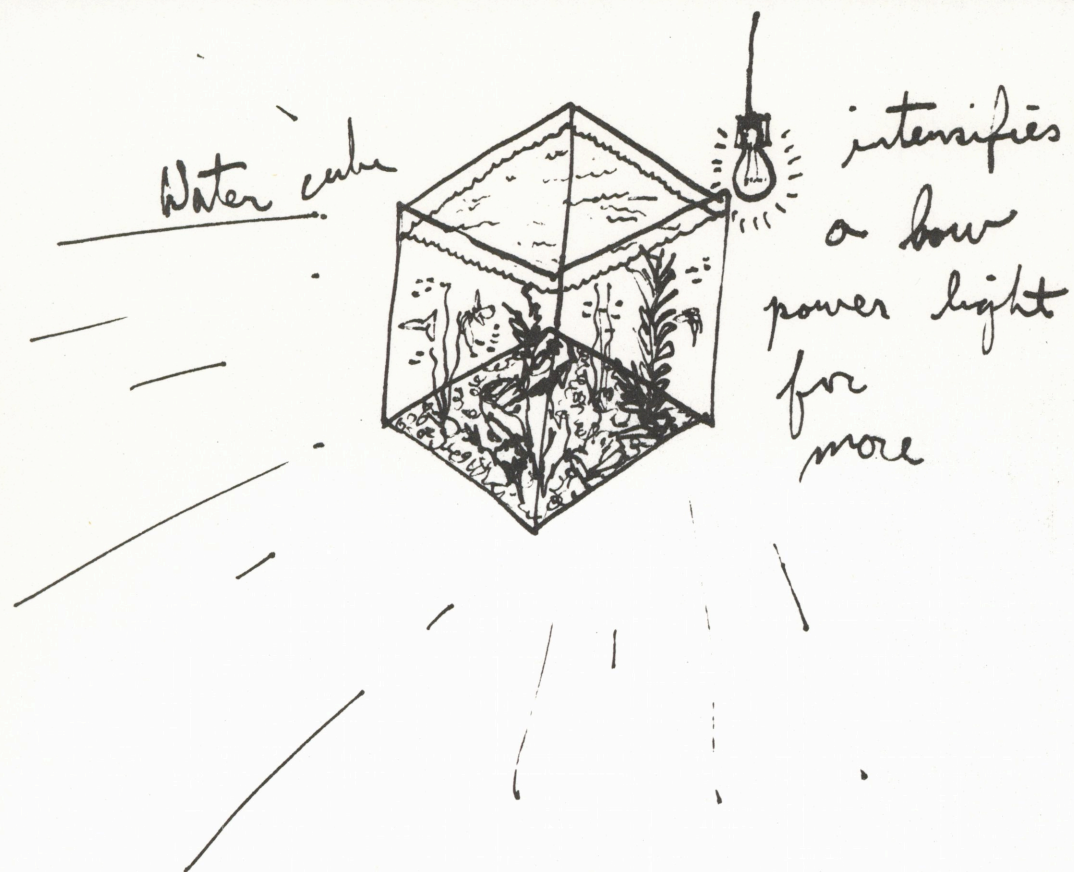


then flow beneath
the bridge



Framed in
the arch
of an
old wooden
bridge





Can the East be saved?

From Florida to Maine there is a war. Between man and man, fish and bird, wave and sand. The battle rages and storms over the coast. Yet the battlefield is strangely quiet. Grasses bend softly in the wind. Herons stalk silently through shallow waters. This war is being fought in the narrow green-and-tawny band of salt marsh that stretches along the eastern shore.

For ages there could be no final victory or defeat. Nature's forces stayed in balance. The rising sea stole from the marshland, and the marshland rebuilt its defenses. The marsh grass died and, decaying, nourished the animal life of the estuaries. Fish chewed on fish and the birds on them, but all at last fell in the battle, and, in the end, fed the grass roots. The circle closed, and the battle was started again.

Now, however, we humans can impose a final decision in this war of the wetlands along all our coasts.

We even have it in our power to wipe-out the battlefield. And if we do, will that be victory or defeat? Are we about to conquer nature, or about to conquer ourselves?

The salt marshes are disappearing because of factories, dump and fill, and homes with a seaward view. As chemicals and sewage pollute the wetlands, the encroachment of industrialists and developers is also the rout of oyster dredgers, clammers, crabbers, sportsmen, and lovers of nature.

The acres of marsh covered by asphalt and concrete may be a triumph for builders, but for the commercial fishermen of the Atlantic Coast, those captured marsh acres mean a smaller catch at sea. No marshes — no fishing industry.

The grass that developers destroy is literally at the root of marsh life.

Some of the most productive acreage on earth lies untended in the marshlands. Its yield cannot be estimated in bushels an acre or in so many head of cattle, because its ultimate consumption takes place miles from its source of origin.

There are ways that we can make even greater use

of this food-rich detritus. It could become the basis of a new sea agriculture. Biologists have already started raising clams and oysters indoors in their early stages, so they can control breeding, growth, disease, and predators. But, as the shellfish mature, they must be moved to an estuary to feed on microscopic plant life and detritus. And wouldn't you know, the Japanese have already pioneered "mariculture," not quite as efficient as nature's way, but pretty close. It may eventually serve as an additional food source for our own country, provided the salt marsh is preserved.

At the present the marsh is man's hunting ground rather than his farm.

"The biological cycle of the marsh is like the seconds dial on a watch. The hours dial is the geological cycle within which it occurs." The oldest, ever-continuing battle of the marsh is between the sea and the shore. The sea has risen as much as thirty feet in the past 5,000 years. The sea gnaws at the shore, but the roots of spartina and other marsh plants that colonize the mud flats barely above the ocean's reach at low tide anchor the shifting mud, and their stems catch the drifting silt. Gradually the surface builds — less than half an inch a year, but

enough to equal the rise in sea level.

"Marshes can't grow unprotected on the open coast. They need sand dunes or beach to break the force of wave and storm. The marshes, in turn, act as defense works to protect the inland areas from the direct erosive powers of the storm waves. Barrier islands protect much of our eastern coastline. But erosion is still great, and the sea breaks though the barriers, changing the flow in the lagoons and smothering the productive mud flats."

There is a spot on the map called Harvey Cedars, on Long Beach Island, New Jersey. "That was once a thriving community, but a storm came along and gobbled it up."

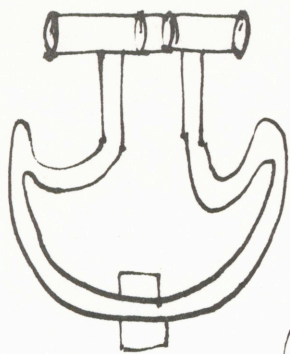
Sand carried away by the sea's attack is generally deposited elsewhere along the shore. But this is small consolation to former residents of Harvey Cedars.

The salt marshes are weird places filled with an infinite number of contrasting warriors everywhere you look. Tin cans rusting in the water and a white egret against the sky. The smell of a sea breeze and the stench of a pulp plant. The roar of a bulldozer and the splash of a feeding fish.

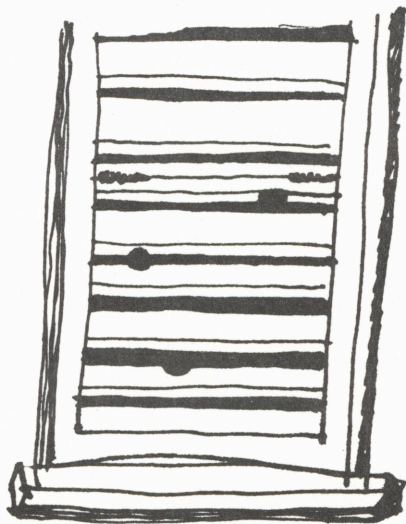
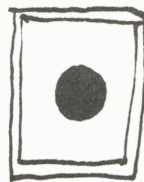
A thousand pounds of oysters and a thousand pounds of trash. Steamed clams and beer, summer heat, canoes on the tide, clammers, dredgers, sweat, mussels, reeds, salt, and survival.

The marshes are surviving, but in too many places, only barely. And yet, if we all awaken to the danger, it is not too late to save them.

Peep through this key
hole

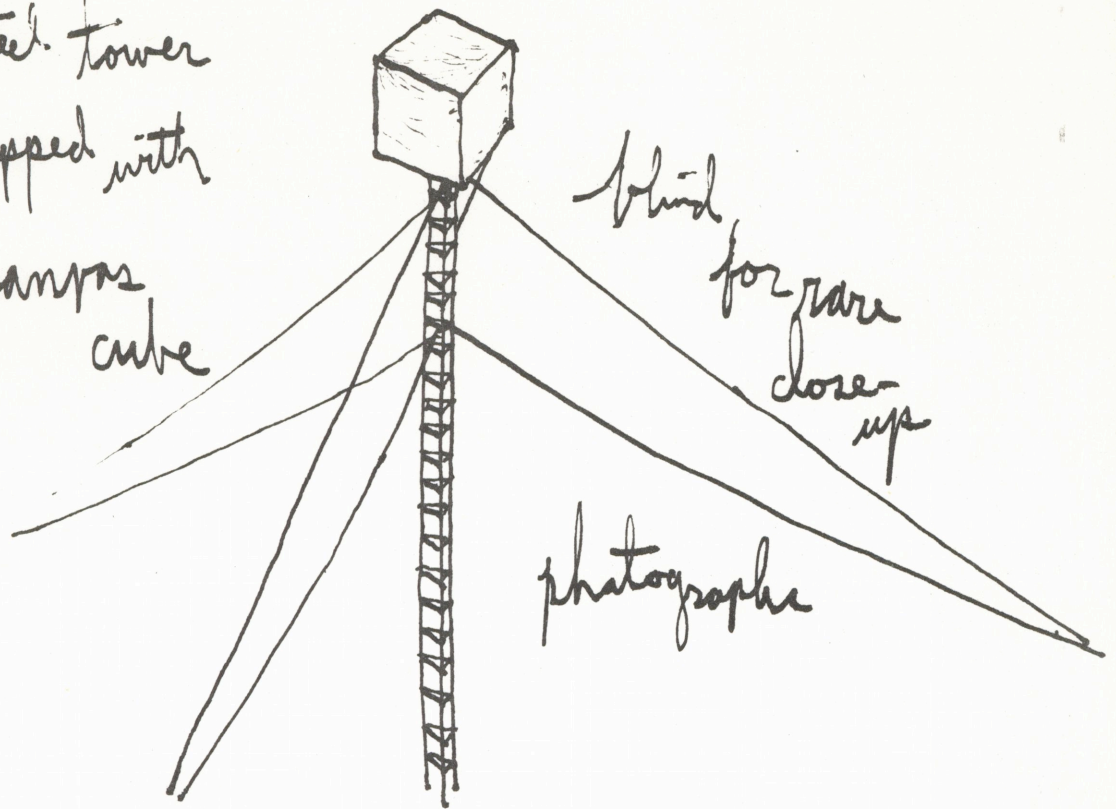


and
you in for
a surprise



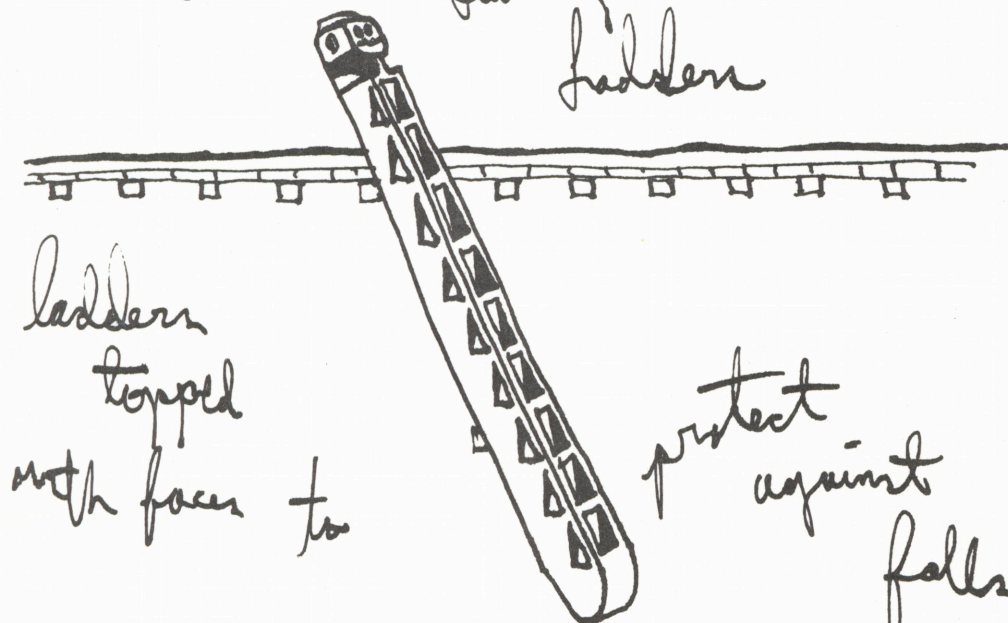
Through peepholes you could see
approaching visitors, activity, etc.

Steel tower
capped with
canvas
cube



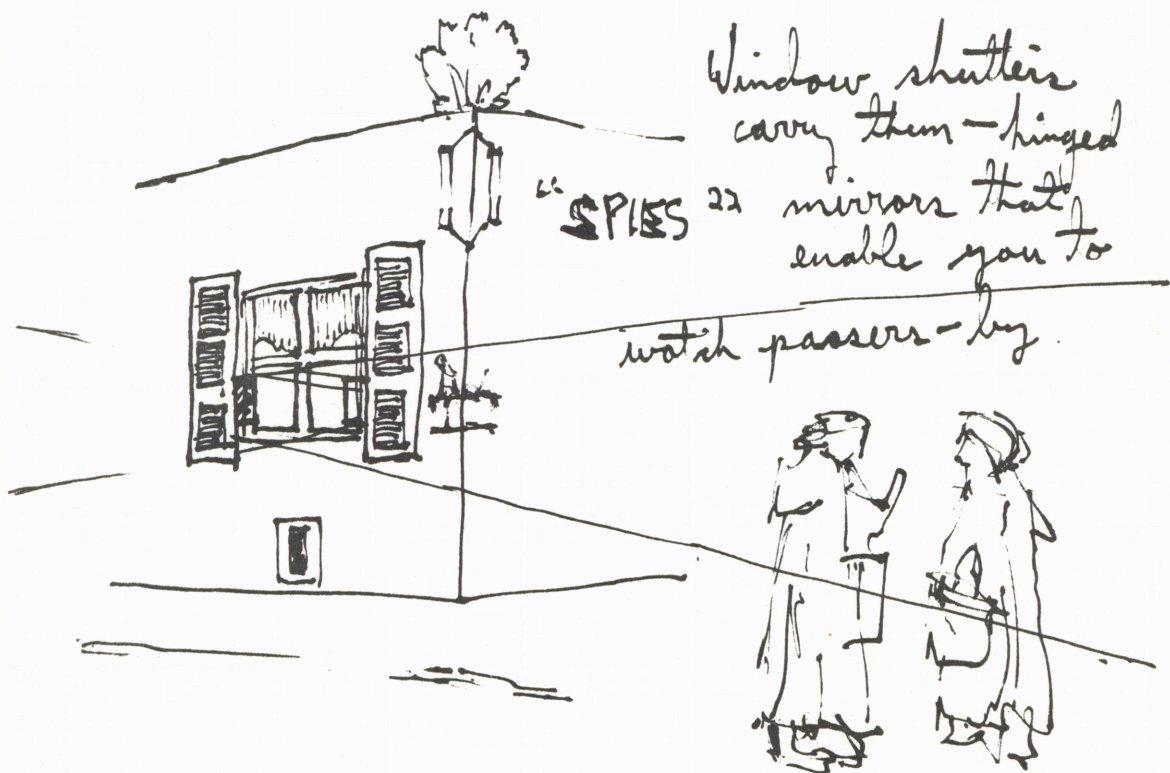
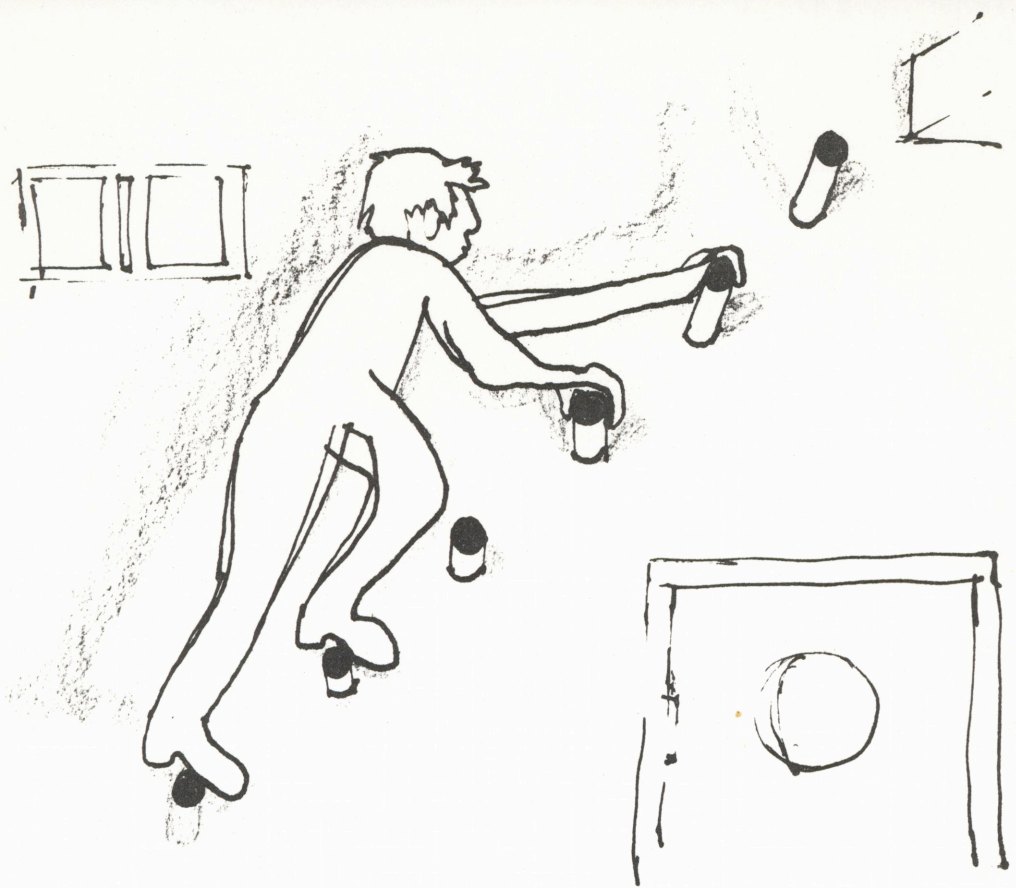
Leaning houses

