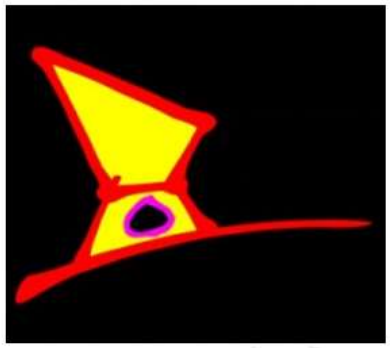
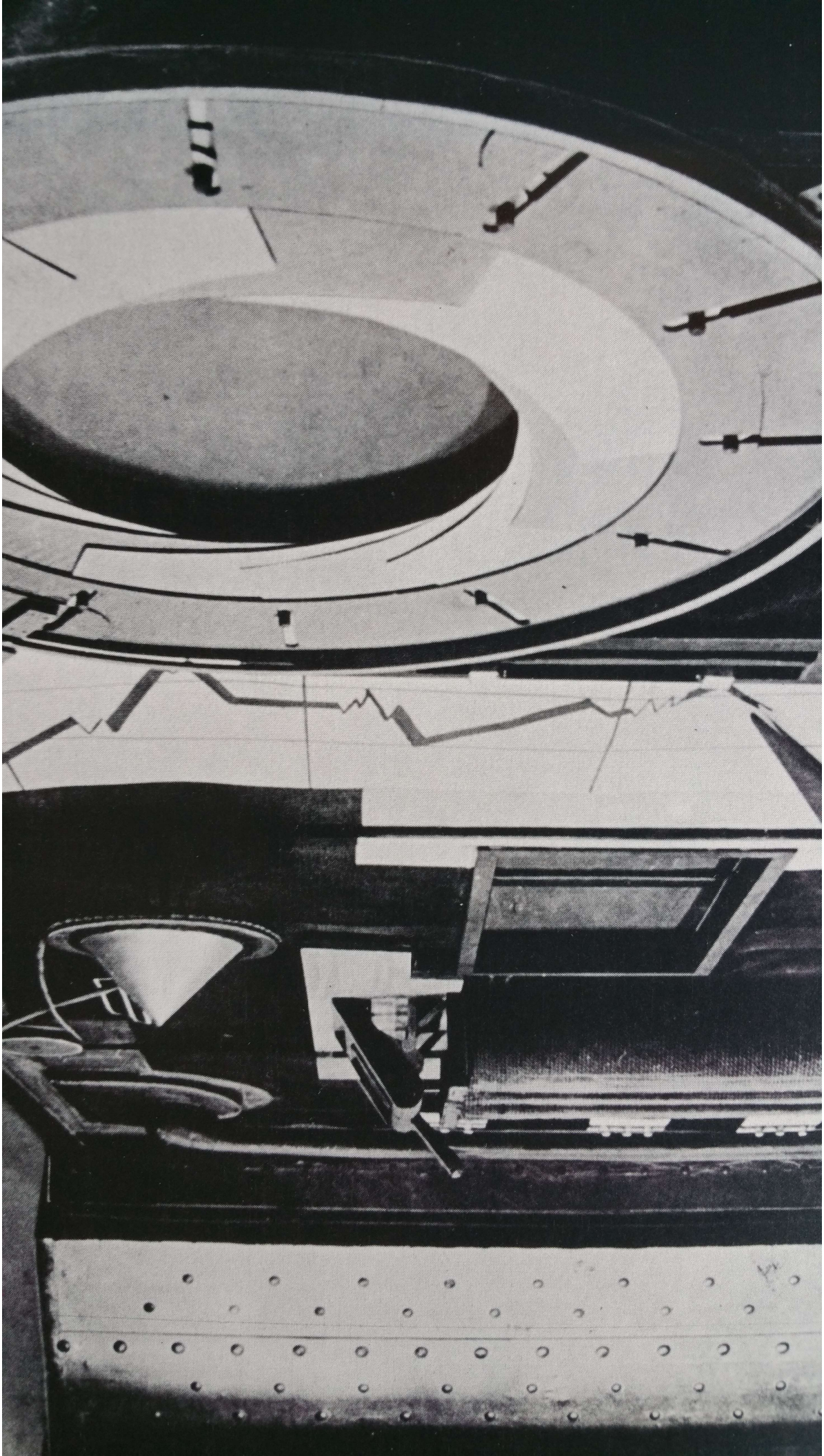
Osher Lifelong Learning Institute
University of Pittsburgh
College of General Studies