Leaning
ladders



ladders
topped
with faces to

protect
against
falls



The queasy species

In America there are 109 endangered species, including 17 mammals, 53 birds, 8 reptiles and amphibians, and 31 fishes. What's more, 69 other species are considered "threatened" — if corrective measures aren't taken soon, they will probably vanish in thirty years.

Who cares, really, about the loss of these animals? How many of us will even notice when the last oyster cracker disappears forever from Manahawkin bay? There will be an aesthetic loss, that's for sure. But in a world where millions of human beings face death by starvation, are the vanishing breeds even worth a thought?

Of course, Environmentalists say they are. All life forms are interdependent; abandoning even the most insignificant creature may unleash explosions of fungi, insects and rodents upon mankind. That's what ecologists are concerned about: endanger the existence of just one species, they

say, and you endanger us all.

In a certain way, most species of wildlife have always been "threatened" or "endangered," competing with each other for survival in an uncertain environment. "Natural selection, a potent force directed by gene mutation, equipped the survivors with adaptability, reorienting them to new surroundings: as the seas receded, a fin became a flipper, then a forepaw or a flying creature's wing."

In this way, "some 350,000 plant and one million animal species evolved from the algae struggling upward from primordial seas and estuaries." A menagerie of life colonized the oceans, then the land and the skies. As each living organism found its own unique niche, a huge, interdependent environmental conglomeration was created.

The rule used to be that when species and subspecies became extinct, new ones replaced them. However, after man took his first two steps on land about three million years ago, the delicate strands of nature's ecological webs — webs that took three billion years to weave — began to unravel.

The momentum towards extinction is gathering. As

a matter of fact, today, wildlife is disappearing at the rate of one species or subspecies per year; evolutionary processes just cannot replenish life's dwindling diversity at this feverish pace.

Hardest hit of all the continents is North America. The rapid transition from virgin woodlands to highly industrialized society brutalized the land, eliminating forever many species in one foul swoop.

Well, now the world's new-found concern with environmental quality could reverse this trend of neglect. The Endangered Species Act of 1973 launched America's "ecological decade." Then the lawmakers "did their thing."

But national and international law are not enough. Research in many areas of wildlife management is mandatory if endangered and threatened species are to be preserved; two particularly promising fields of study are — theoretical ecology and fertility research.

Captive propagation, however, is considered a last ditch effort to save a species from total extinction. The National Wildlife Refuge system, begun by President Roosevelt 71 years ago, still seems to be the best long-term hope for keeping

wildlife in its uncorrupted form. Theoretical ecology, is a predictive science based upon mathematics and computer simulations of entire ecosystems, and can help environmentalists calculate extinction rates and other values and properties for planning park and refuge areas.

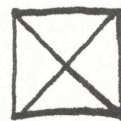
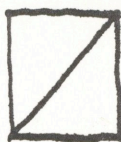
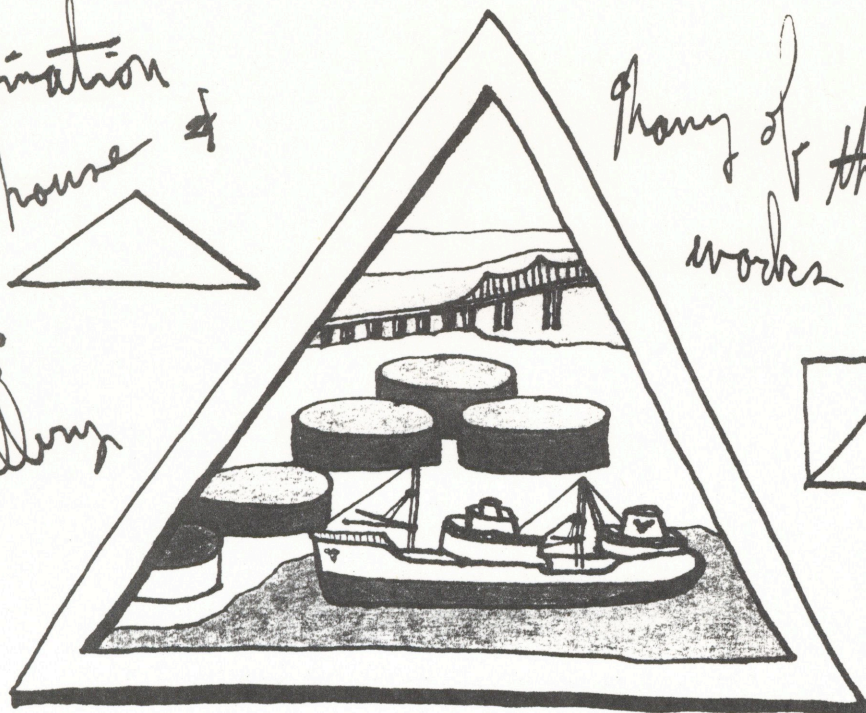
Now, by incorporating information from "field" studies into various mathematical formulas, ecologists can make models that describe broad classes of environmental phenomena. For example, one model might be a series of differential equations that explain competition among species; another, made from statistical measurements, might describe species diversity. Taken together, these models can offer insights into species distribution, community structure and competitive interaction.

Other techniques have also been developed by governmental agencies, private conservation groups and universities to rescue nature's little-known wildlife species from extinction. To learn how science and architecture can be used to rehabilitate particular populations, is my "bag." Dream on.

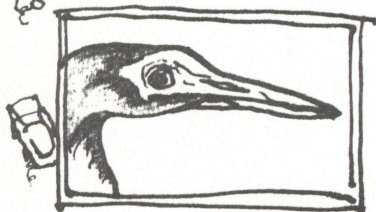
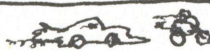
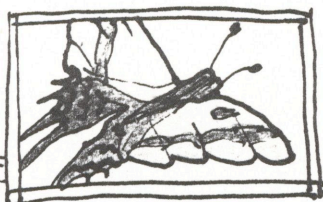
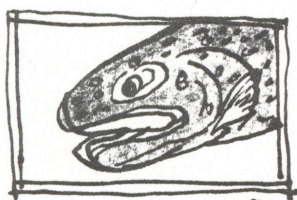
Combination
house &

Art
gallery

Many of the
workers can
record



lines



Substitutes
for
Sacrifices



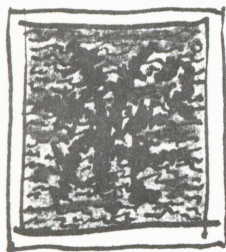
Painted
Window
screens

bring a
touch of
country charm
to cowless
city:

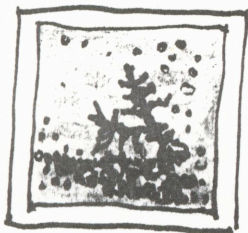


Wire-mesh screen foils
the prying stares
of

passers-by
yet
from
within
offers a
clear
view



Washed up
treasures



Under
Water
scenes



Embedded
designs in
layers of
melted
plastic
on sheets
of glass

Shell facts

For a long time now I have been fascinated with sea shells and at the same time marveling at their fragile beauty. I have not been alone.

One of the most fascinating shells is the chambered nautilus, home of the mollusk that inspired the lines of Oliver Wendell Holmes:

Still, as the spiral grew,
He left the past year's dwelling for the new,
Stole with soft step its shining archway through,
Built up its idle door,
Stretched in his last-found home,
and knew the old no more.

"built thee more stately mansions, O my soul,
As the swift seasons roll!"

I remember seeing a photograph of a nautilus shell that had been sawed in half to show the symmetry of the curving partitions and the mother-of-pearl lining. I also remember being told that an octopuslike animal lived inside. And that as it

grew, it kept moving forward in the ever-enlarging shell, sealing off space behind it with delicate cross walls.

I can't help but marvel at the many clever ways in which mollusks and other marine creatures solve problems of space and weight as they grow.

Chitons build their armor in overlapping plates. Connecting tissues add more shell to the edges of the plates as they need to expand.

The shrimp and crab just discard their old armor when it becomes too tight, then grow a new suit a size larger..

But the gastropods, including snails, conchs, cowries, and abalones, find such a method impossible. These creatures all live in one-piece homes that cannot be shed but must be enlarged continually to accommodate the growing creature.

For compactness the one-piece shell is wound into a spiral, long and thin.

If you look at the spindle shell, you can see just how each succeeding whorl is bigger than the last, though retaining the same shape. If not coiled, this shell would be much too long

for the little bugger to carry around very easily.

You can see, also, how the coils are fused where they touch, forming a pillar running up the center. By a strong muscle attached to this column, the animal pulls back into the house when danger threatens. To give the muscle a better grip, the surface of the pillar is turned into folds. These also grow as the shell does, and the intertwinning curves and screw threads add much to the beauty.

For efficient design as well as beauty, the mollusk shell is unexcelled. Look at the wrinkles spiraling around the bonnet, they are just like the corrugations of steel roofing or a cardboard box. Also look at the ridges on a scallop or whelk, another beautiful example of engineering design. They add little weight but greatly increase the strength.

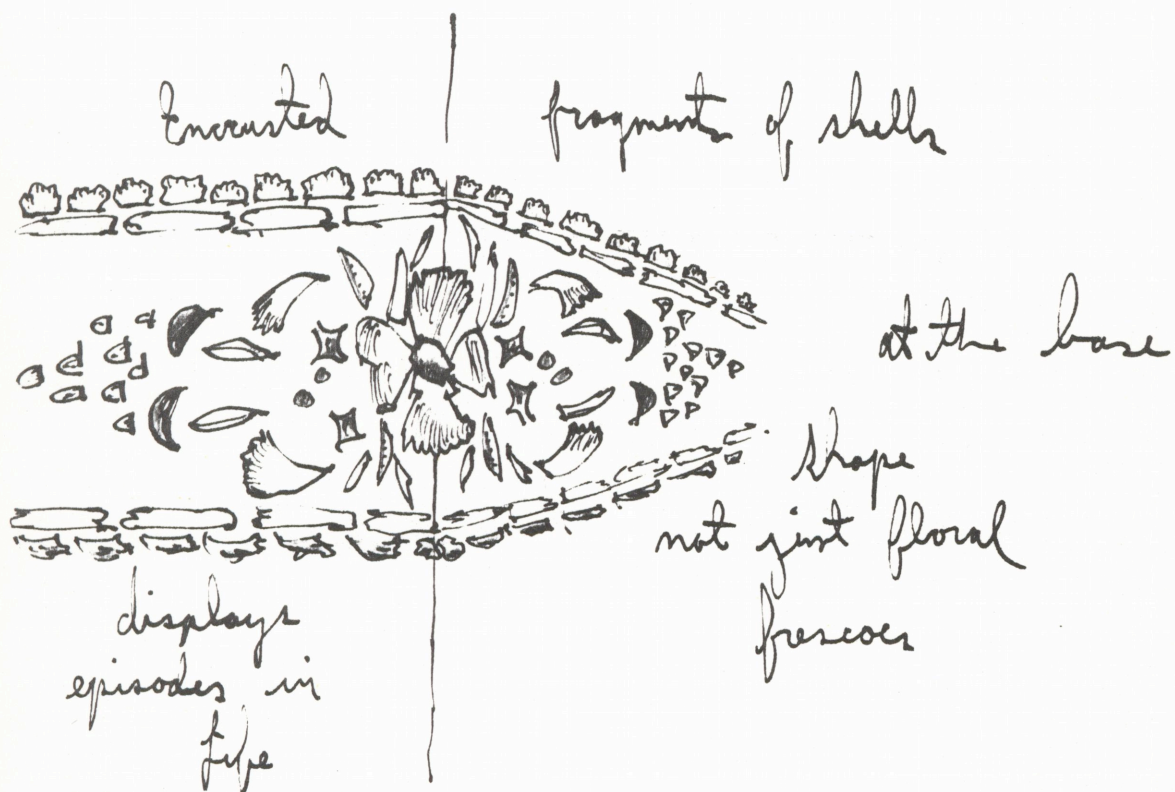
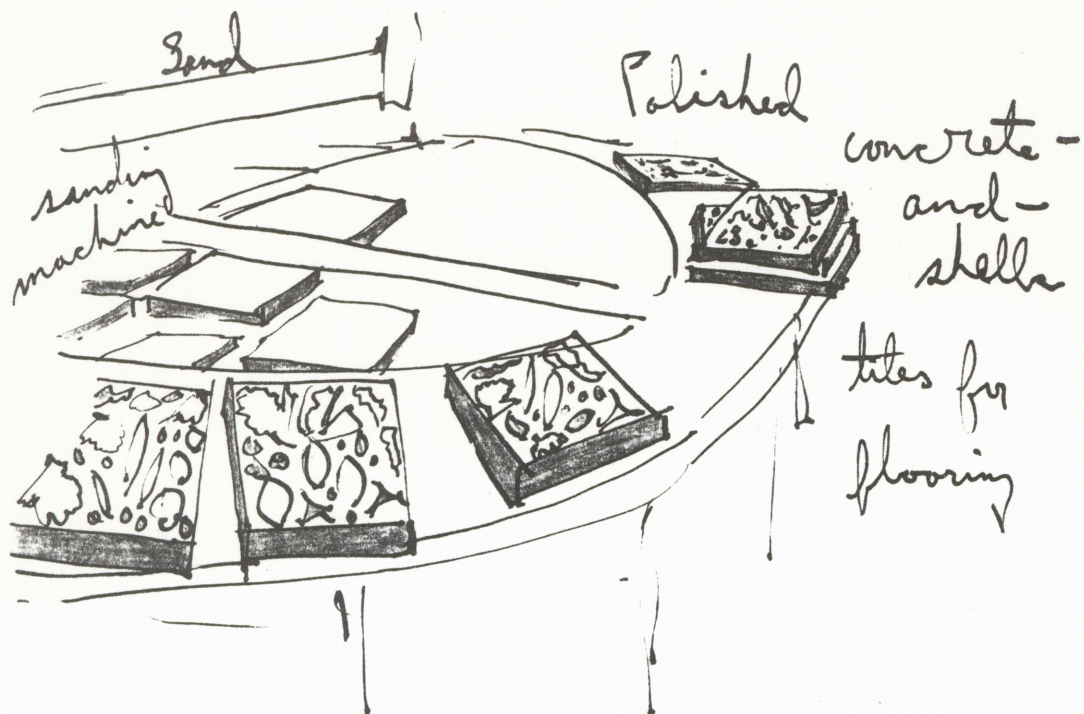
Some mollusks grow spines along the lip for defense. When the animal grows new spirals, it obviously cannot leave the spines sticking into the cavity which will house its tender body.