Architecture in the Modern Era



Lecture 4:
Gestured Form and Activated Space

Wesley W Posvar Hall
July 8, 2016
Matthew Schlueb, Instructor




8


ТВЛЯЯ ФОРМУ
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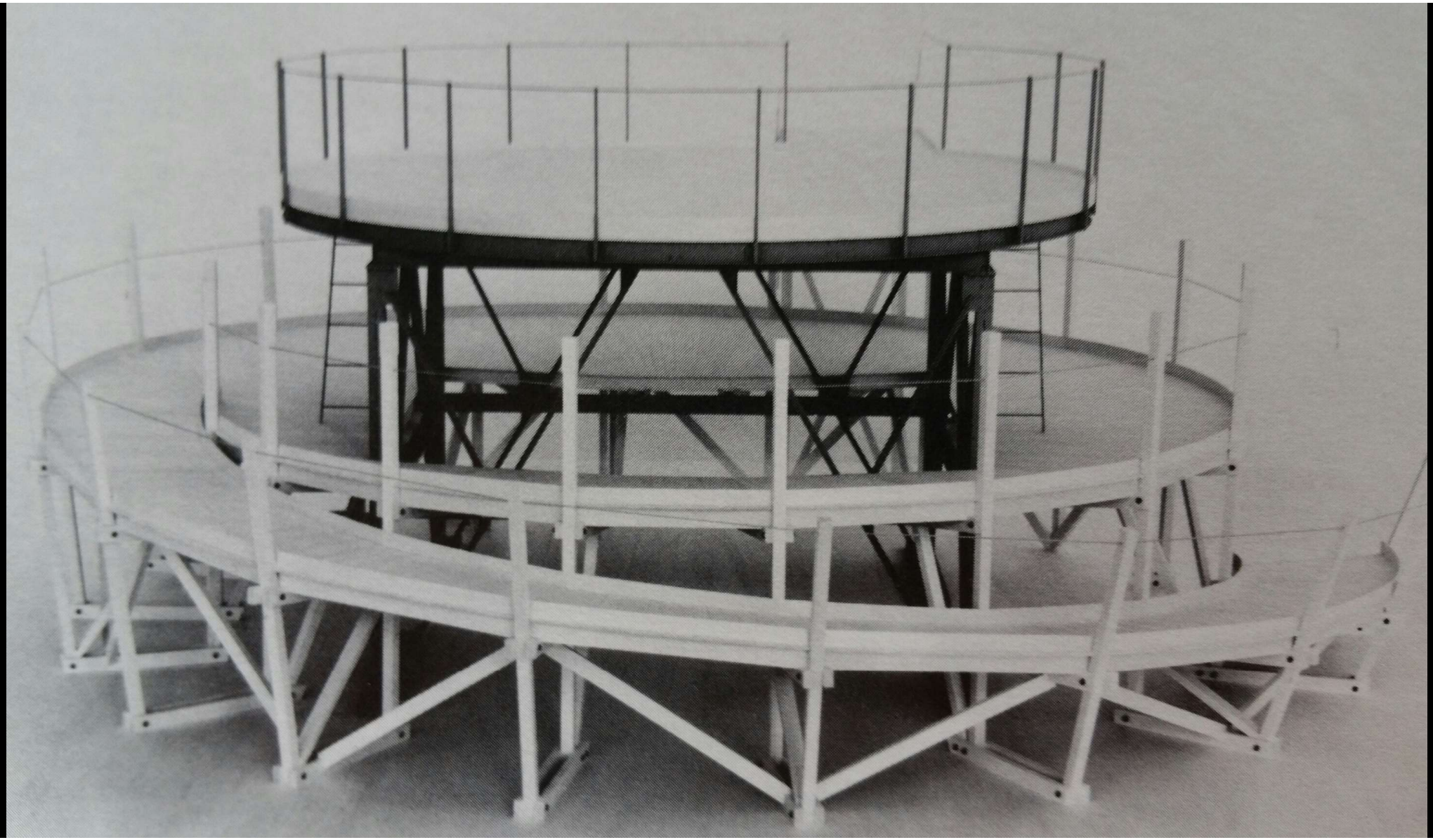
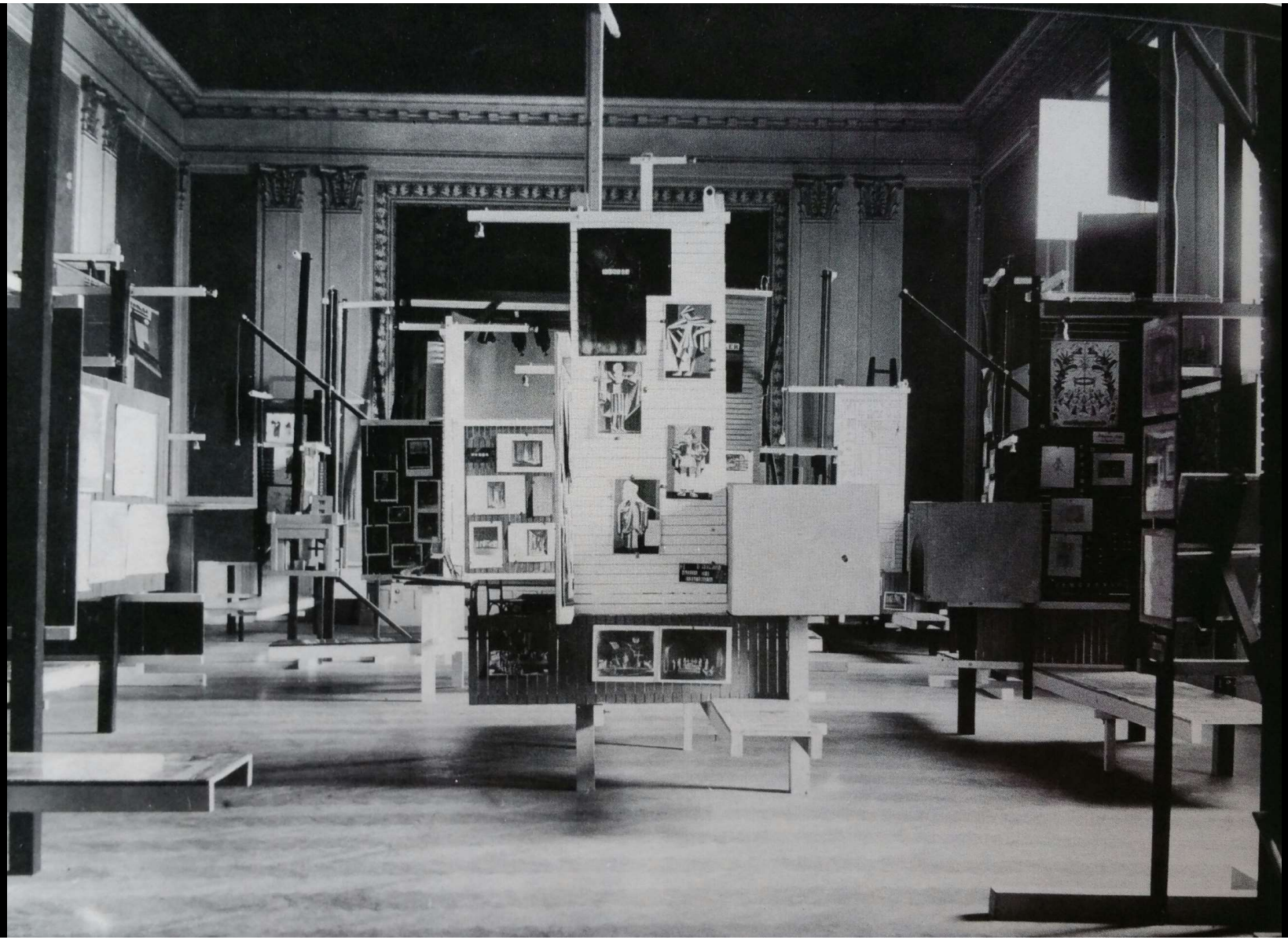
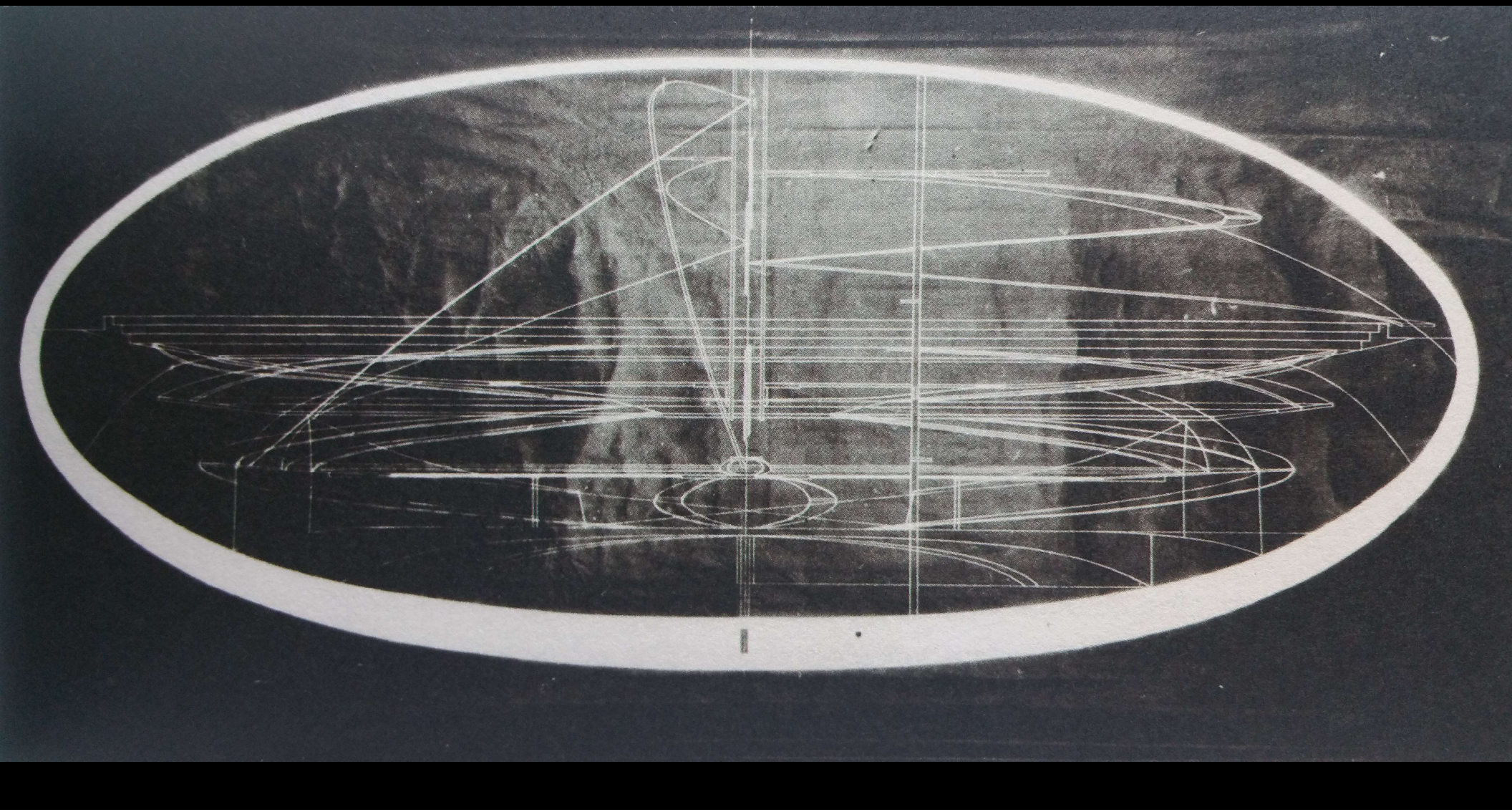
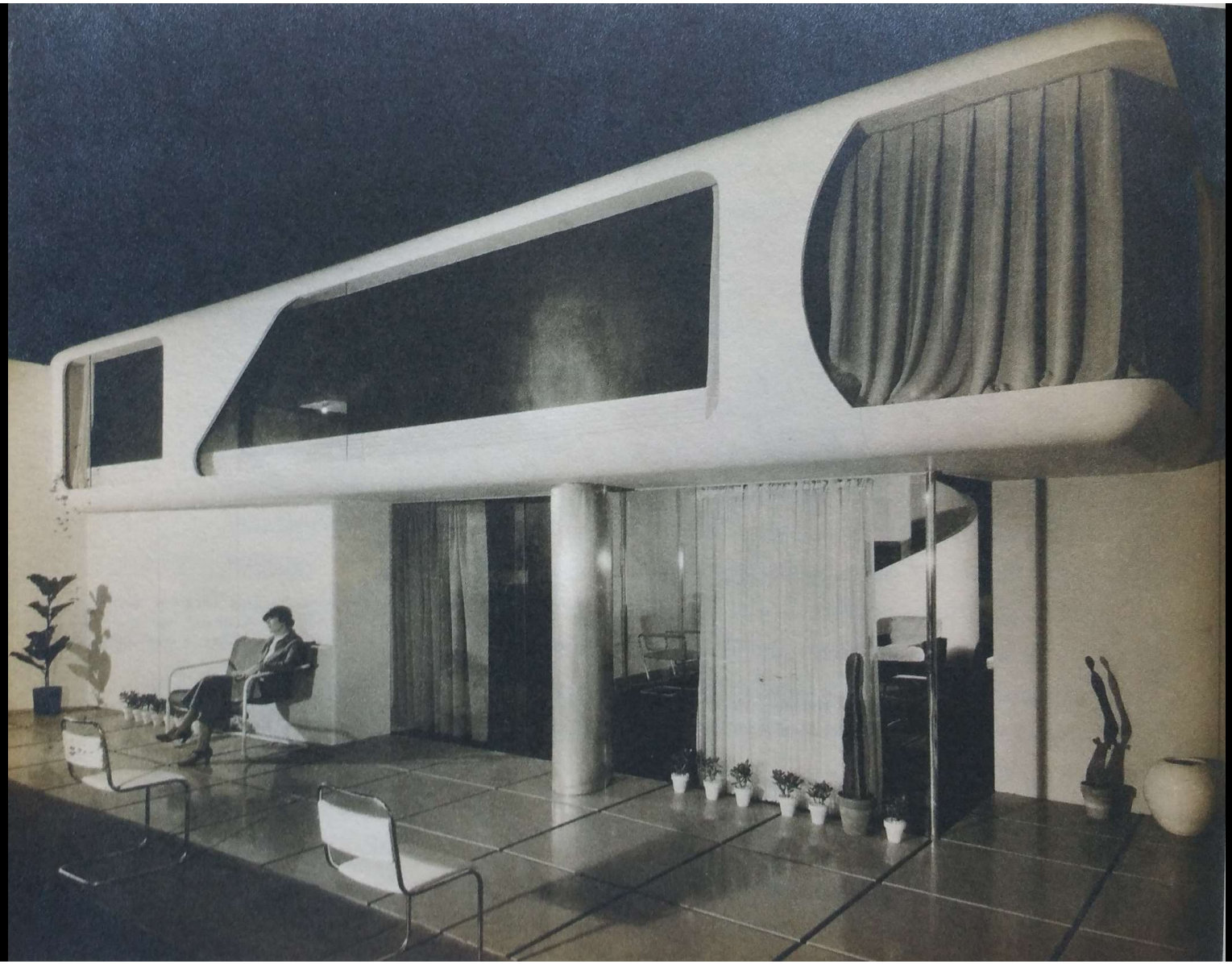
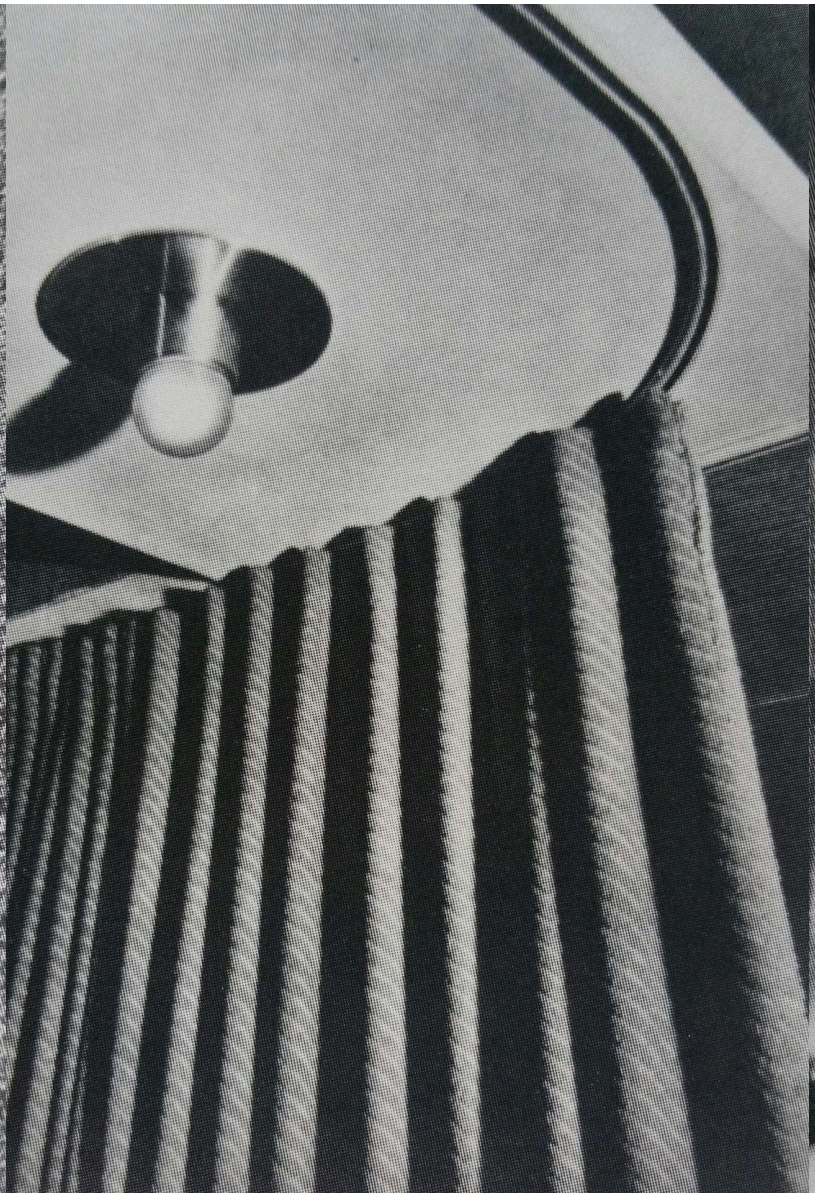
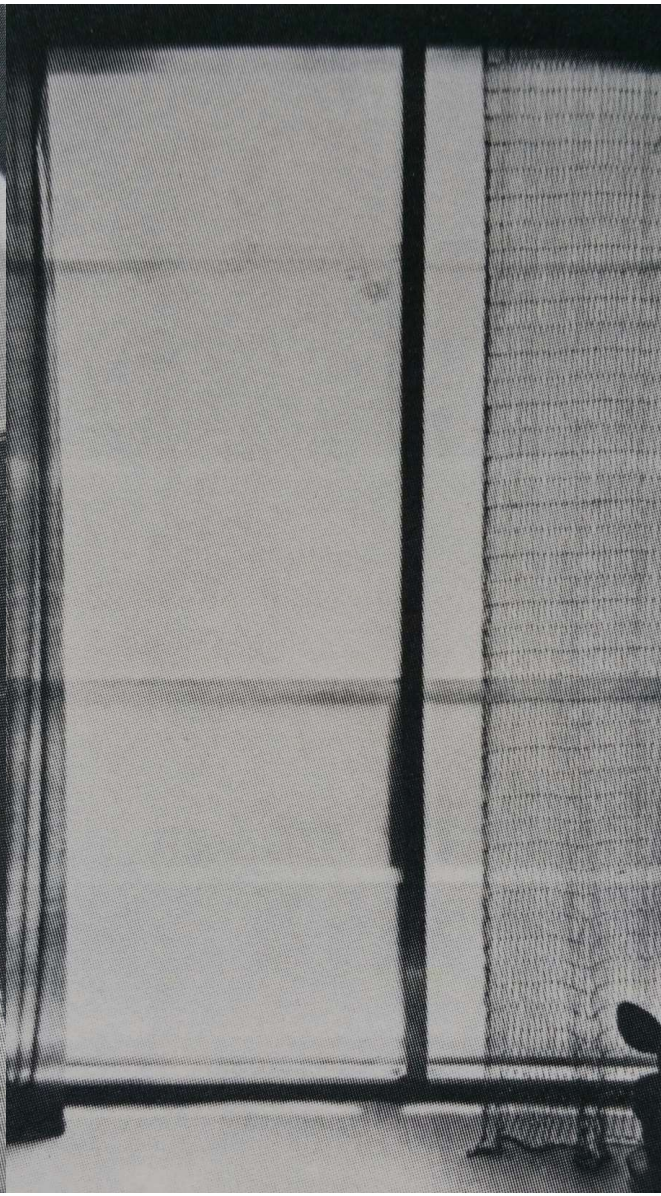