But the creature, which has parts of its mantle specially equipped to secrete new shell, can also dissolve shell. It removes spines as soon as

they get in the way, probably using the lime for new deposits elsewhere. In addition the animal secretes a porcelaneous or pearly layer inside — real cushy.

Some mollusks economize on weight by thinning partitions within the shell. Others dissolve away almost all the inside.

The fact is: that in building his houses and furnishings, man is learning to choose simple, efficient designs. Shells show us how Nature was doing this long before the first man appeared on earth.



So what's the problem?

Mankind seems to be a bunch of searchers, always seeking for something better than what his fathers found the year before, and, surely, what his contemporaries found only yesterday.

By looking clearly through the foggy window at the hazy shapes beyond, it seems that progress is geared to the individual user or the family unit. Now, the family unit might also take on the form of an office staff, or shop crew, or a firm, but rarely anything larger. It doesn't seem like there could be very many problems.

Now, if you look into the average home you can find a very nearly self contained eco-system. The ultimate goal will likely be total self-containment when other power generating sources are adapted to the individual home. But within the home, we now already have telephones, television, heat, lights and all the other things for health and recreation, communication and

entertainment, as well as education.

Although the basic plan of the home hasn't changed in years, most likely centuries, the needs of the people who live inside have become more and more dependent on the service industries: electricity and gas, communications (phone, TV, news papers, and magazines), food and water, health and medicine, gasoline and oil, and more. Eventually, the evolution of the home will include such things as computers and other spaceage products.

All this fantastic progress that we have made seems to focus itself primarily on the individual user, the consumer, to his needs and wants. If you want to build your dream house on the beach, there's normally nothing to stand in the way; or, similarly, if you want to communicate with the South Pole, go ahead. Of course, you must pay the price for the services. So what's the problem?

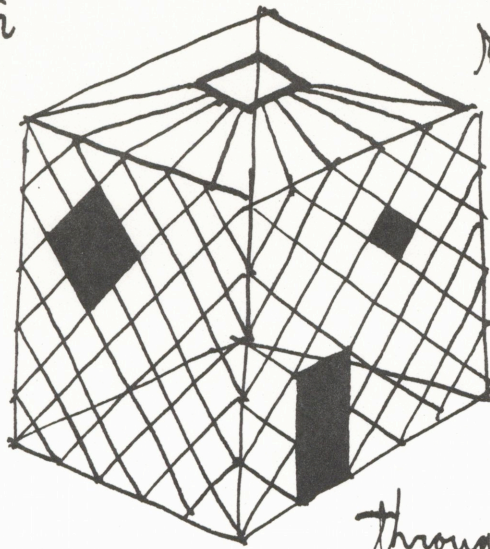
The problems we seem to be having now in housing might be related to the trend of not considering the individual sufficiently. There seem to be hundreds of service oriented agencies which, in the end, serve the family unit or its equivalent.

Naturally, when we search for new ideas we are

going to have problems. Without them we can't possibly learn anything. It has been my experience that ideas are cheap, real cheap, and that the main problem is in implementing the idea, itself.

To paraphrase a historical quote: "there are billions for studies of the problems, but not one cent in token to see what works." So since we are paying so much for technology, its about time for us to start searching out the ways to implement our efforts.

Sun and air
the home
by taking
the roof
off the
house

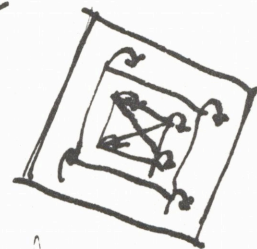


roof rafters
could
peg
into a
ceiling
square,
through which
ventilation takes
place

Tilting
tower
mount



multi layer
unit



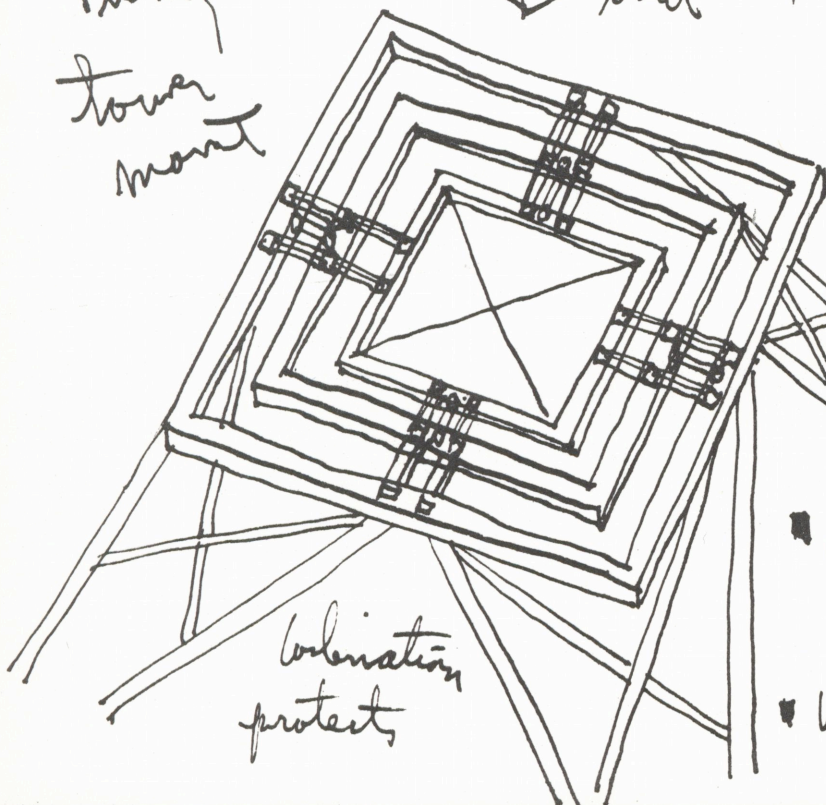
light inner
membrane

structure
barrier

air-cooled ventilation
permeable layer

winter covering

ventilation
protects

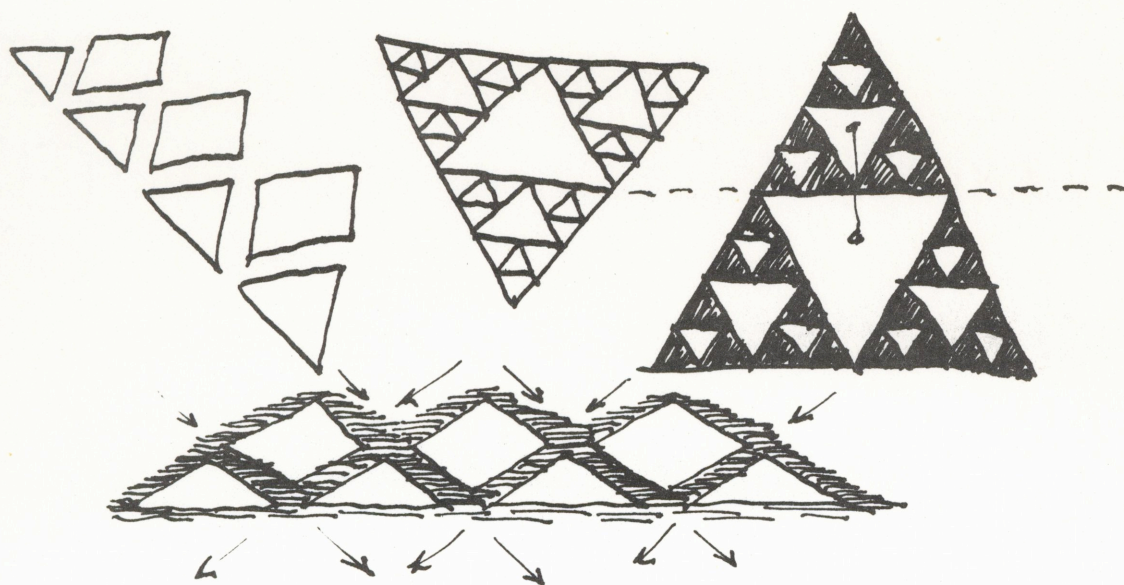


Some yet more spacious space

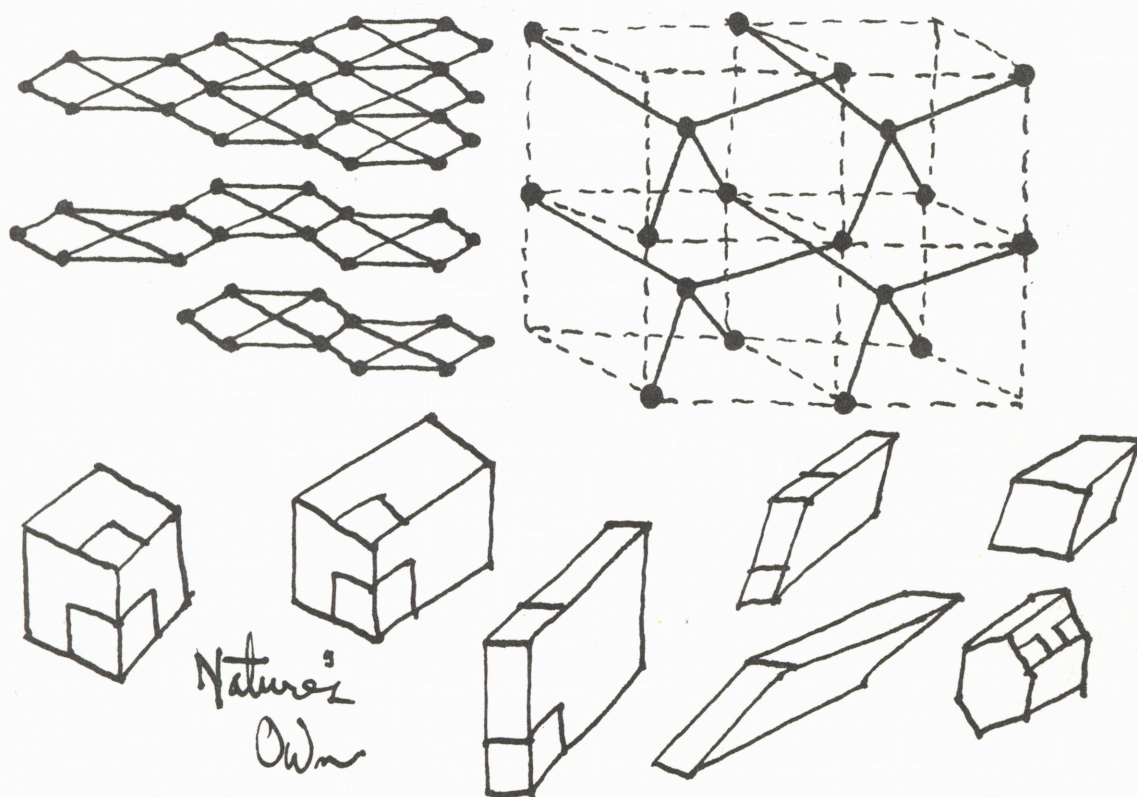
As we are in space looking at all the other things in space, we can imagine a more spacious space. If we can study and understand a two dimensional object by use of one dimension, and a three dimensional object (or space as we know it) by using two dimensions — we should be able to understand an imagined space or one of an added dimension by the use of three dimensional thinking.

While analyzing such a space, it should not be thought that there should necessarily be a link to physical reality. Because the nature of the space would be in your imagination, nowhere and in nothing else.

Challenge the imagination!



Strong yet seemingly fragile



The chicken or the egg

What if a greyhound had puppies which turned out to be dachshunds, and these dachshunds grew extremely long tails which broke off and grew into greyhounds? Sounds absurd. Could it happen? If it could — which one would be the parent of which?

Most things grow more or less continuously. What about man? And what about his families? What if his house saved up its growth to expand in sudden jumps each time it needed to? The exterior plating which it wears may not stretch; so at intervals it has to throw this off and replace it by a size larger, incidentally changing its shape at the same time if this is necessary.

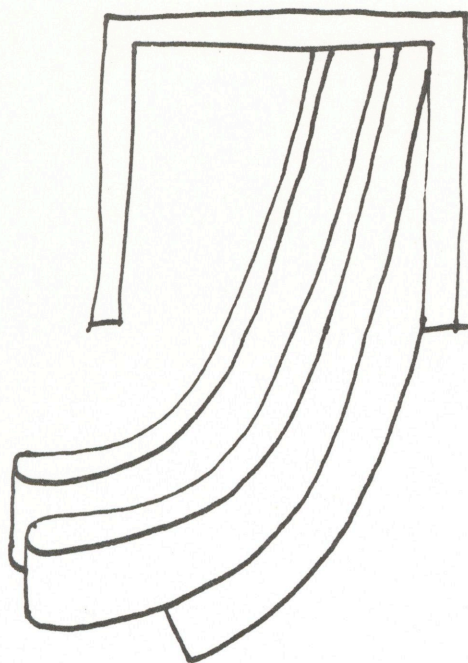
Would you believe frameworks of slender arms connected by a small home in the middle? These arms could be stiffened by the most delicate of supporting structures, maybe built with three lengthwise rods and connecting struts. These

could be joined in the middle to a basketlike cage which protects the home.

Even weirder may be a little budding house beginning to grow out of the back of the "parents house," and from it the tiny arms could emerge. The budding house can grow away from the rest of the "home" on a slender stalk, which finally can be broken off. Then the little house wanders off, while the old home settles down and eventually crumbles to dust..

A somewhat similar trick could be played by some of the more ambitious teenagers. The massive homes which their parents live in may be far too large and "heavy" for the youngsters to live with, even in a miniature edition. The teenagers could get around this difficulty by forming an "early" house which could be exceedingly thin and delicate. But this wouldn't be a very strong foundation on which to start building their "adult" house; so the relatives may actually have two houses ~~—~~ or more accurately, two shelters. The young can use one of these and most likely it will be completely unlike the "adult" house. Then the second house (shelter) could be formed inside this one, and, as the young grow up, they throw off their old house and start building on the new foundations.

A study of the young should lead to a better understanding of the old. So maybe there is a special truth in Shakespeare's line: "It is a wise father that knows his own child."



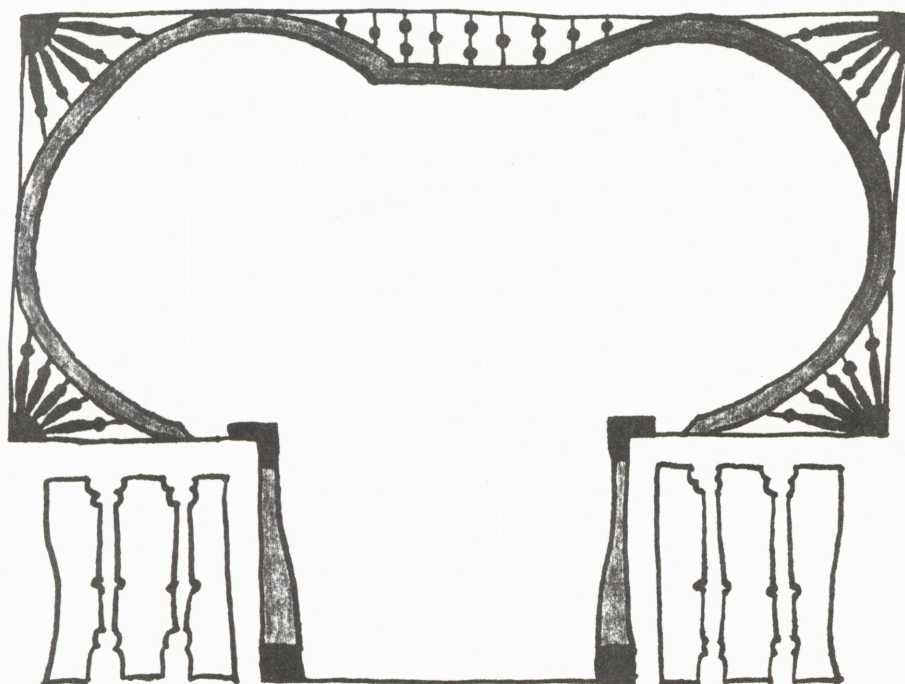
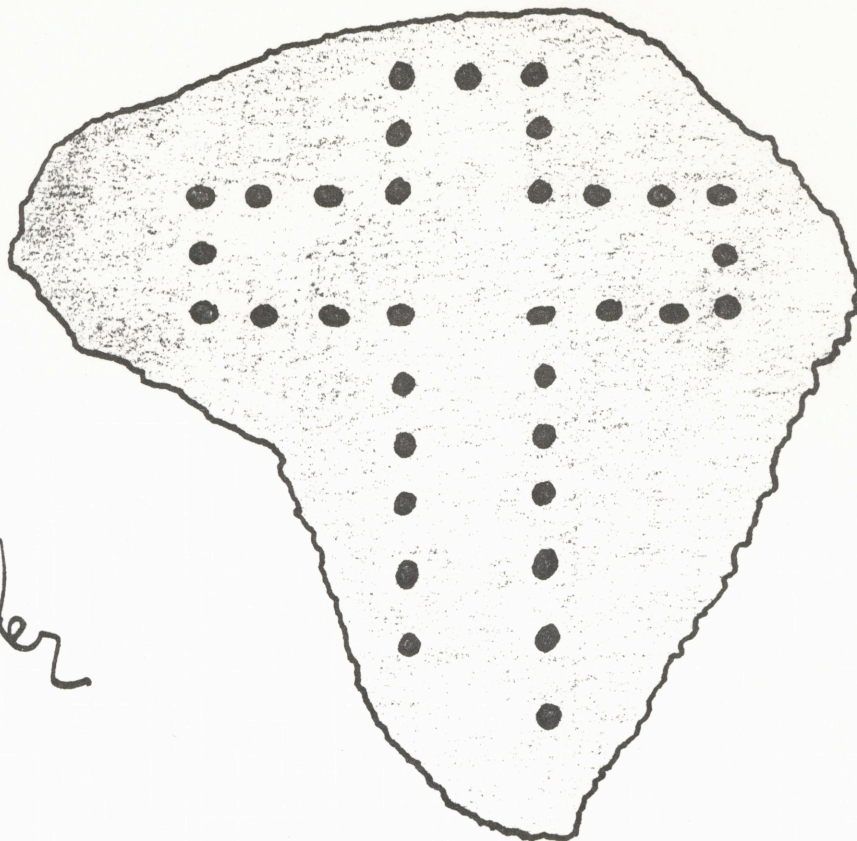
Roller
coaster

ride a sliding
banister
downstairs

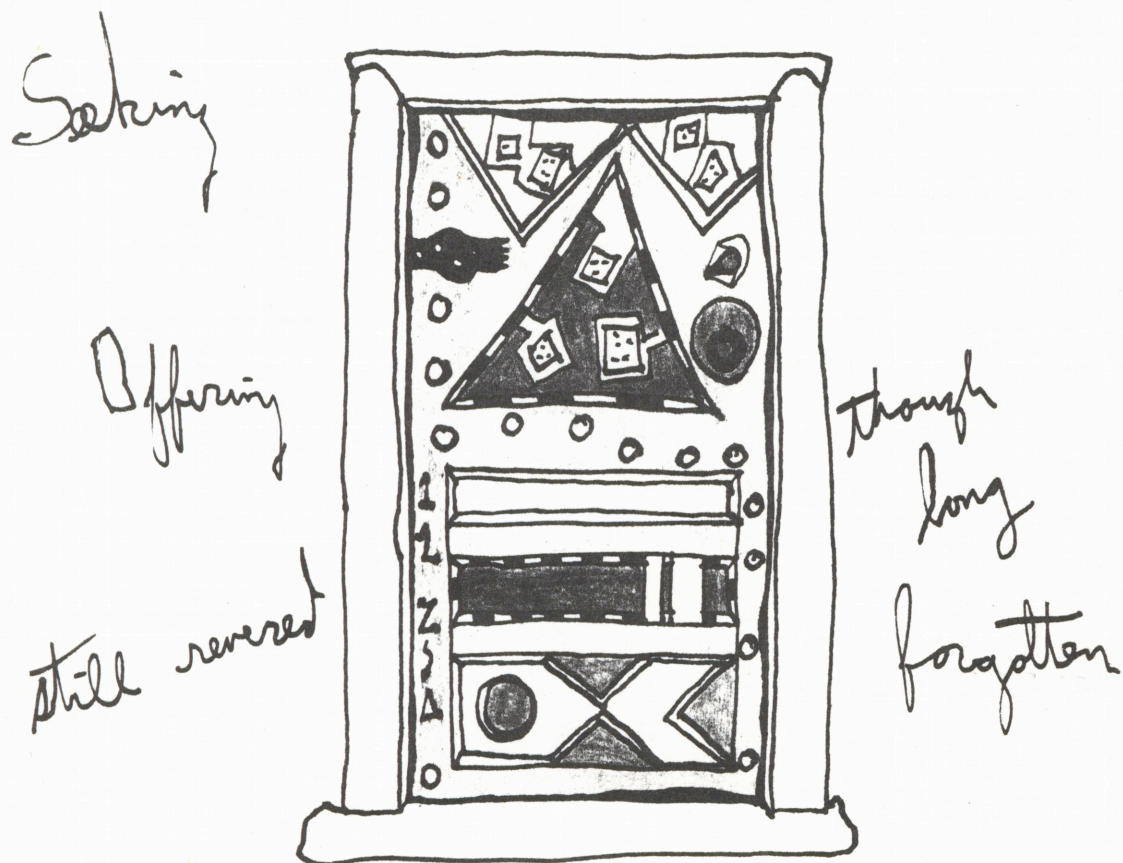
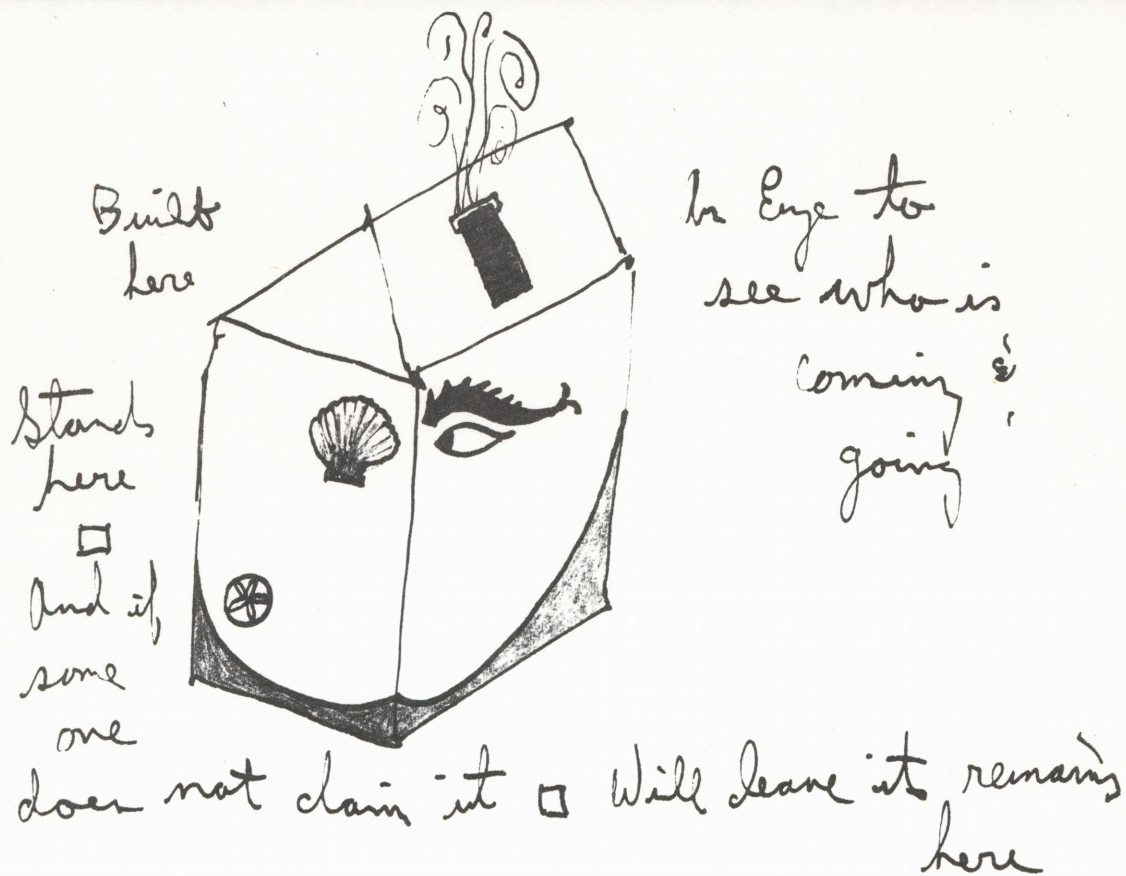


To study under
a mural that
Foretells
your
future

Reminder



Rendezvous



I wish it were possible

wrote Benjamin Franklin two centuries ago, "to invent a method of embalming drowned persons, in such a manner that they may be recalled to life at any period, however distant; for having a very ardent desire to see and observe the state of America a hundred years hence, I should prefer to any ordinary death, the being immersed in a cask of Madeira wine, with a few friends, till that time"

Interiors

wind cannot
penetrate

more
resistant



I forget to
duck
and I hang
my
head

It's
a menace

It
persuades
me.

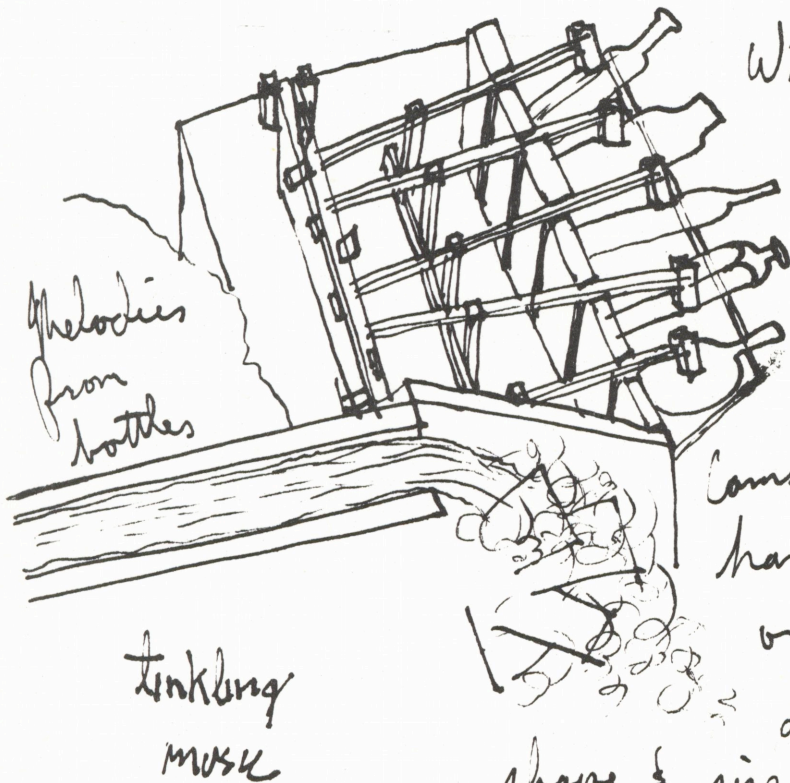


1. house that
wears a
scary
face



no harm will
come to the
household
or to those
who
come to
call

Will it work?



Melodies
from
bottles

tinkling
music

Water flows
through the
trough,
turning a
paddlewheel.
Combs activate the
hammers, tapping
out a scale
determined by
shape & size of bottles

Bitch bitch, bitch

The first thing we must get rid of is this horrible independent little misery called the suburban home. It is using up an enormous amount of hardware, creating an enormous amount of pollution, and producing unhappy people.

The openness of a modern house eliminates all privacy. Messing up the kitchen now means messing up the living and dining room. Houses, whether architect-designed or mass-produced, strangely ignore the needs of people — even their measurements.

The design and placement of beds often requires special acrobatic abilities of the people who must make them. Just think about the energy consumption of just this one daily exercise. Why is it that kitchens always seem to be designed for one person to work in; not for an entire family to work together?

What is wrong with sharing household spaces and equipment? Communal kitchens could be a great help to families where both parents are employed.

Other household work-saving services could be available on a communal basis; such as built-in child-care centers, recreation rooms, communal dining rooms, and other shared facilities that not all families can afford. These could reduce the isolation of women with small children, as well as lighten the burden of repetitive household chores.

The standard suburban home is really an inflexible cage for most people, no matter how decked out with deep carpeting and riddled with machines..

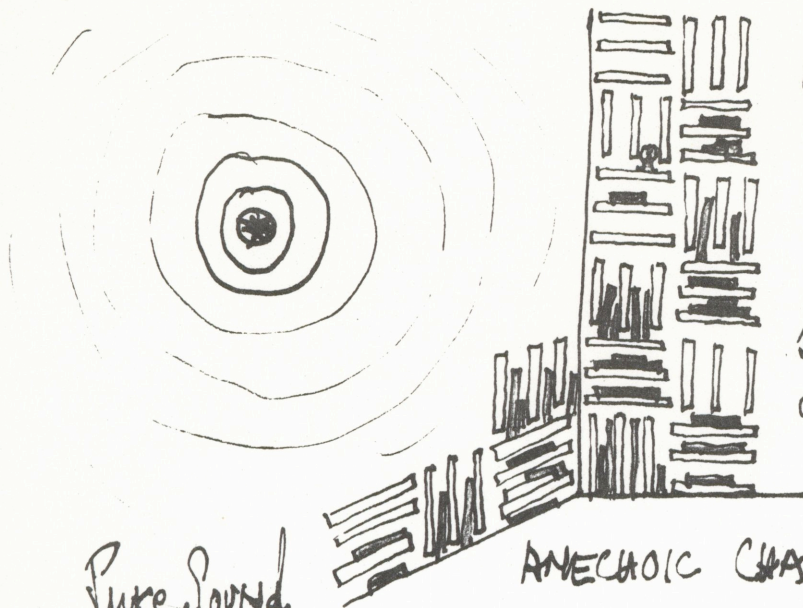
Here is where we run into—BIG BUILDINGS—again. The stacking up of people into high-rise tower apartments is certainly no answer to the housing problem—it is much worse.

The present form of apartment building is socially brutalizing. The people are isolated because of the "hard" separations between apartments and floors.

The public-housing high-rise towers have become

symbols of social and human failure, which in
no small way is due to the design and quality
of the physical environment created by us arch-
itects.