RE-ACTION TOWARDS
NEW STANDARDS
IN LIFE ACTIVITIES
HIGHER PRODUCTIVITY

ON CORREALISM AND BIOTECHNIQUE

DEFINITION AND TEST OF A NEW APPROACH TO BUILDING DESIGN

by **FREDERICK J. KIESLER**

Director, Laboratory of Design-Correlation
Columbia School of Architecture

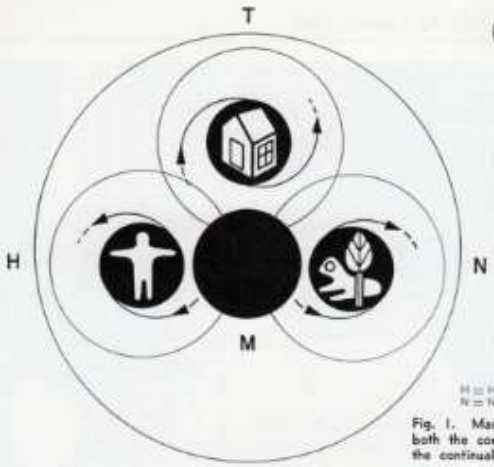


Fig. 1. Man = heredity + environment. This diagram expresses both the continual action of the total environment on man and the continual interaction of its constituent parts on one another.

In this paper* I propose to show that the perennial** crisis in architectural history is due to the perennial lack of a science dealing with the fundamental laws which seem to govern *man as a nucleus of forces;* that until we develop and apply such a science to the field of building design, it will continue to exist as a series of disparate, overspecialized, and unevenly distributed products; and that only such a new science can eliminate the arbitrary divisions of architecture into: Art, Technology, and Economy, and make architecture a socially constructive factor in man's daily activities.

Today we face the task of formulating the *general* laws of the foundations that underly the many specialized sciences, not in terms of metaphysics (such as religion or philosophy) but in terms of work-energies; and the *specific* task of formulating those that govern building design. But the two are intimately related and we in the building field cannot solve our special problems without comprehension of the foundations of such part-sciences, e.g. physics, chemistry, biology, etc. Thus, it would seem imperative that we summarize some of the concepts of modern science and investigate their validity for our specific problem.

Concepts of sciences and the building designer

Man is born in evolution of hereditary trends. He is the nucleus of forces which act upon him, and upon which he acts. Forces are energies. We assume, with contemporary science, that they are of an electromagnetic nature. The interrelation of organic and inorganic matter is a mutual bombardment of energies which have two characteristics: those of integration and those of disintegration.

By means of gravitation, electricity generates energy into solids of visible matter. This is integration. By magnetism and radiation, electricity degenerates energy into tenuous, invisible matter. This is disintegration.

If this general principle of anabolic and catabolic energies were the sole principle of existence, we would have a static, unchanging world. But these two forces (positive and negative) interchange through physico-chemical reactions, one force striving always for a preponderance over the other. In this way *variations* are constantly created; and in this process of creation, new nuclear concepts and new environments are in continual formation.

Reality and form

The mutual biological interdependence of organisms is, in the final analysis, the result of the primary demands of all creatures: proper food, habitat, reproduction, defense against inimical forces. Life is an expression of the cooperation, jostling, and strife of individual with individual, and of species with species, for these primary needs.

*In an earlier manuscript of Mr. Kiesler's ("From Architecture to Life," for Brewer, Warren and Putnam, 1931) the groundwork of this paper was laid: it was first read in approximately its present form at a Symposium on Science and Design held by the Alumnae Association of the Massachusetts Institute of Technology, June 6, 1938; this is its first appearance in print.—Ed.

**See Index.

The visible result of these activating forces is usually called *matter* and constitutes what is commonly understood as reality. The reason for this superficial interpretation of reality lies in the limitation of man's senses in relation to the forces of the universe. For matter is only one of the expressions of Reality, and not reality itself. If matter alone were reality, life would be static.

What we call "forms," whether they are natural or artificial, are only the visible trading posts of integrating and disintegrating forces mutating at low rates of speed. Reality consists of these two categories of forces which inter-act constantly in visible and invisible configurations (Fig. 2). *This exchange of inter-acting forces I call* CO-REALITY, *and the science of the laws of interrelationships,* CORREALISM. *The term "correalism" expresses the dynamics of continual interaction between man and his natural and technological environments.*

Natural, social, and technological heredity

Biology has divided these forces into two main categories: Heredity and Environment. Man had to evolve a method for dealing with the effects of these overwhelming forces upon himself. For this purpose he created technological environment to help him in his physical survival even within the short span of the age-potential of his own species. This is made more difficult because man is biologically unfit to transmit his experiences to his offspring: each child has to begin anew its adaptations to nature. In short: contrary to prevailing belief, acquired traits and habits of parents can not be transmuted into the make-up of body cells and, by way of procreation, given to their children.*

By providing unchangeable genes within the germ-cells *Nature* has safeguarded herself from man interfering fundamentally with her aims, whatever they may be. This "sealed order" of the germ cell contains nature's will which man can influence *during his own life-time, but not beyond that.* This places a deep responsibility upon those who "design" technological environment, because the restriction of its application to only one life-span makes it so much more needed as part of man's defense-mechanism. It appears, then, that the only human experiences that can be inherited by children are those of customs and habits by way of: training and education, thus "social heredity" is the only tool man can rely upon. Just as all living organisms are generated through their own species from a long chain of generations, so do ideologies or man-made objects generate from a long line of older ideologies or objects of similar functions. Thus a contemporary chair, for instance, is the product of many generations of other tools for man to rest his body in fatigue. This is heredity in technology transmitted through education.

What is technological environment?

When the biologist speaks of environment, he invariably means the geographical and animal environment. This definition is perhaps accurate for all creatures except man. For man alone has developed a third environment: a *technological* one which has been his steady companion from his very inception. This technological environment, from "shirts to shelter," has become one of the constituent parts of his total environment. Thus, the classification of environment becomes three- instead of two-fold, as in Fig. 1:

1. natural environment
2. human environment
3. technological environment

*The part of Darwin's theory which stated that "*acquired characteristics are inheritable*" has been disproven. (August Weismann, 1880.) Thomas H. Morgan: "... the belief in the inheritance of acquired characteristics is not based on scientific evidence but on the very human desire to pass on one's acquisitions to one's children."

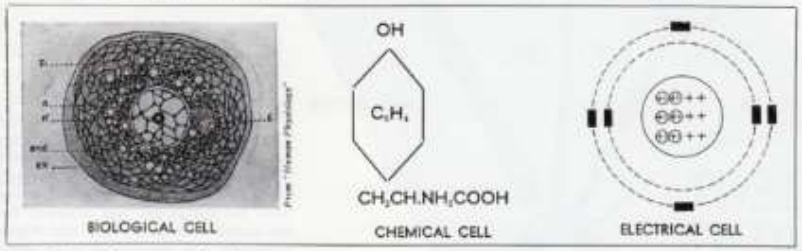
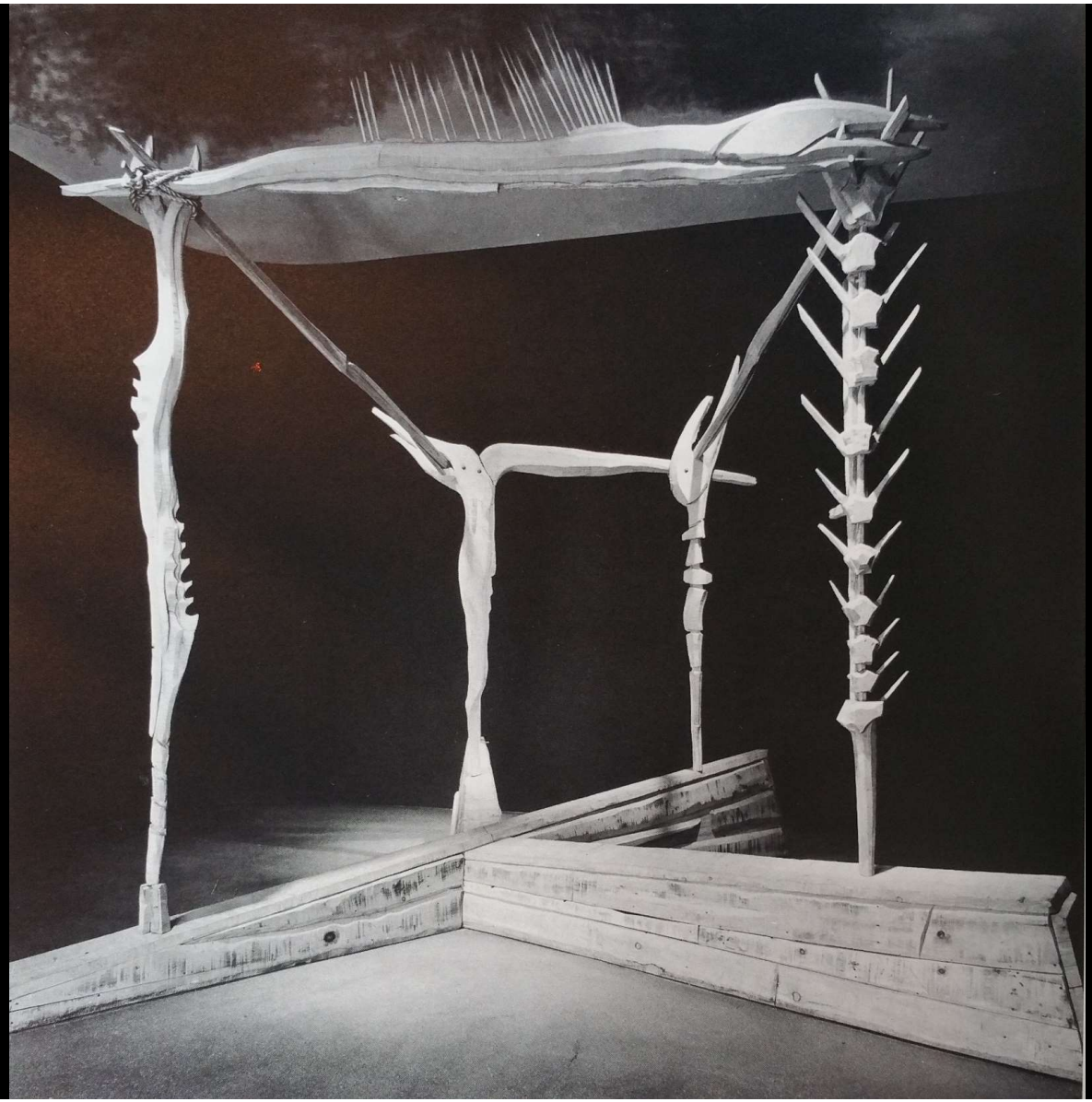
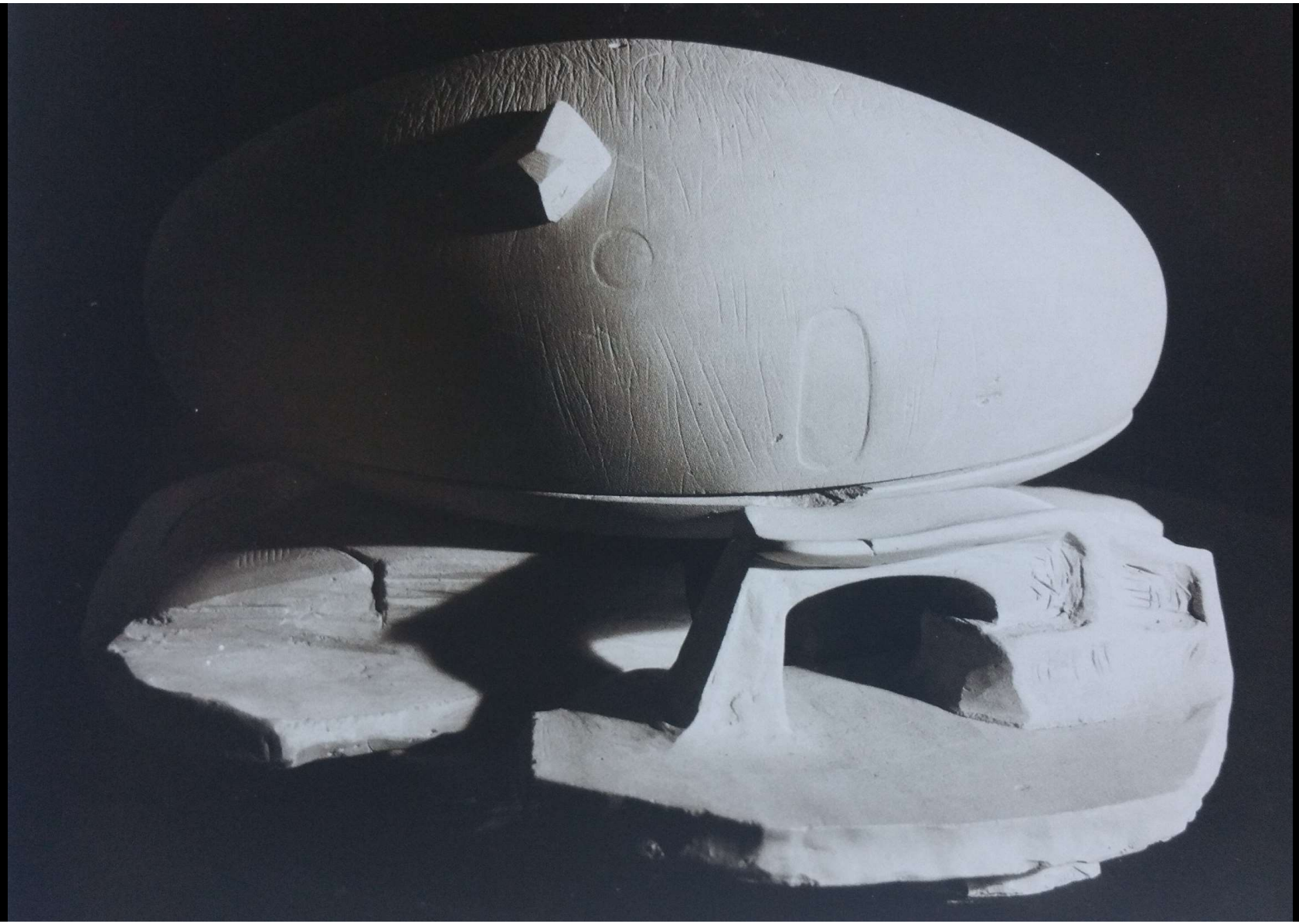
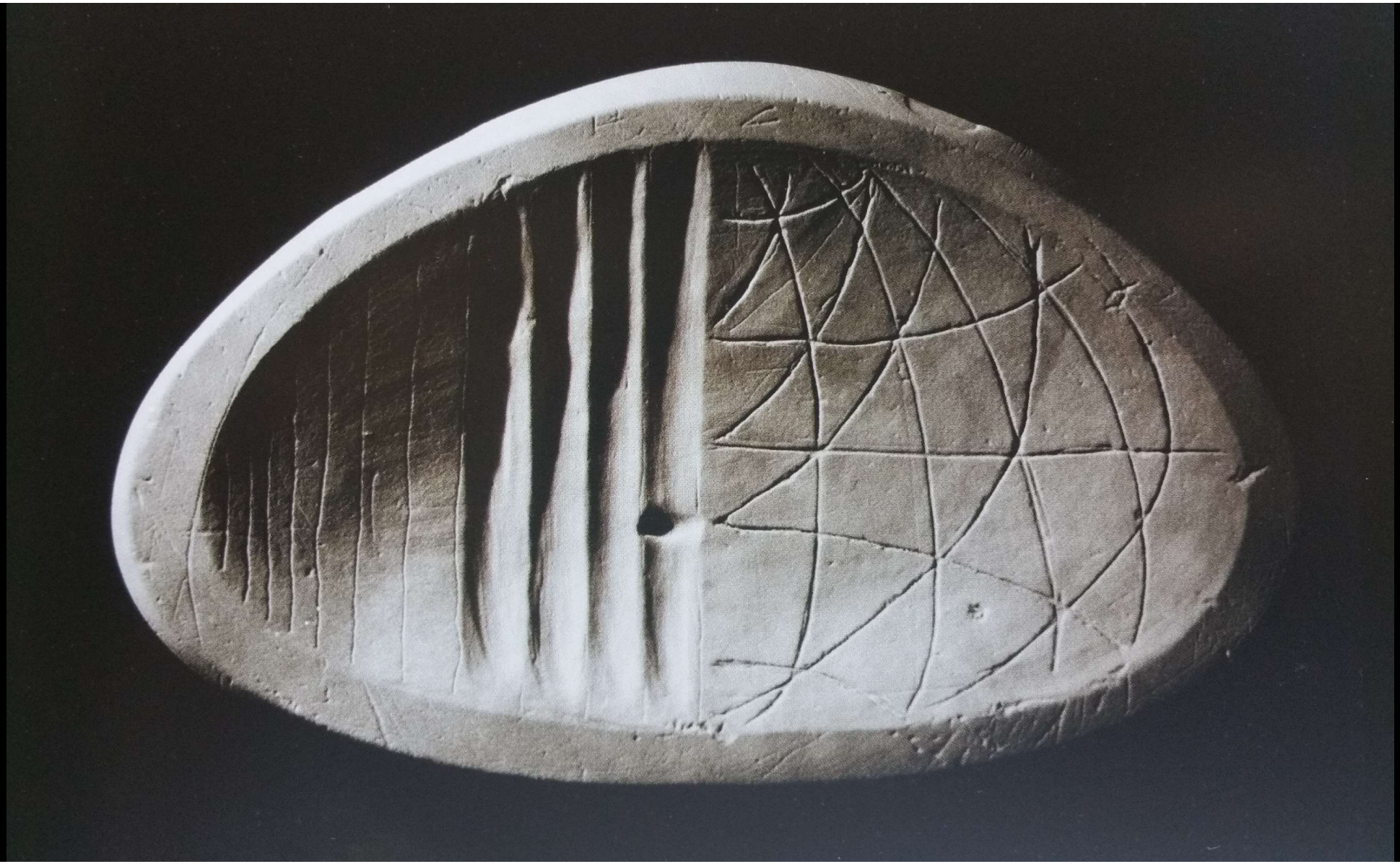
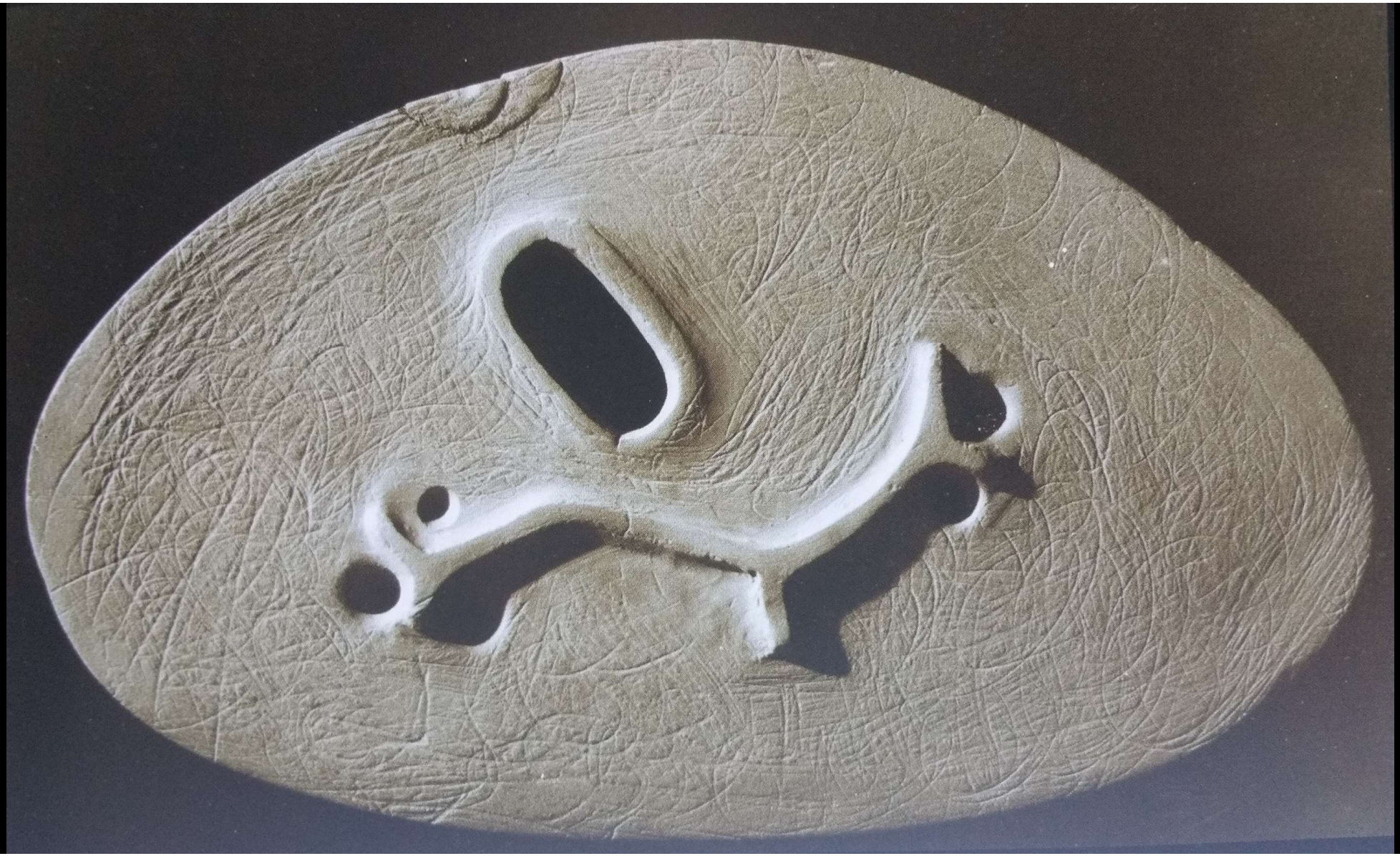