Why not bitch?



a weird
room
of silence

shelves in walls
of free space room

Pure Sound

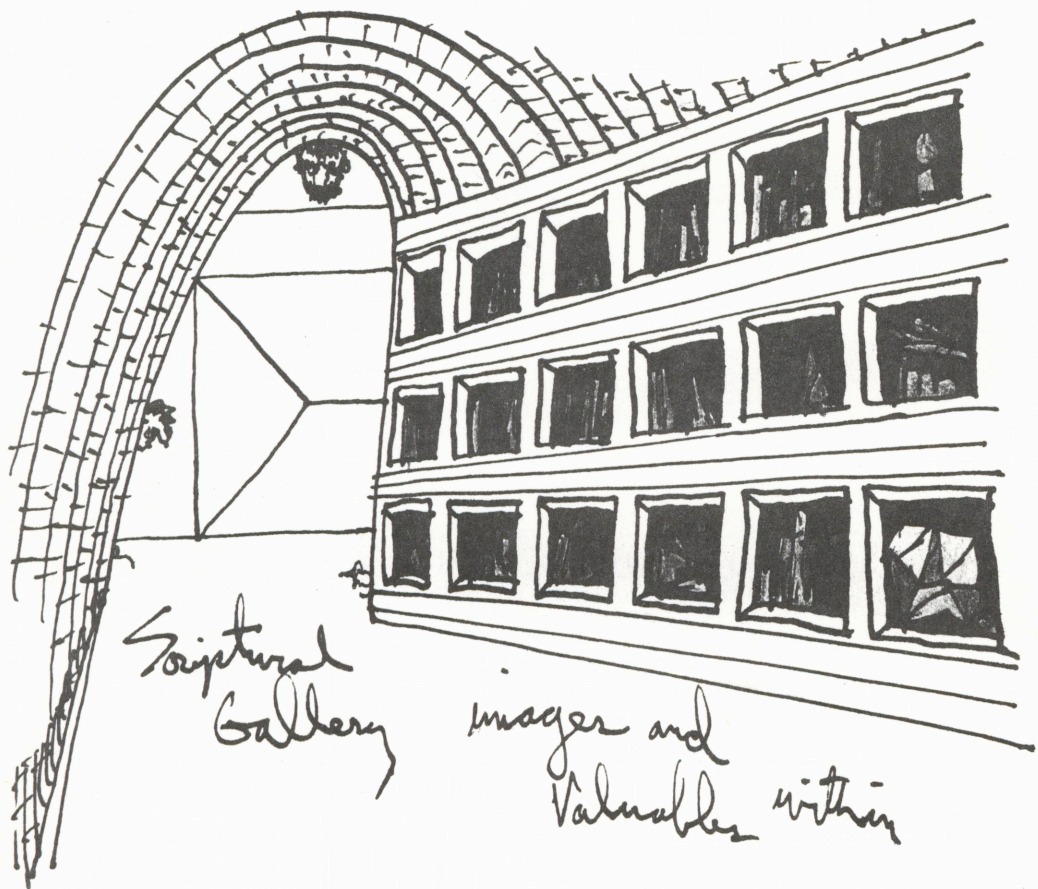
ANECHOIC CHAMBER

stifle echoes

Other silence may be oppressive to some,
frightening to others.

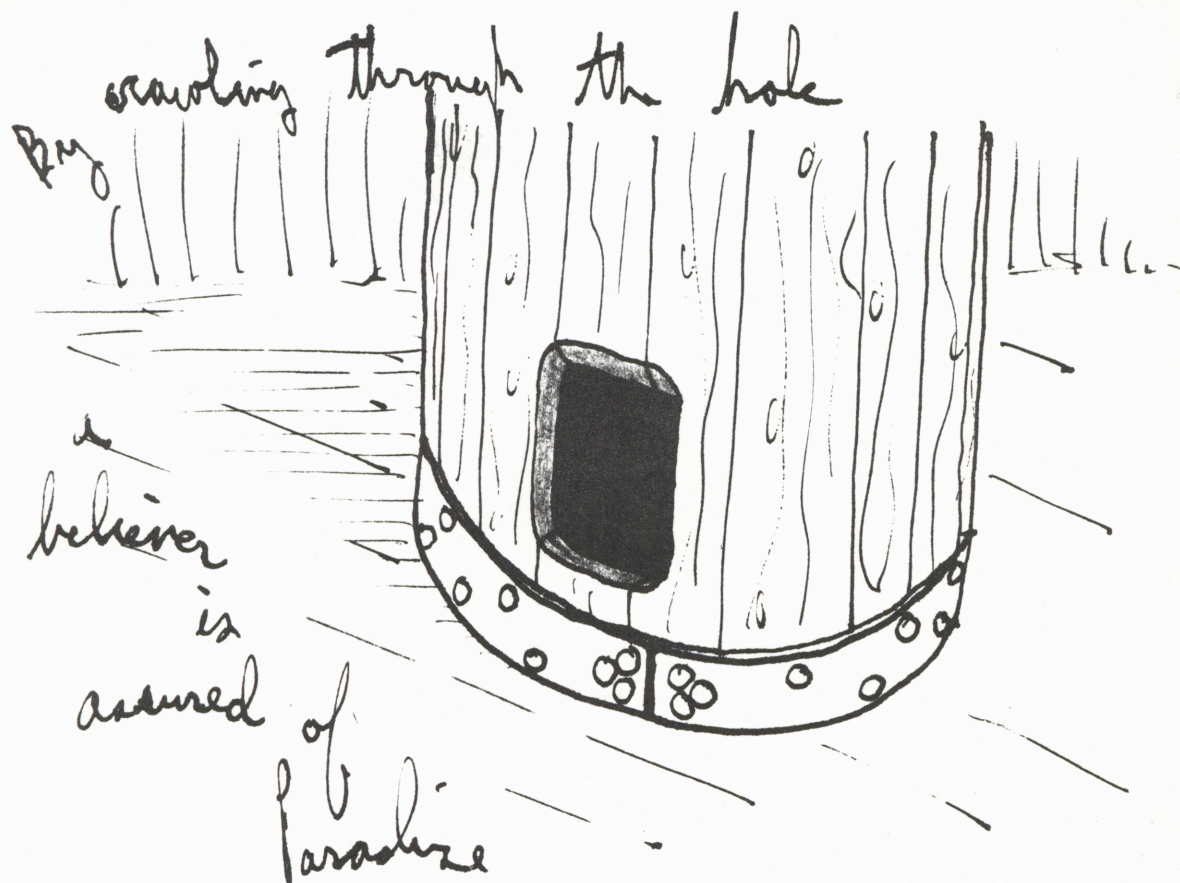
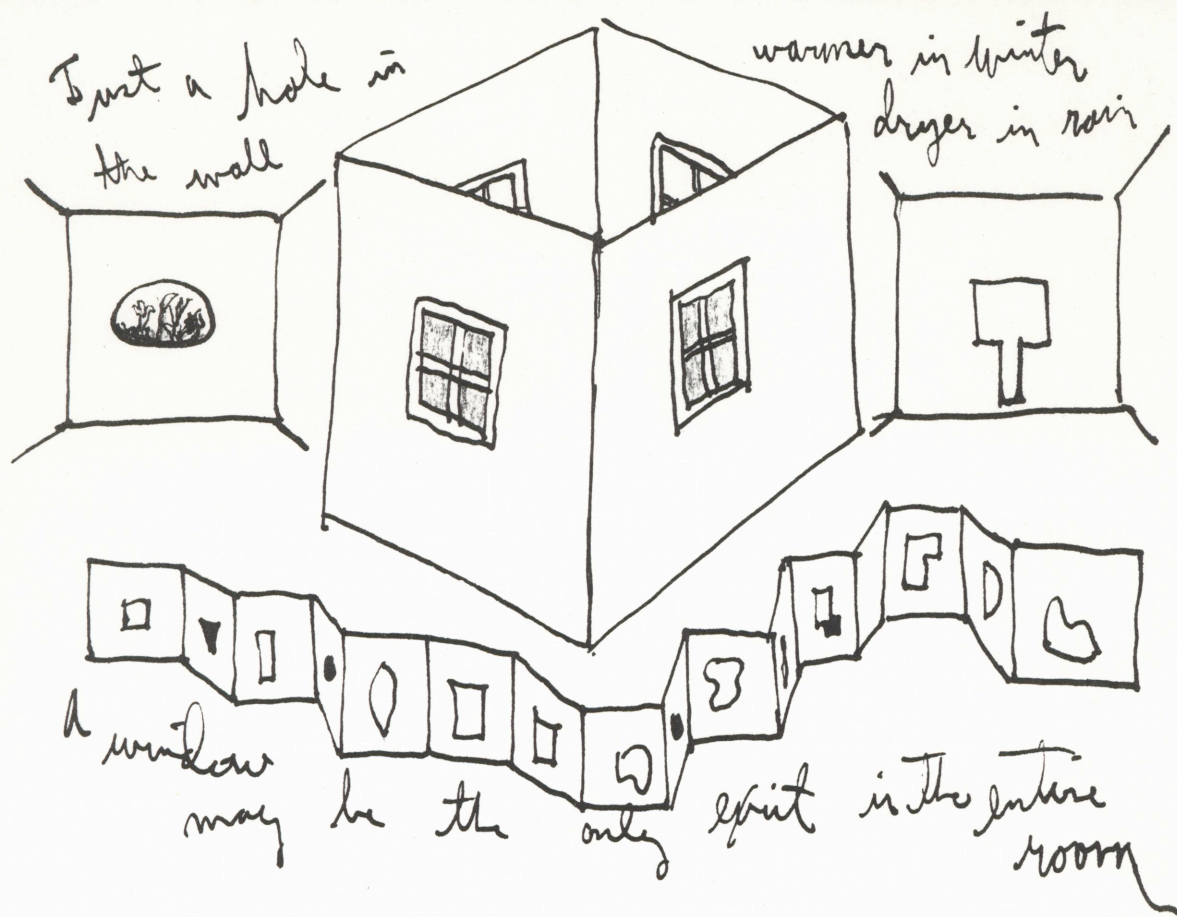
and eliminate
outside noises