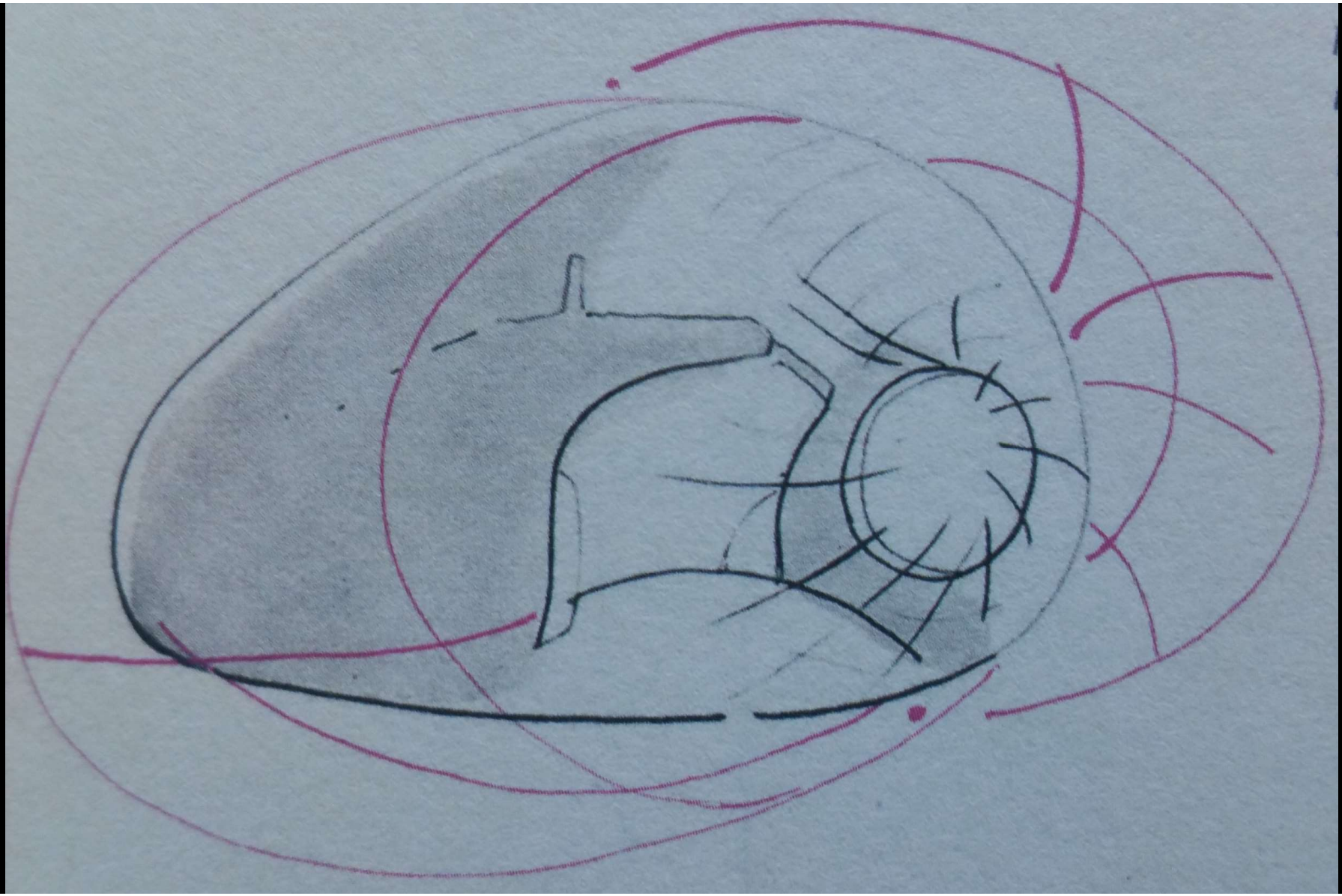
Fig. 2—The nuclear concept of production as expressed in three of the sciences. Note that though the forces involved are expressed in different forms, their basic organization is similar. Technological design must also be seen in the light of a nuclear concept.

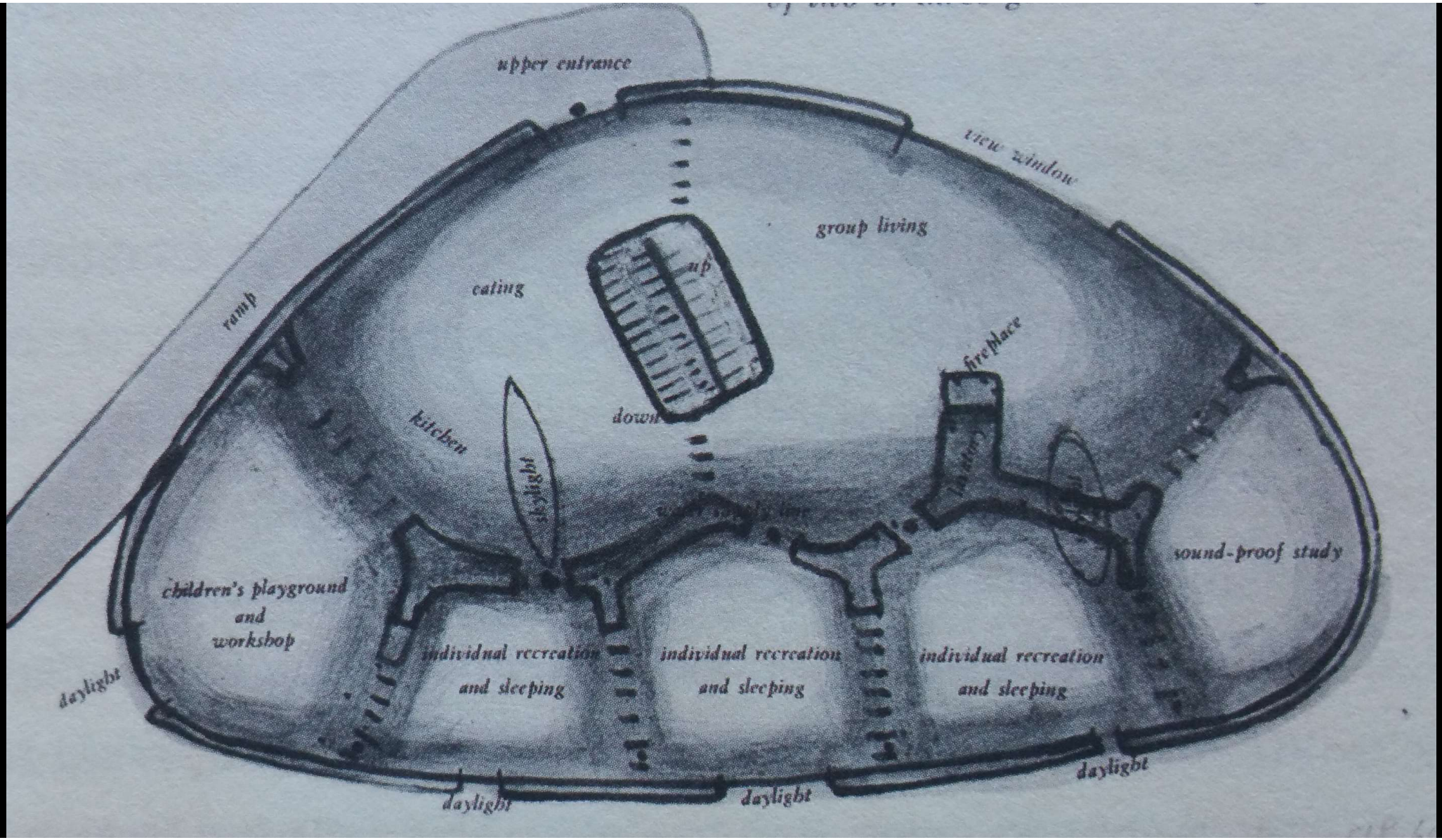











upper entrance
view window
group living
eating
up
ramp
fireplace
kitchen
down
daylight
daylight
sound-proof study
children's playground
and
workshop
individual recreation
and sleeping
individual recreation
and sleeping
individual recreation
and sleeping