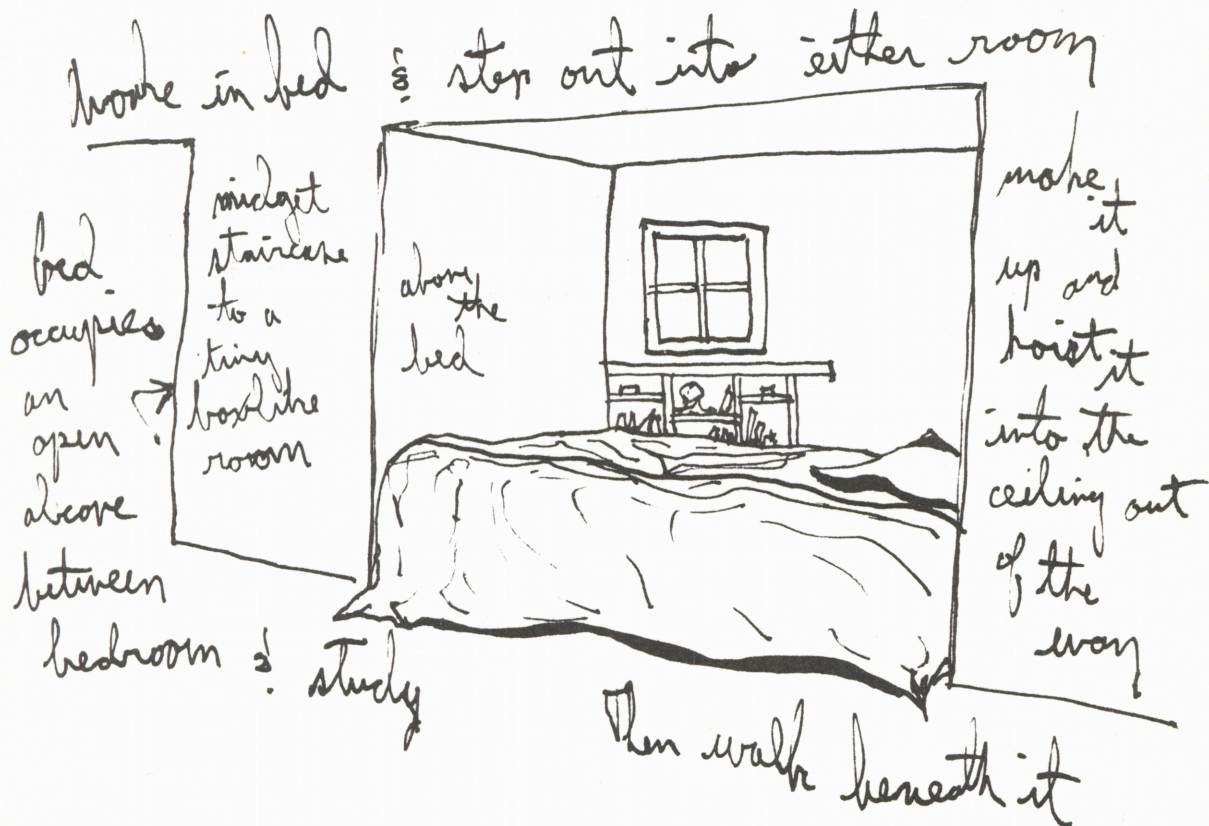
Startling



Scriptural
Gallery

images and
valuables within







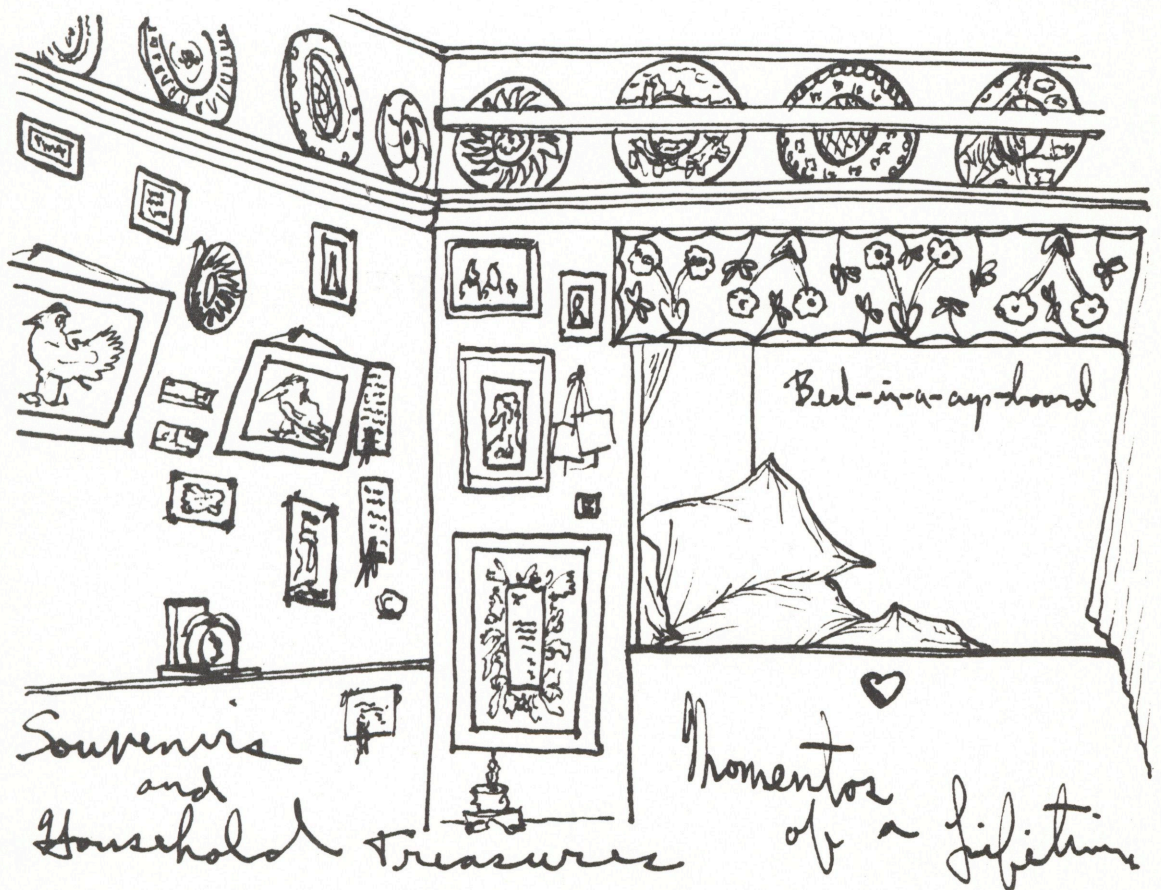
Narrow Stairs



Walls upholstered
with linen
Wooden pins
instead of
nails

climb a
roof top

overlooking
water



Souvenirs
and
Household Treasures

Bed-in-a-cupboard

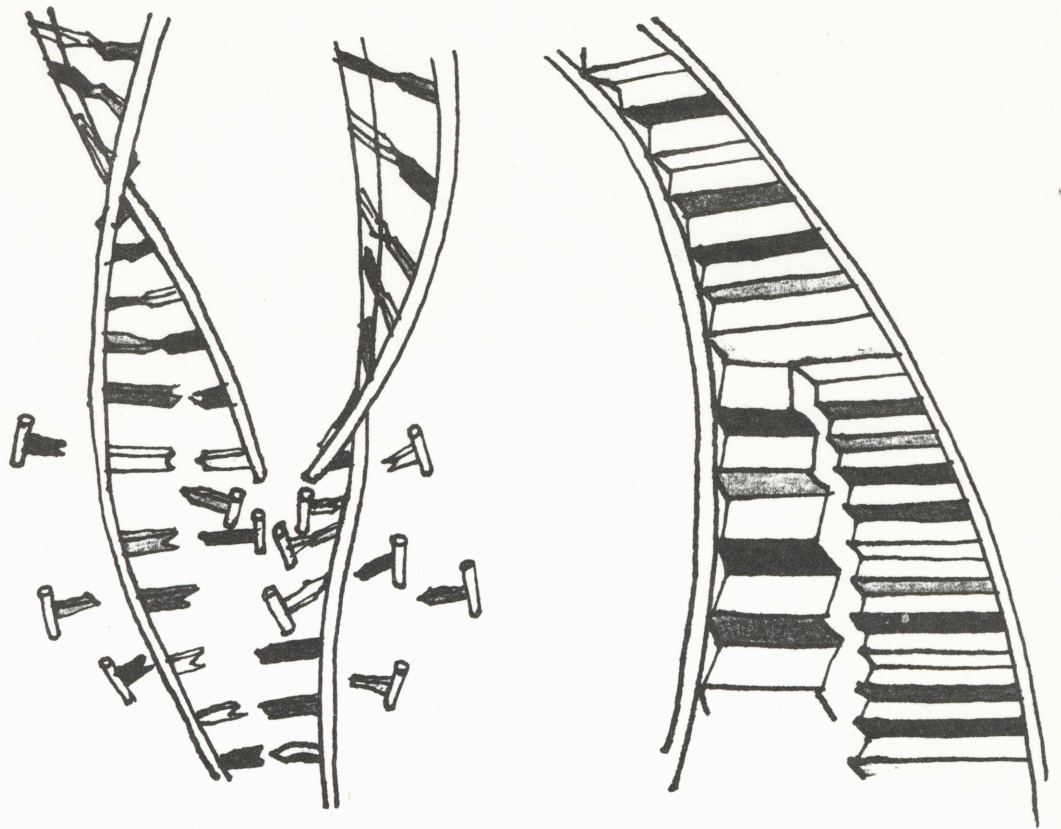
Mementos
of a Lifetime

Through the mist of years

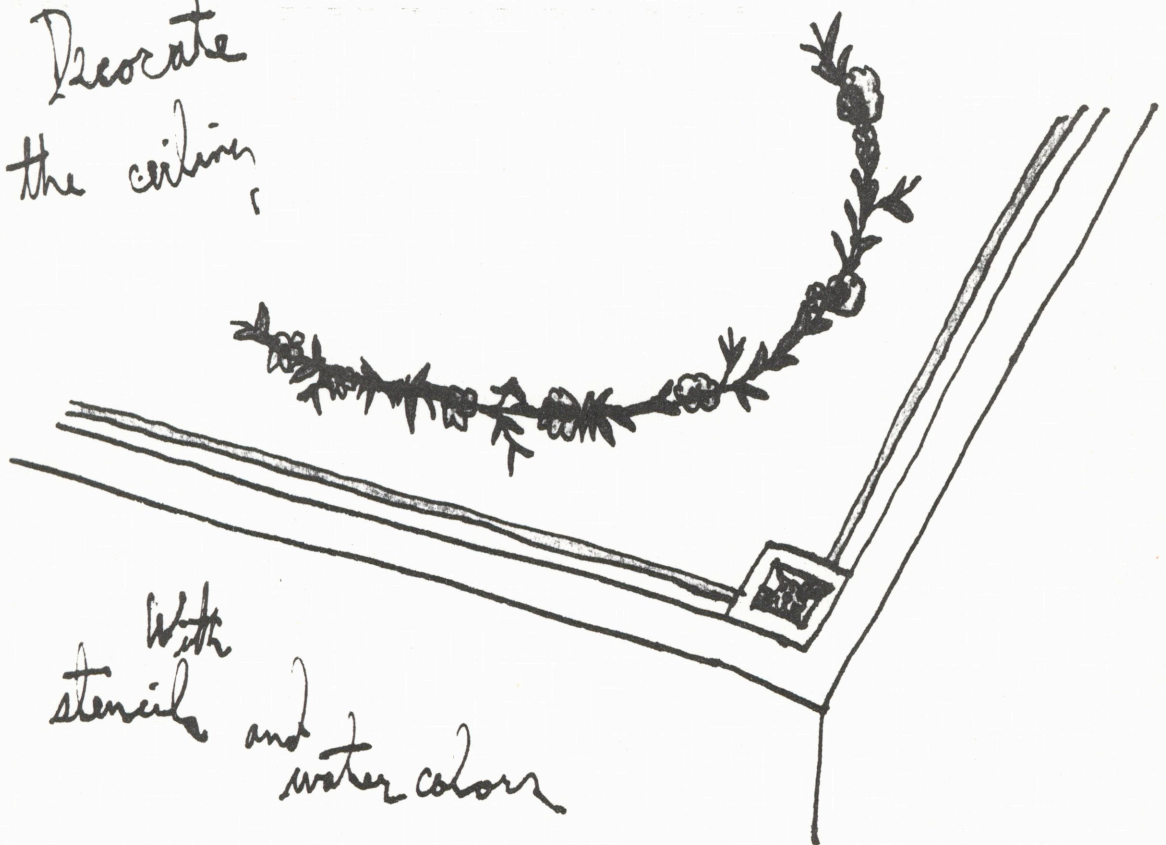
"This love of visiting and contemplating places filled with local impressions, generated by the events and doings of our forefathers, is one of the strongest and purest feelings of our nature, and one which we wish to foster, with warm hearted interest. . . . It flings over the imagination a delightful spell, where fancy draws those pictures of the past, more homebred, social and endearing, when viewed glimmering through the mist of years."

Some unknown

Philadelphian, 1830



Decorate
the ceiling



With
stencils and
water colors

Stained-glass with living life



assemble cut-out pieces to test



work from black-and-white cartoons copied in larger size

embellish & fire then fasten with lead

A new hexagonal towered church rises beside the jagged ruin of the old

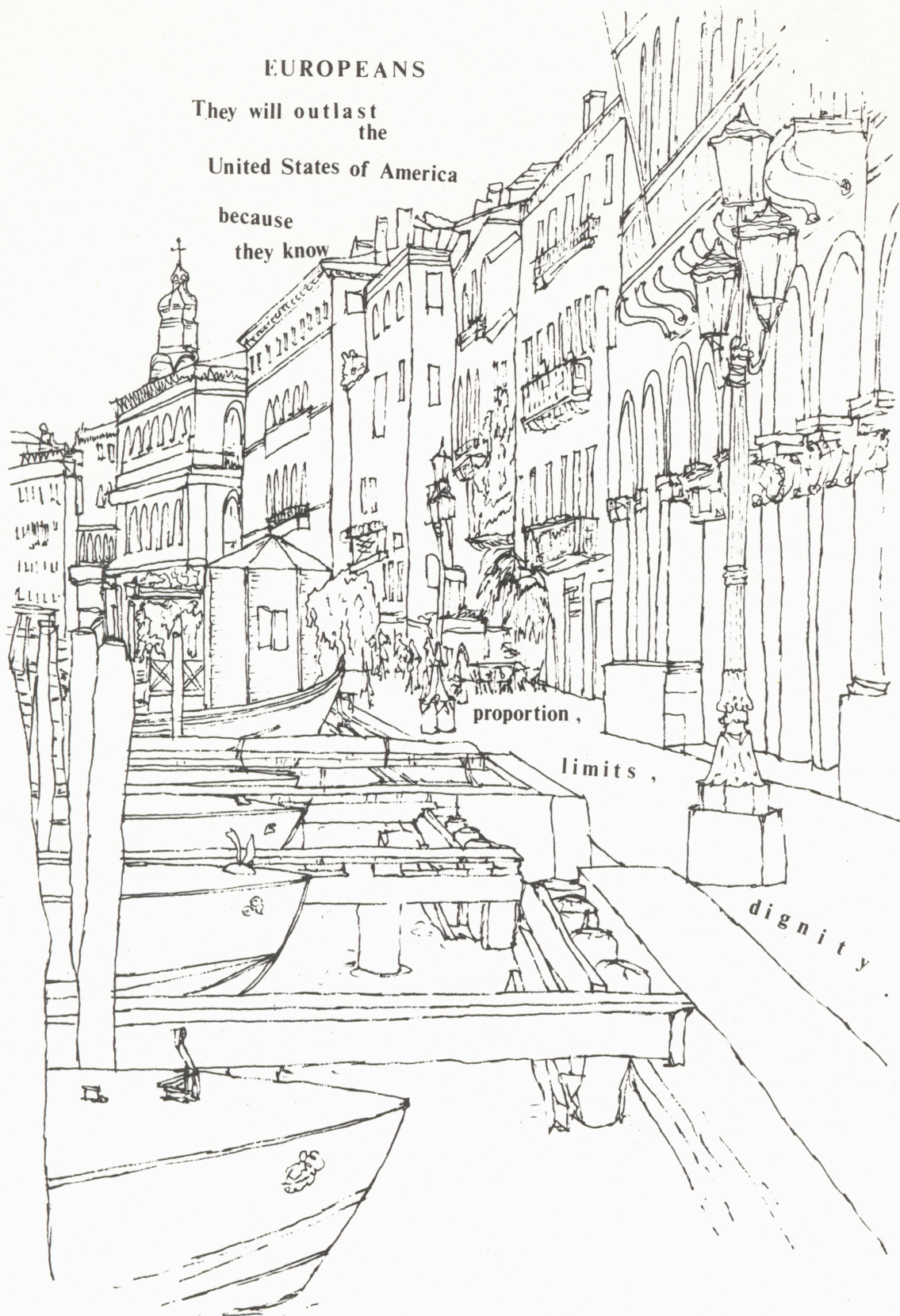


left standing as a reminder of War



EUROPEANS

They will outlast
the
United States of America
because
they know



proportion ,

limits ,

dignity .

TO CLIMB

IN OURSELVES

THE TREE IS HIDDEN

NEVER SEEN

CLIMB TOWARD SOME FAR SKY

THE EVER-GROWING TREE

WORDS

ON

CLIMB

TO

MYSTIC

UNKNOWNING THE PRECISE

TO STAND UNMAGICAL

TREMBLING PLATFORM

ORDINARY

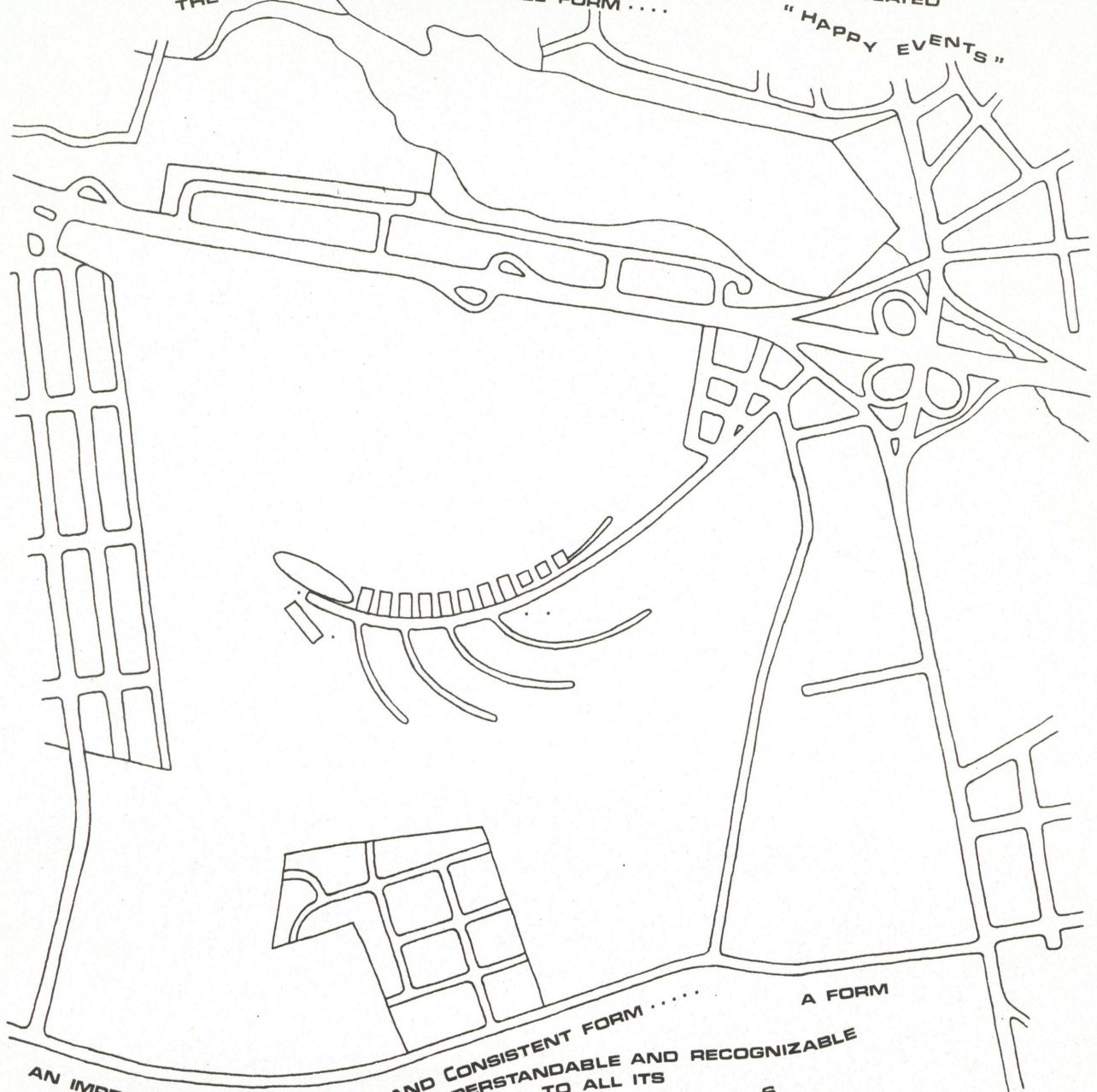
UNMAGICAL

PLAIN,

GIANT BEANSTALK
H W

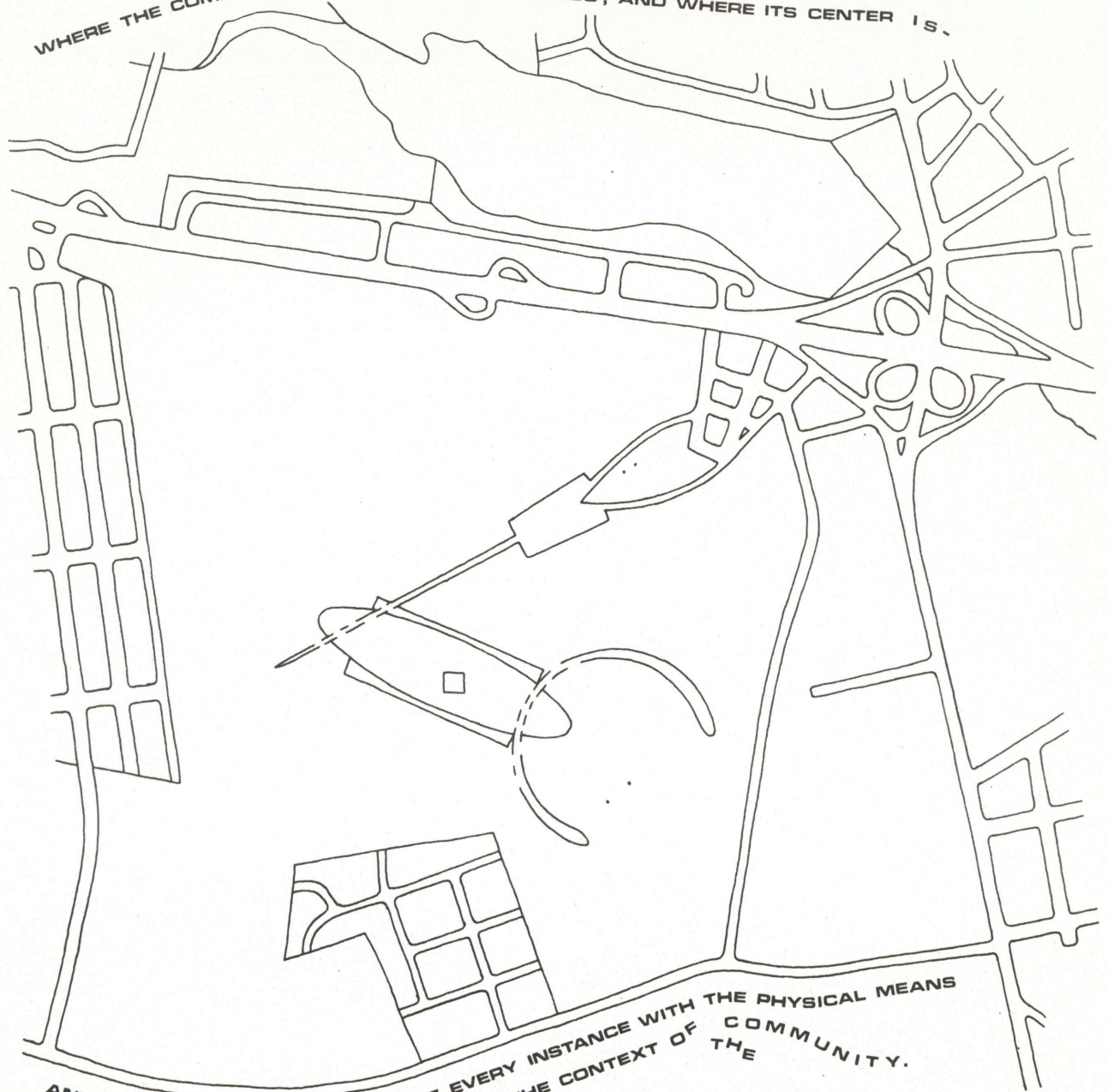
MAGICAL OF BRAIN A WIZARDRY THAT KEEPS ALL SHAPES PURE
orphitecture
SHADOW
THE ILLUSION
VOODOO SPELLS
A GHOSTLY POTENTIALS
MAGIC AND MECHANICS
PRESTO . OF . HAND
INITIATED . CHANGO OF FORM
MAGIC . WORKING FORMS
MYSTICAL DIALOGUES
SPELLS AND CHARMS
GHOSTLY EIDOLONS
ELUSIVE TWILIGHT
BLACK MAGIC
OBSCURANTISM
CORE OF MAGIC
HOCUS . POCUS
MYSTIC
ONLY THE MYSTERY OF OBJECTS , S A V E
SPELL
ABRACADABRA
O ENTRANCING
R SORCERY
P SECRETS
C
WHAT COULD BE KEPT FROM BEING GROUND INTO DUST . THIS IS NOT WISE .
ILLUSION THIS IS NOT WISE .
THE ILLUSIVE HALF-HIDDEN FADING , FADING
THAT MYSTERIOUS NATURE TO TRUDGE THE WORLD
BACK INTO THE SILENCE &
MYSTERY

THE
ARCHITECTURAL CHARACTER
OF THE COMMUNITY IS NOT ENTIRELY THE OUTCOME OF CERTAIN ISOLATED
BUT IS MORE SO
THE INTENTION OF AN OVER-ALL FORM
"HAPPY EVENTS"



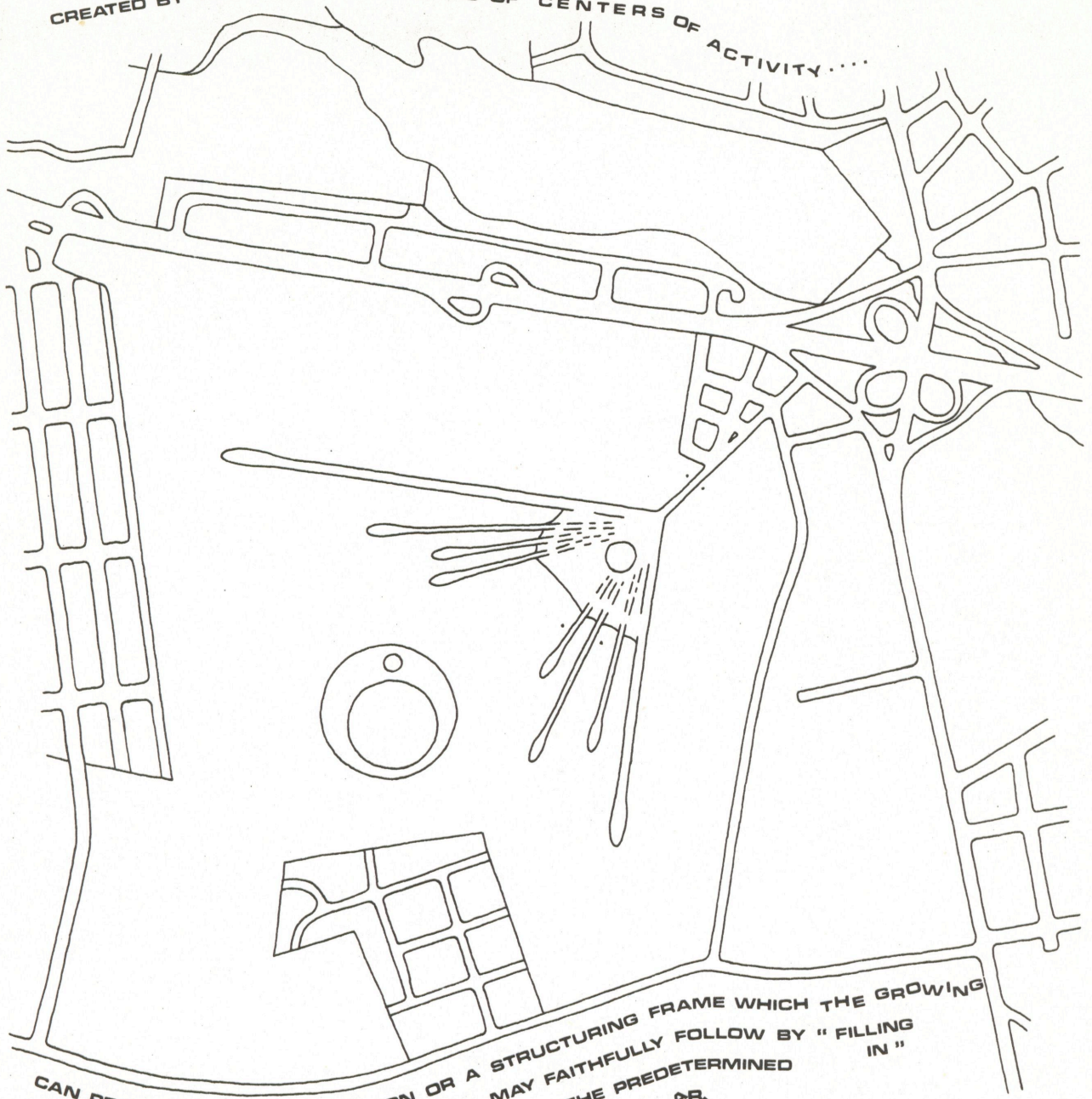
AN IMPRESSIVE, PERCEPTIBLE, AND CONSISTENT FORM
UNDERSTANDABLE AND RECOGNIZABLE
TO ALL ITS
INHABITANTS.
A FORM

THE FORM CAN DELINEATE CLEARLY
WHERE THE COMMUNITY STARTS, WHERE IT ENDS, AND WHERE ITS CENTER IS.



AND CAN PROVIDE THE VISITOR AT EVERY INSTANCE WITH THE PHYSICAL MEANS
OF ORIENTING HIMSELF WITHIN THE CONTEXT OF THE COMMUNITY.

THE PATH NETWORK
CREATED BY THE INTERRELATIONSHIPS OF CENTERS OF ACTIVITY....

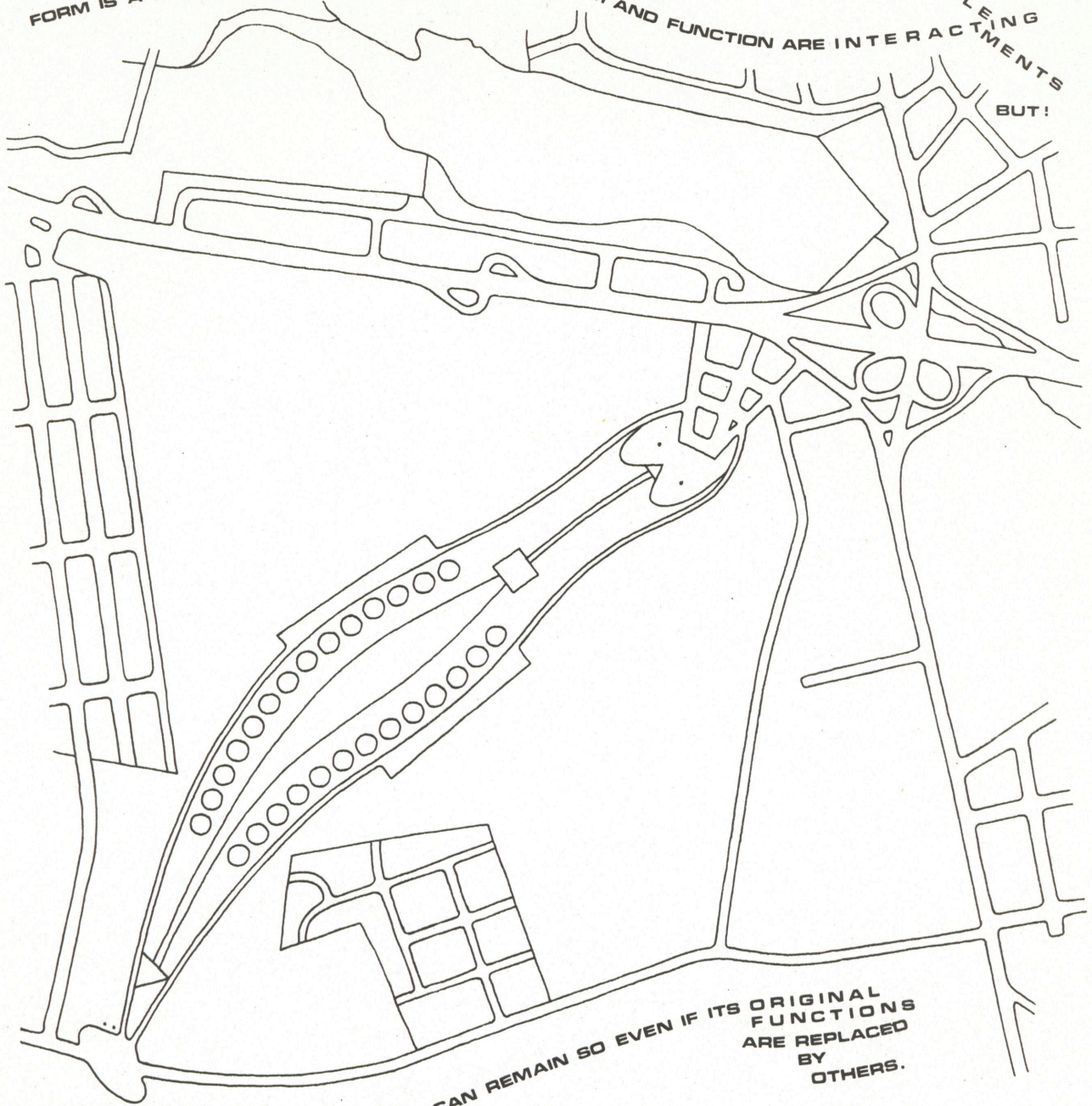


CAN PRODUCE A BASIC SKELETON OR A STRUCTURING FRAME WHICH THE GROWING
COMMUNITY (WITHIN LIMITS) MAY FAITHFULLY FOLLOW BY " FILLING
THE PREDETERMINED IN "

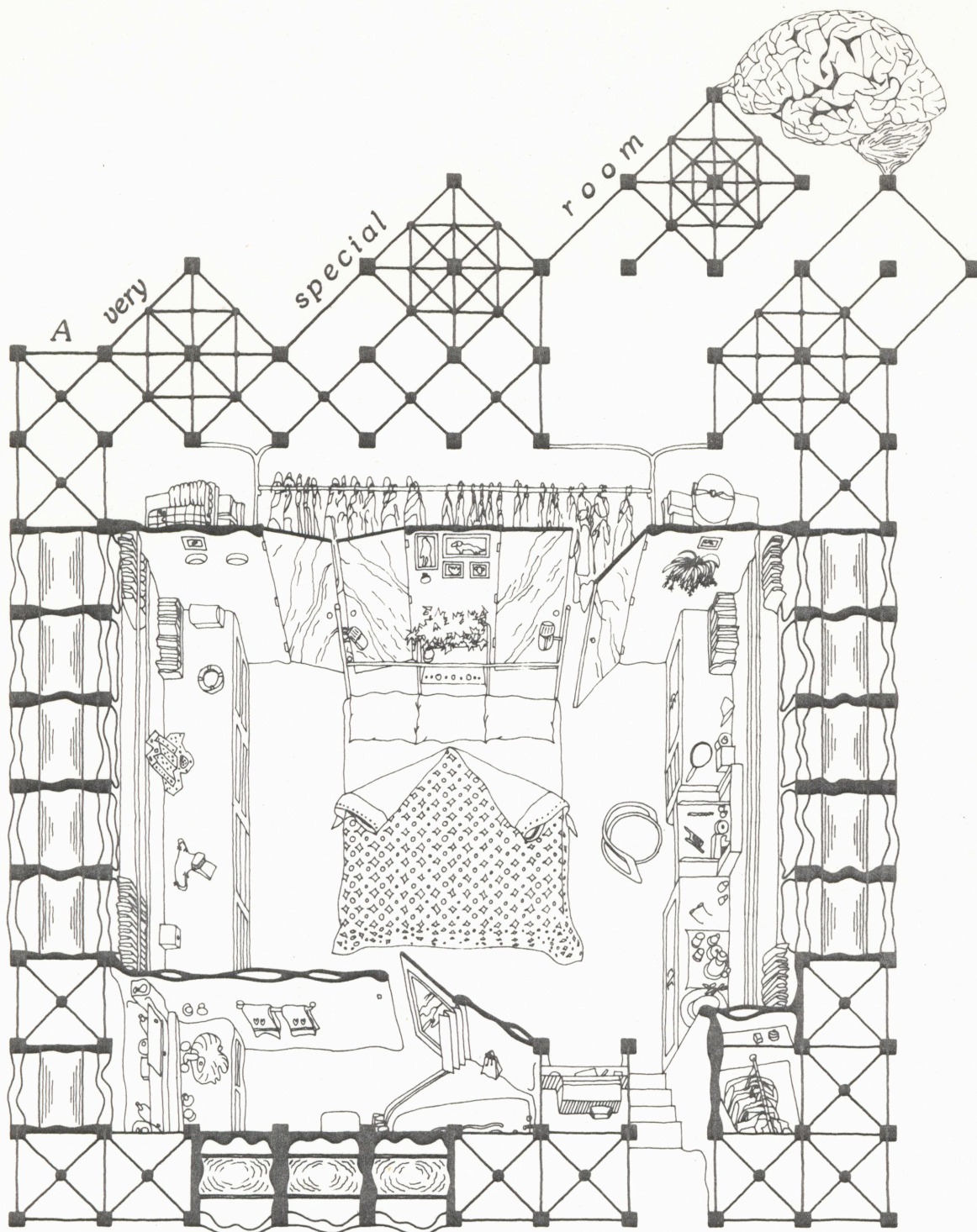
PR
SP

FORM IS A PRODUCT OF CERTAIN FUNCTIONS

FORM AND FUNCTION ARE INTERACTMENTS
ELEGANT
BUT!