daylight
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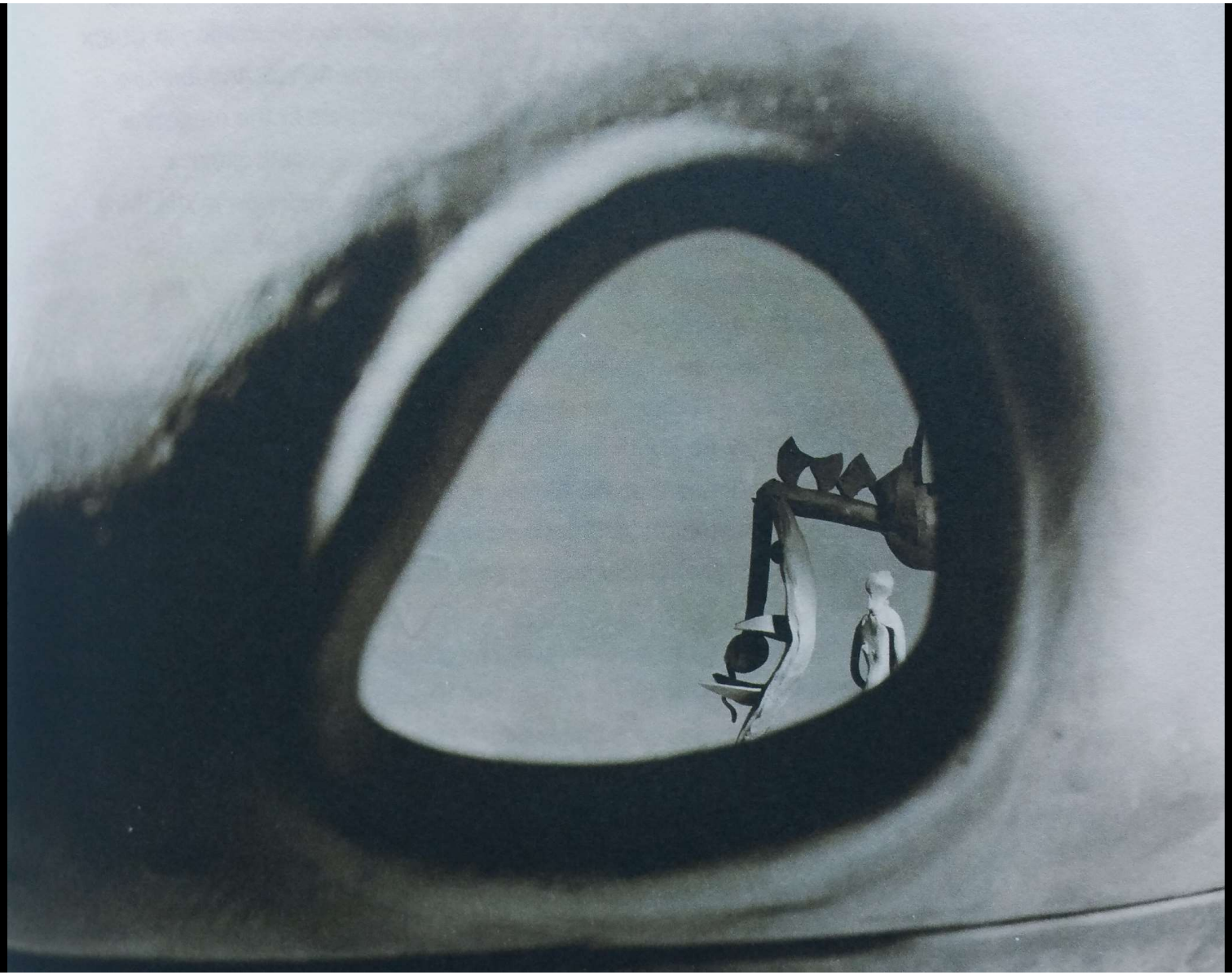
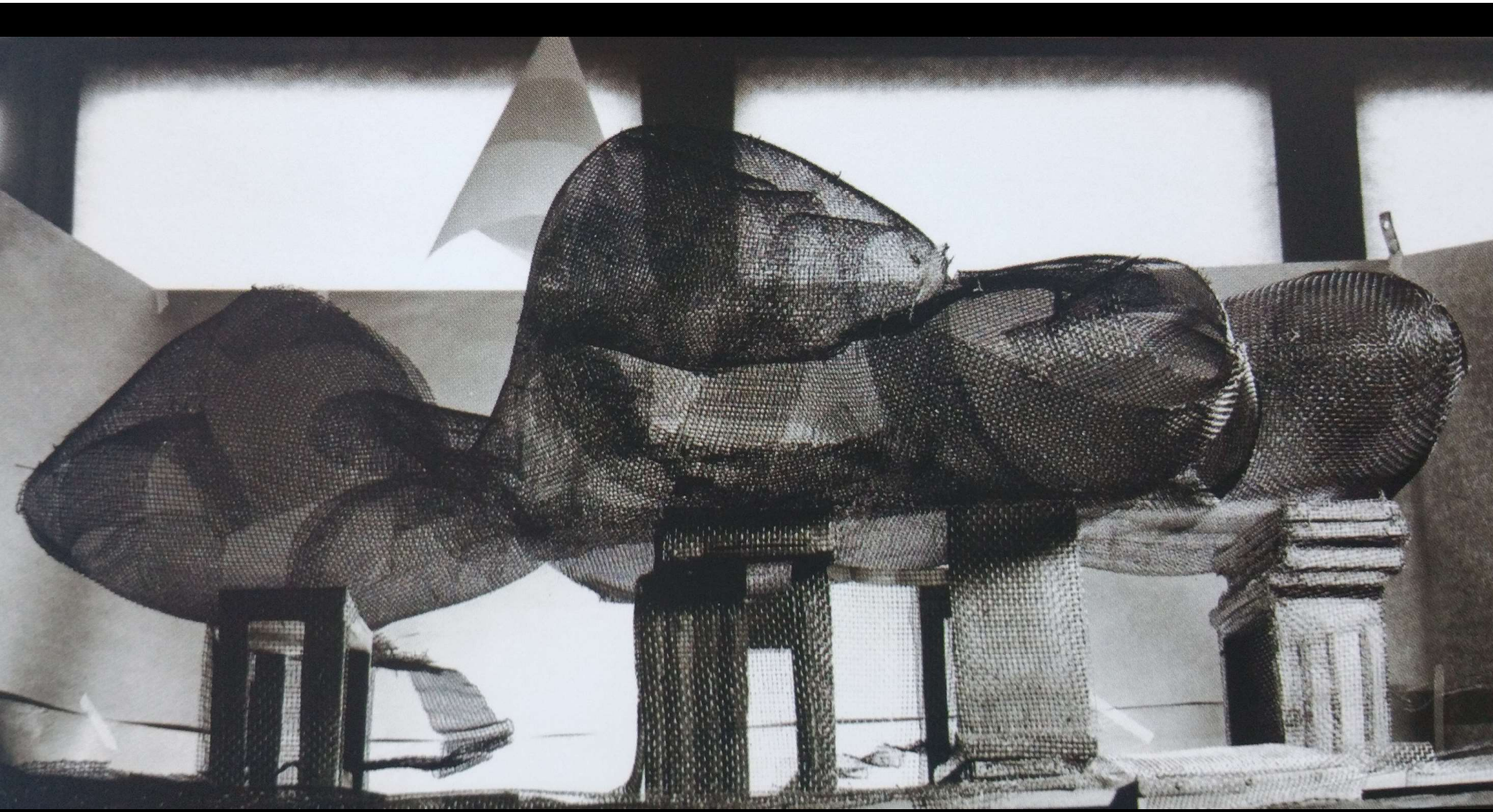
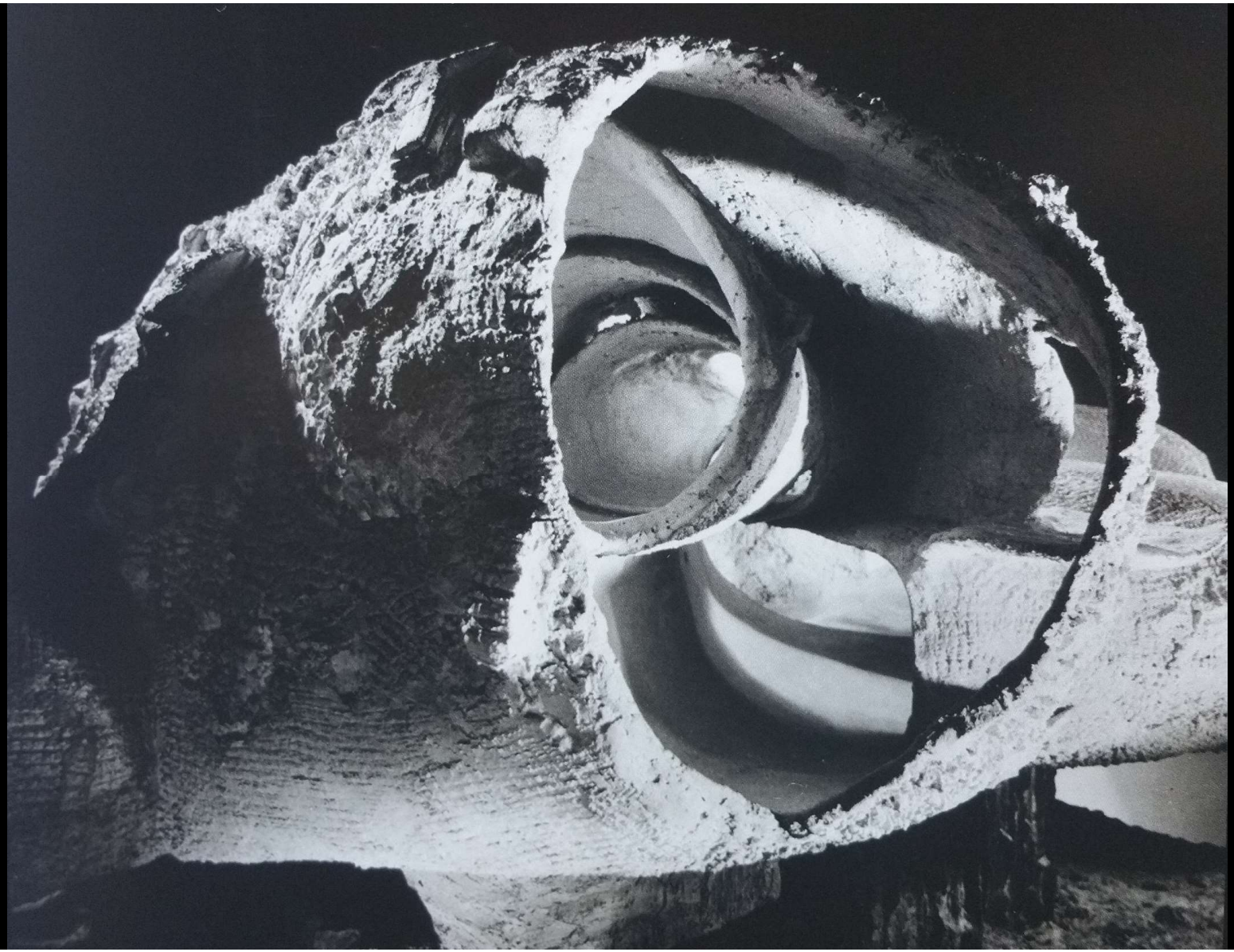
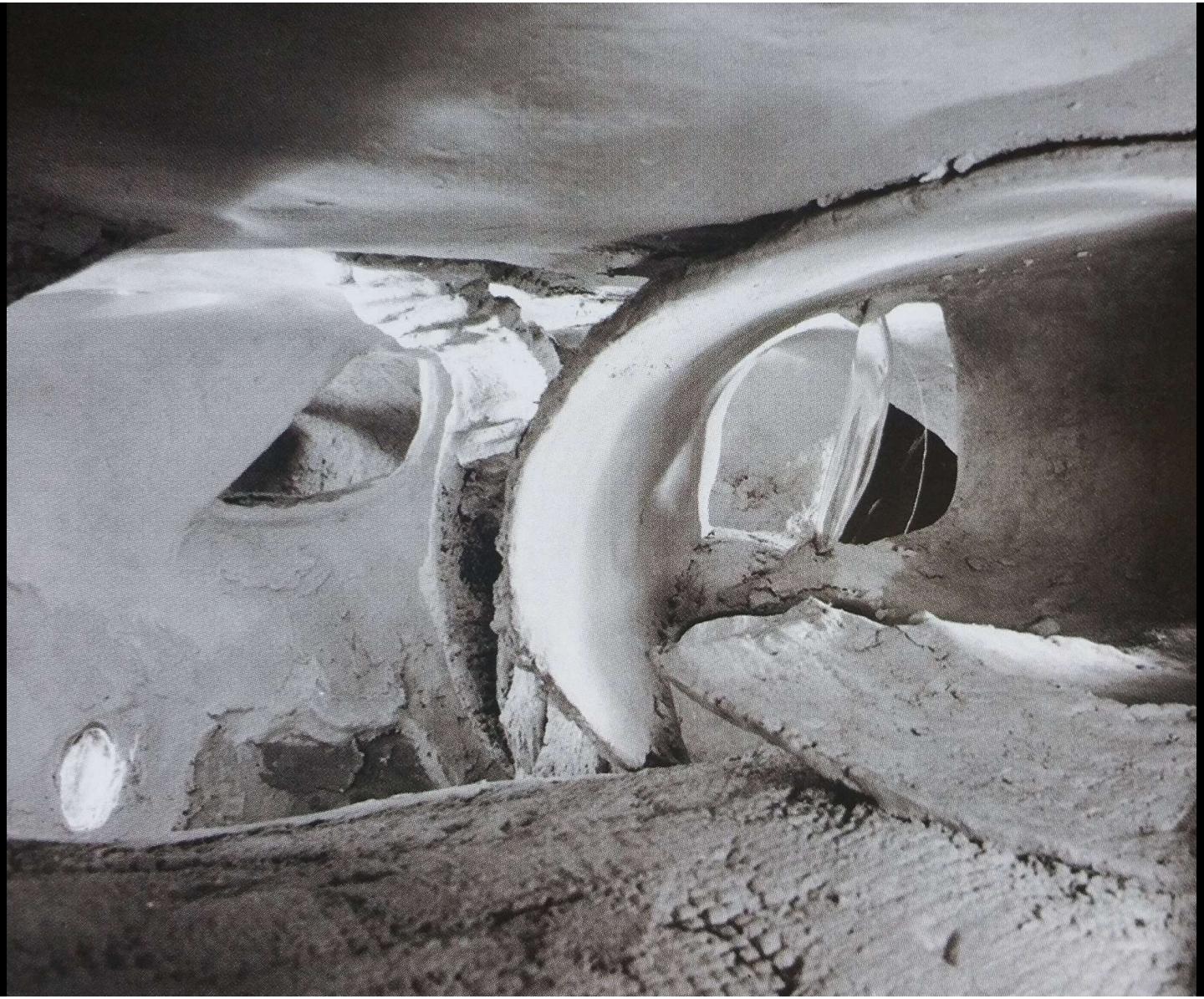
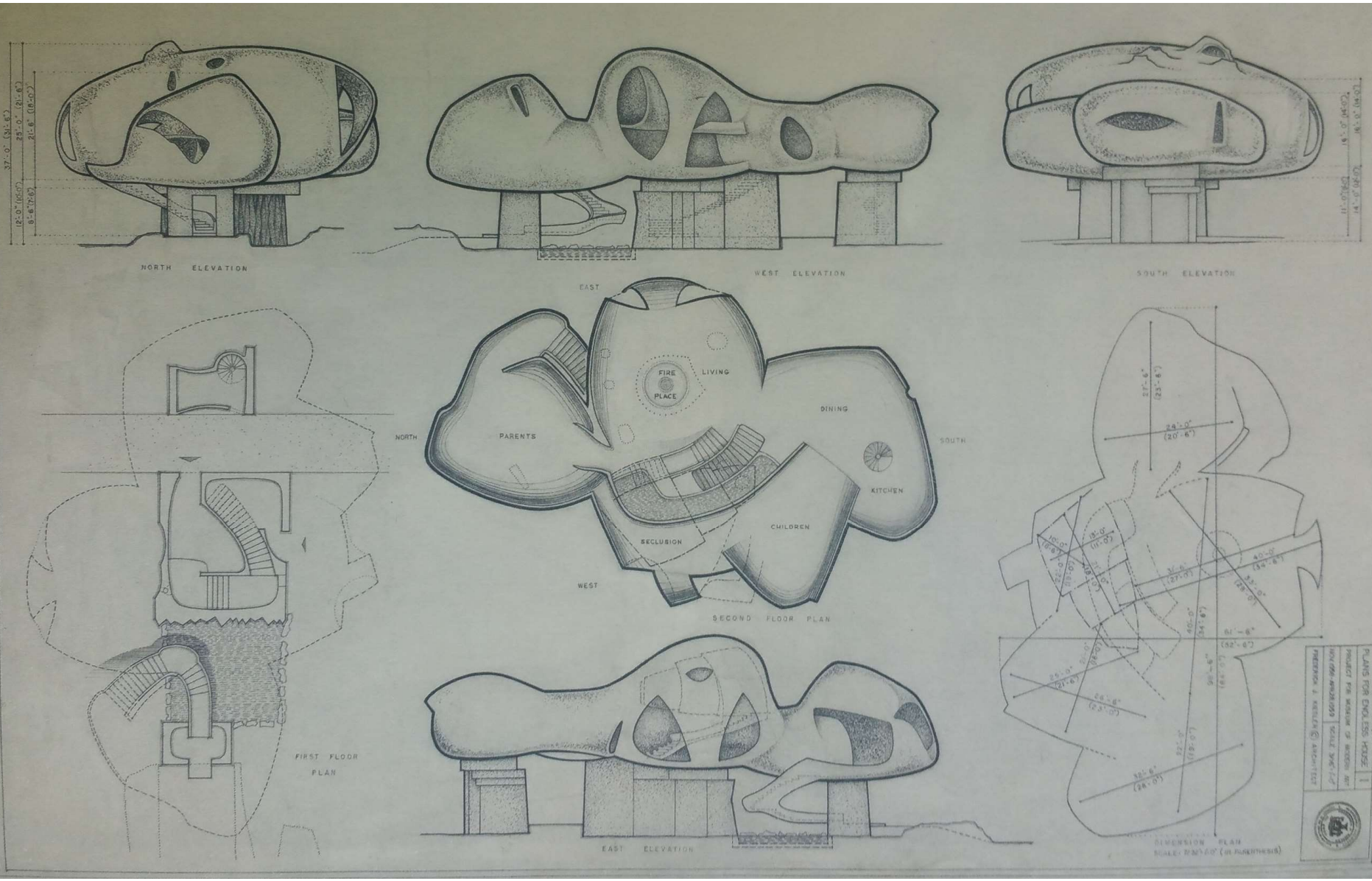
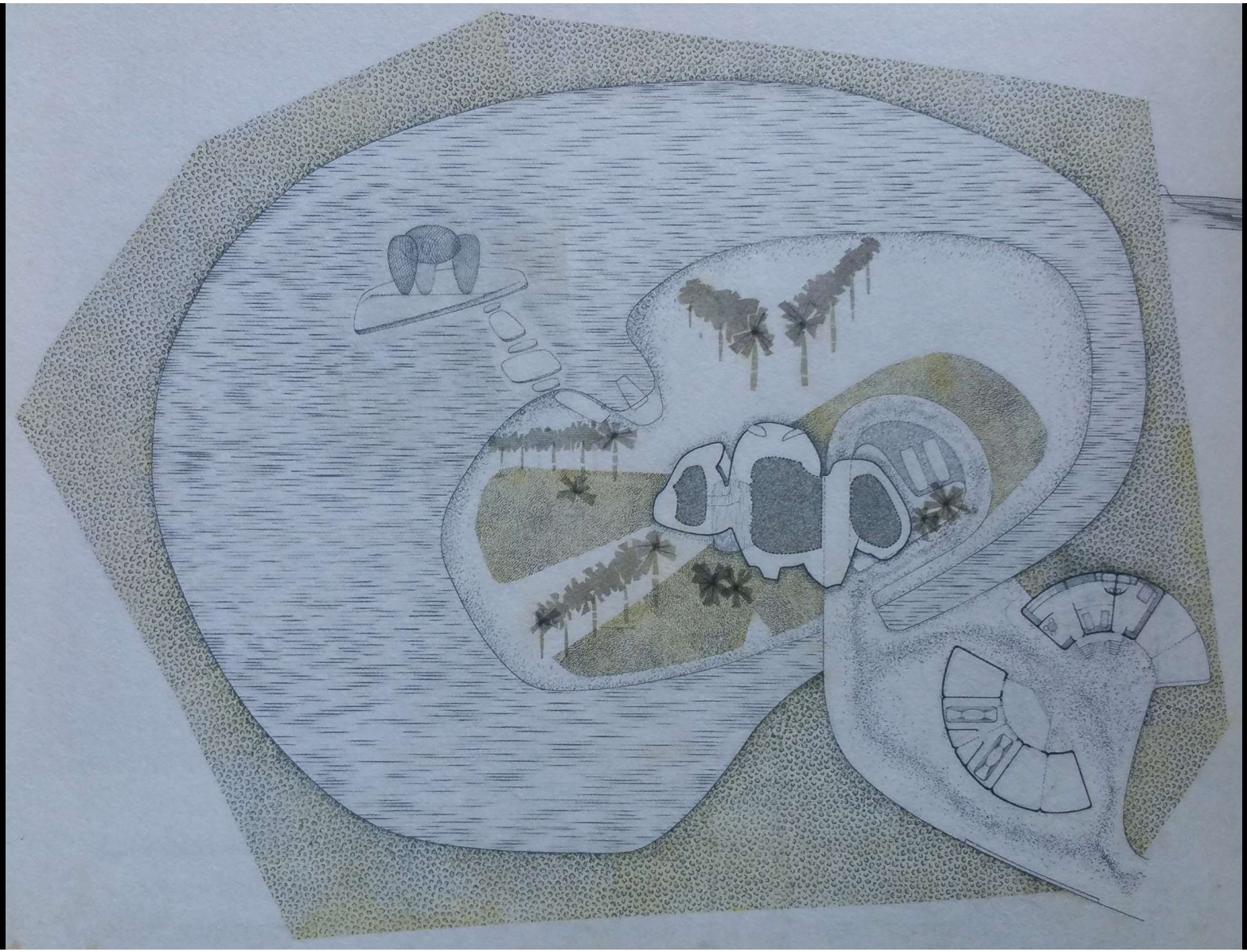