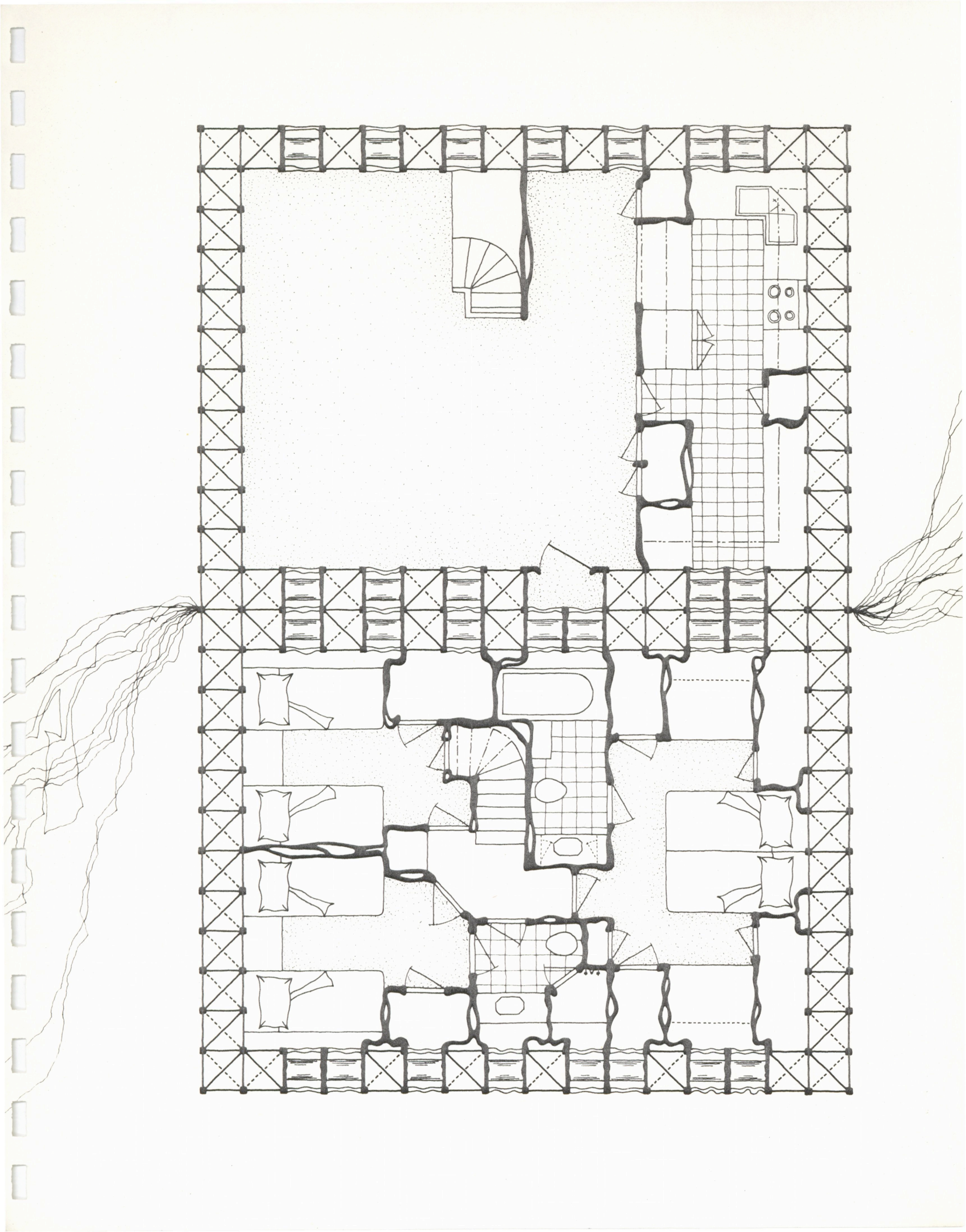


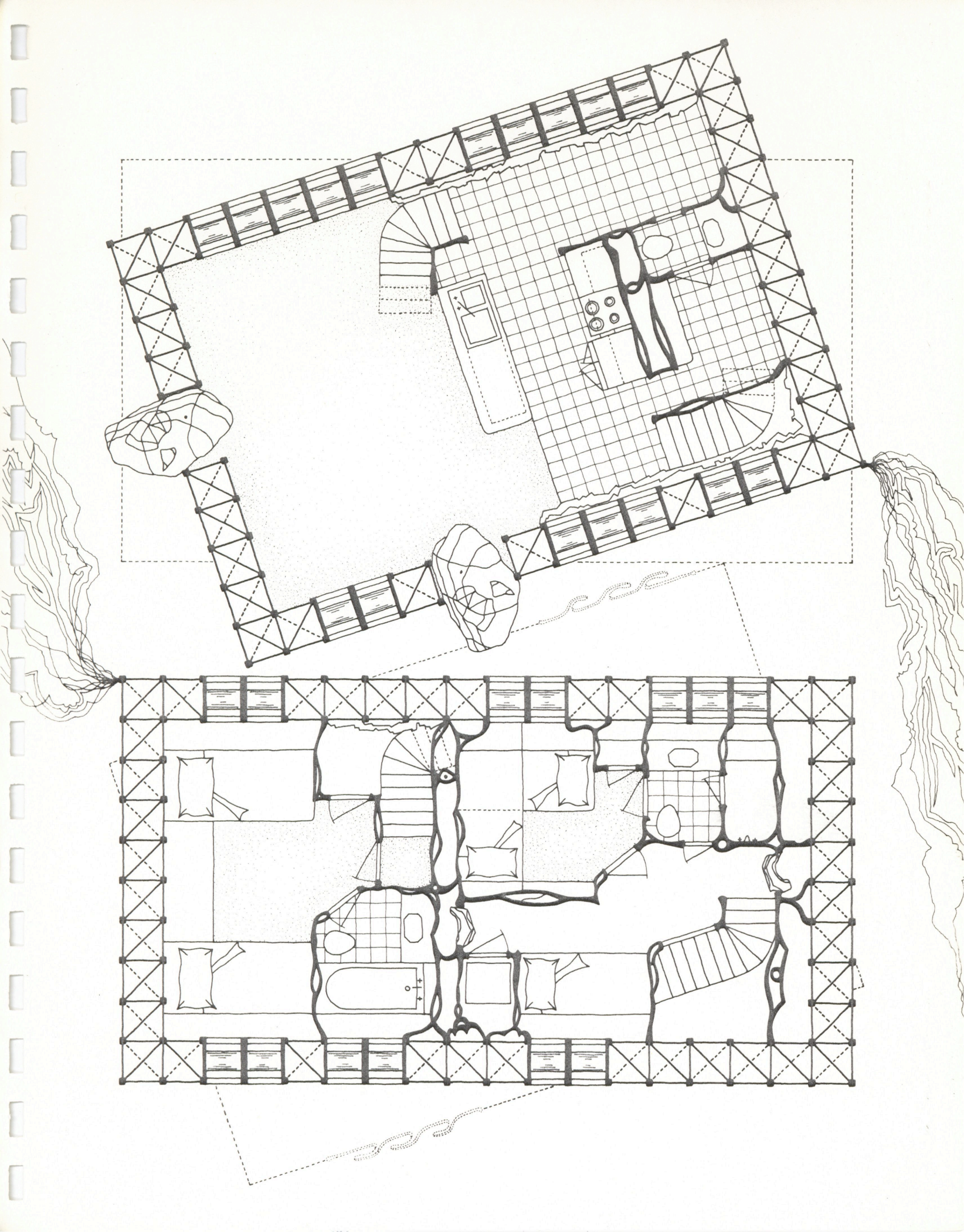
A POWERFUL AND DIGNIFIED FORM CAN REMAIN SO EVEN IF ITS ORIGINAL
FUNCTIONS
ARE REPLACED
BY
OTHERS.

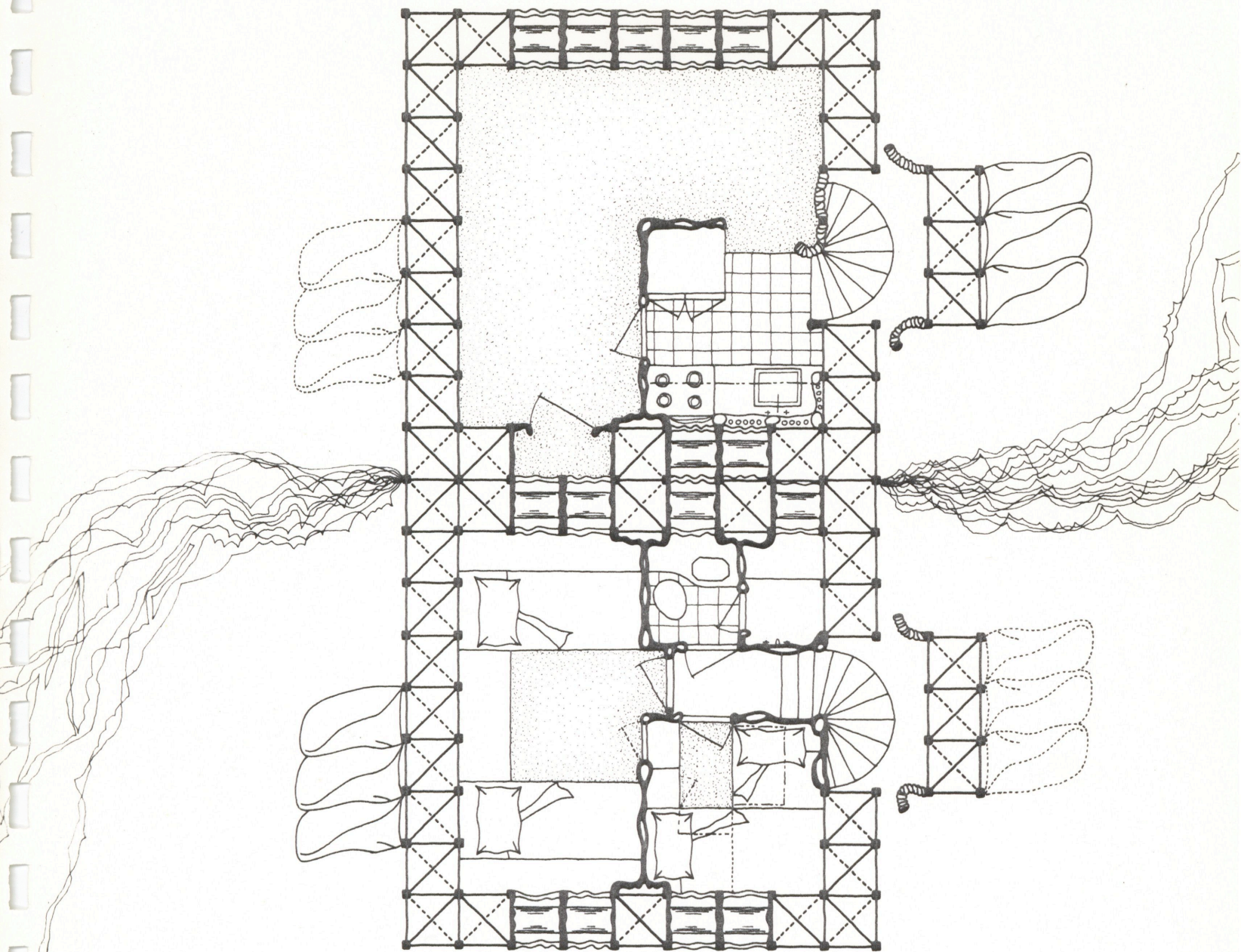


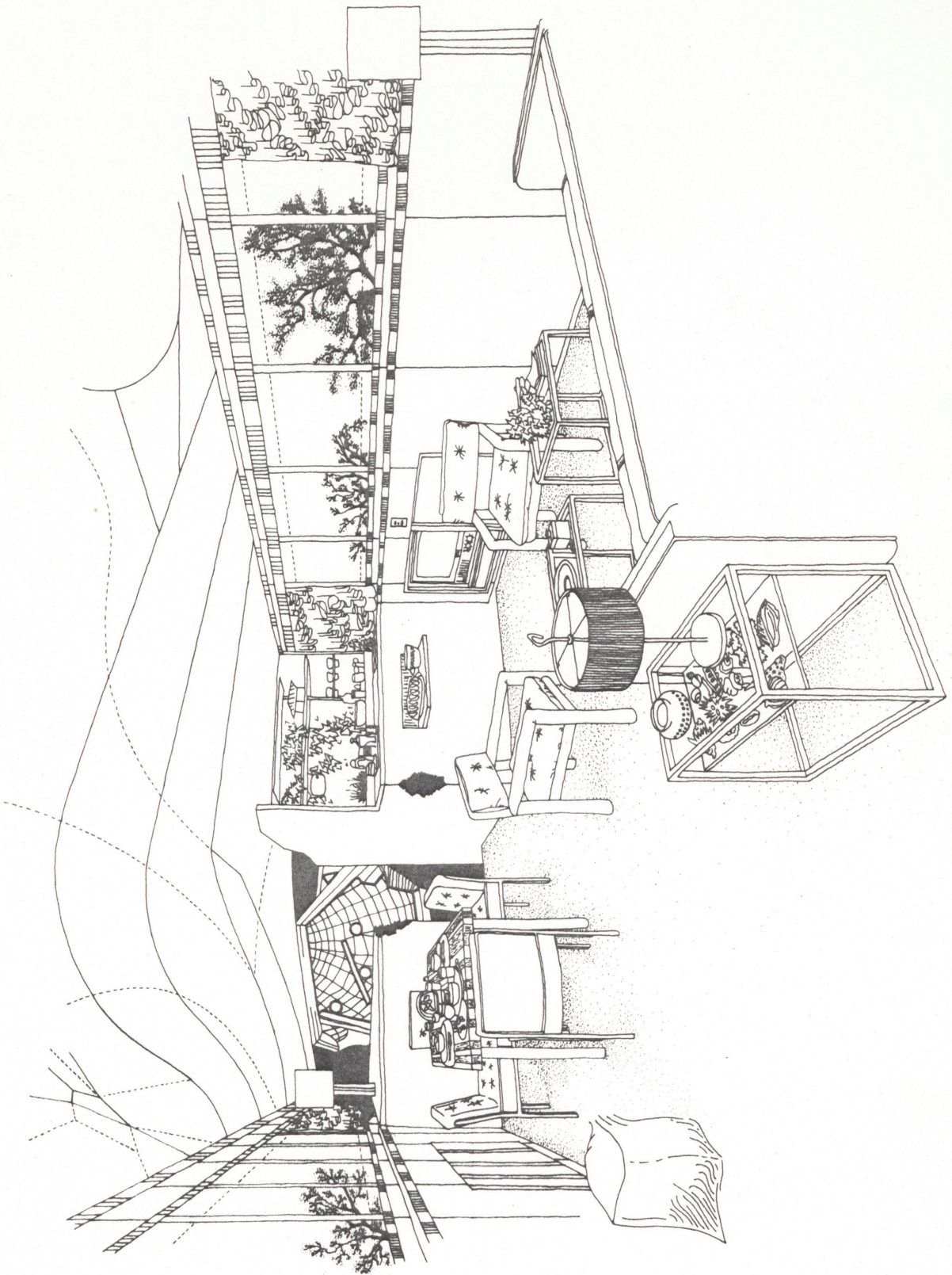
"You see? It's relatively simple."

L7









TRULY YOURS
I INTEND TO PRODUCE A

Why did I do this?

Why do anything?

Why did we sail westward out of Europe, at a ruinous cost, and risk falling off the edge of the world?

To see what's over there.

And to find a new world, green and virgin, rich and full of gold.

And full of hope.

Why look into microscopes, facing ridicule and hunger and the waste of a lifetime?

To see what's down there.

And to find new microworlds, full of cures and knowledge of ourselves.

And full of hope.

Why do anything? Why go to the moon, the planets, and the stars?

To see what's out there.

Somehow inevitably to make us more than we are.

To find unimaginable new answers, inexpressible new excitements, indescribable new hope.

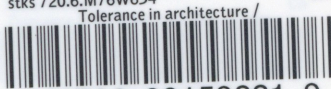
The search is exciting, looking for something new and promising, and thank goodness — never ending.

For HOPE, that's why!

Someday

There will be efficient mass produced building systems which will furnish great numbers of people with shelter but will also be tailored to individuals — SOMEDAY, I hope to be a major contributor.

MONTANA STATE UNIVERSITY LIBRARIES
stks 720.6.M76W634 CA



3 1762 00159221 9

LIBRARY
USE ONLY

~~W634~~
~~720.6~~
~~M76~~
~~W634~~