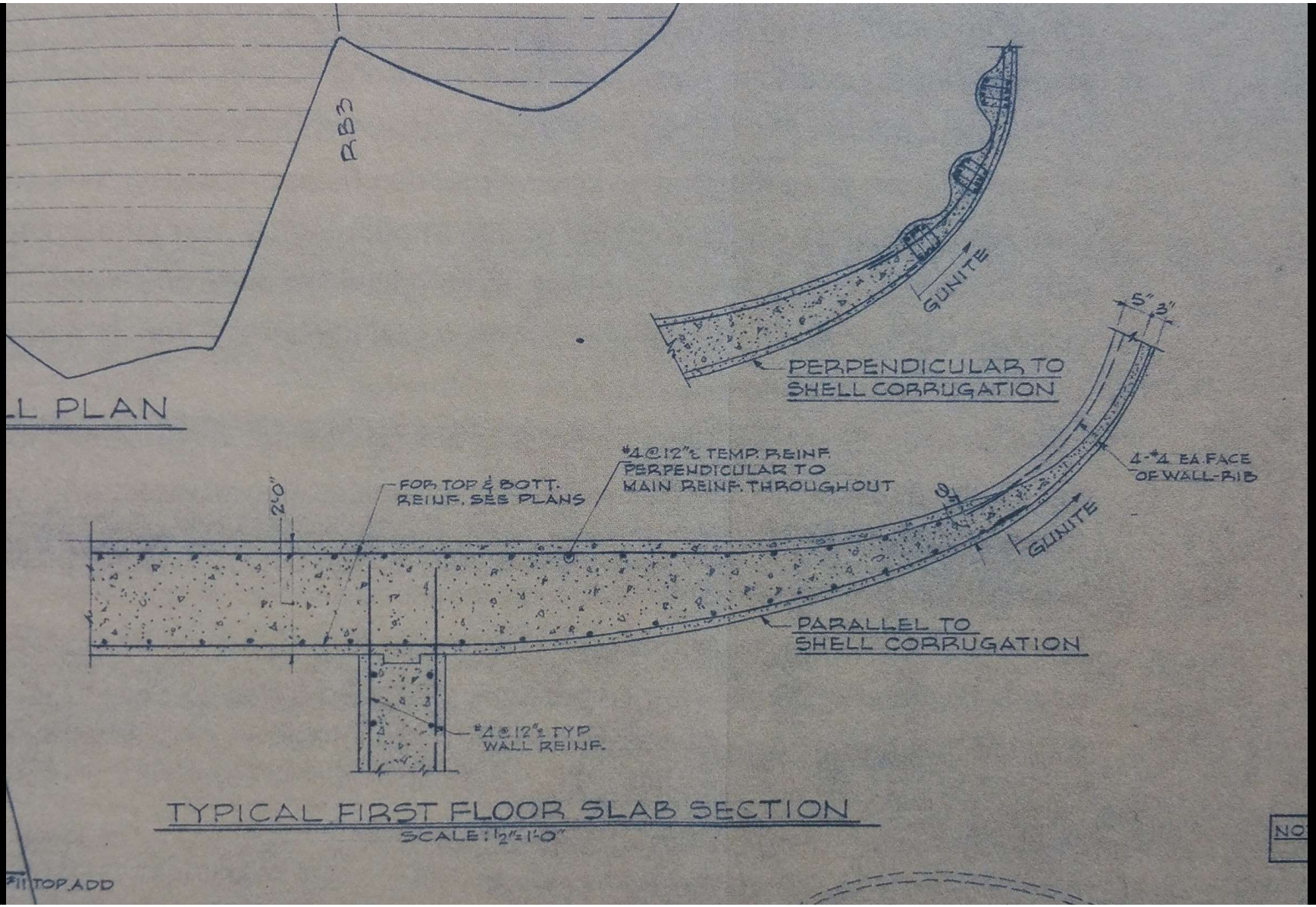







NORTH ELEVATION
WEST ELEVATION
SOUTH ELEVATION
EAST
NORTH
SOUTH
WEST
FIRE PLACE
LIVING
DINING
PARENTS
KITCHEN
CHILDREN
SECLUSION
SECOND FLOOR PLAN
FIRST FLOOR PLAN
EAST ELEVATION
DIMENSION PLAN
PLANS FOR ENDLESS HOUSE
PROJECT FOR MUSEUM OF MODERN ART
FREDERICK J. KIESLER © ARCHITECT





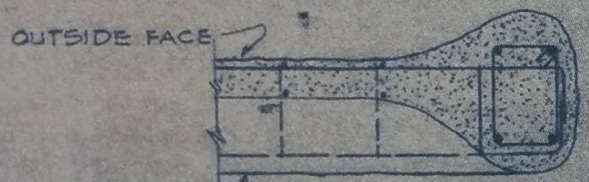
L PLAN

TYPICAL FIRST FLOOR SLAB SECTION

SCALE: 1/2"=1'-0"

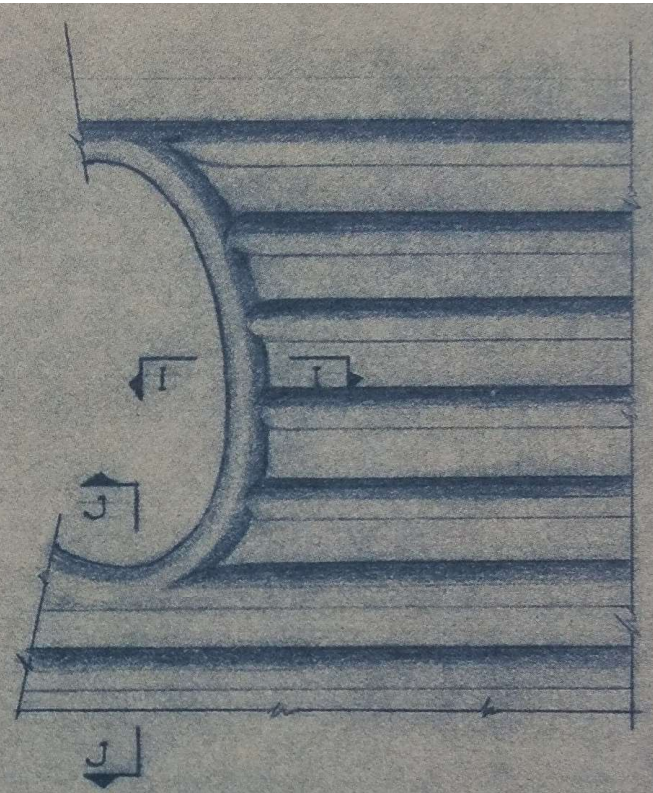
FILL TOP ADD

NO



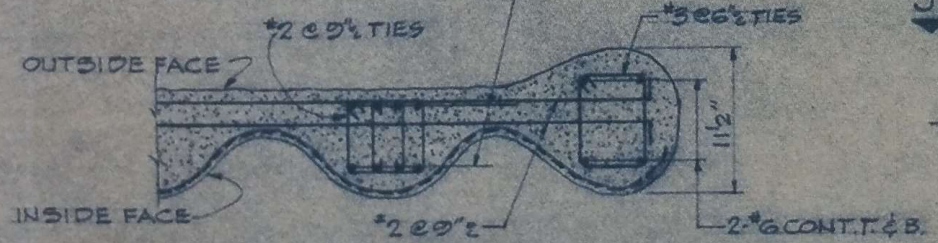
SECTION I-I

SCALE: 1"=1'-0"



ELEVATION

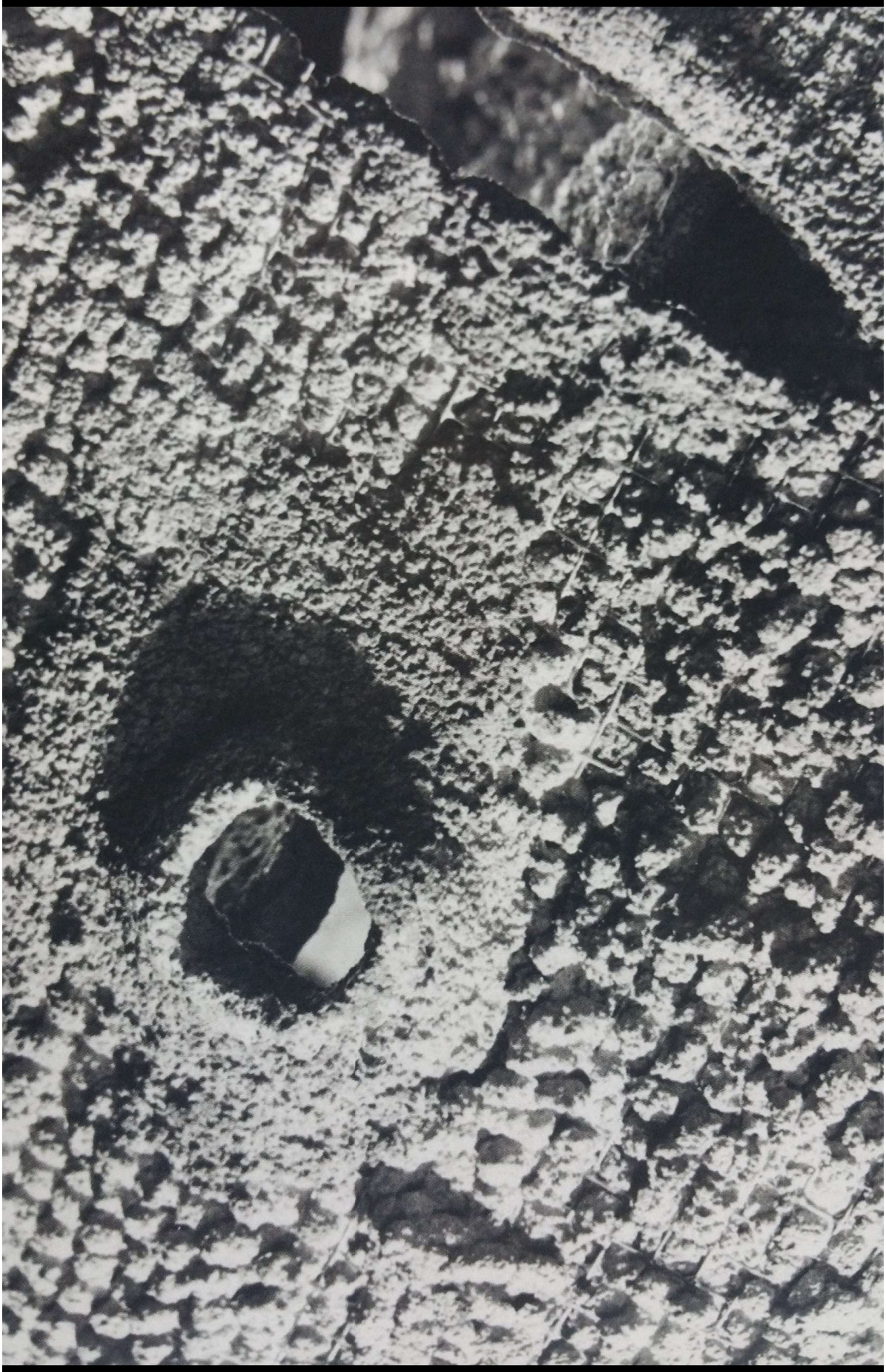
SCALE: 3/8"=1'-0"



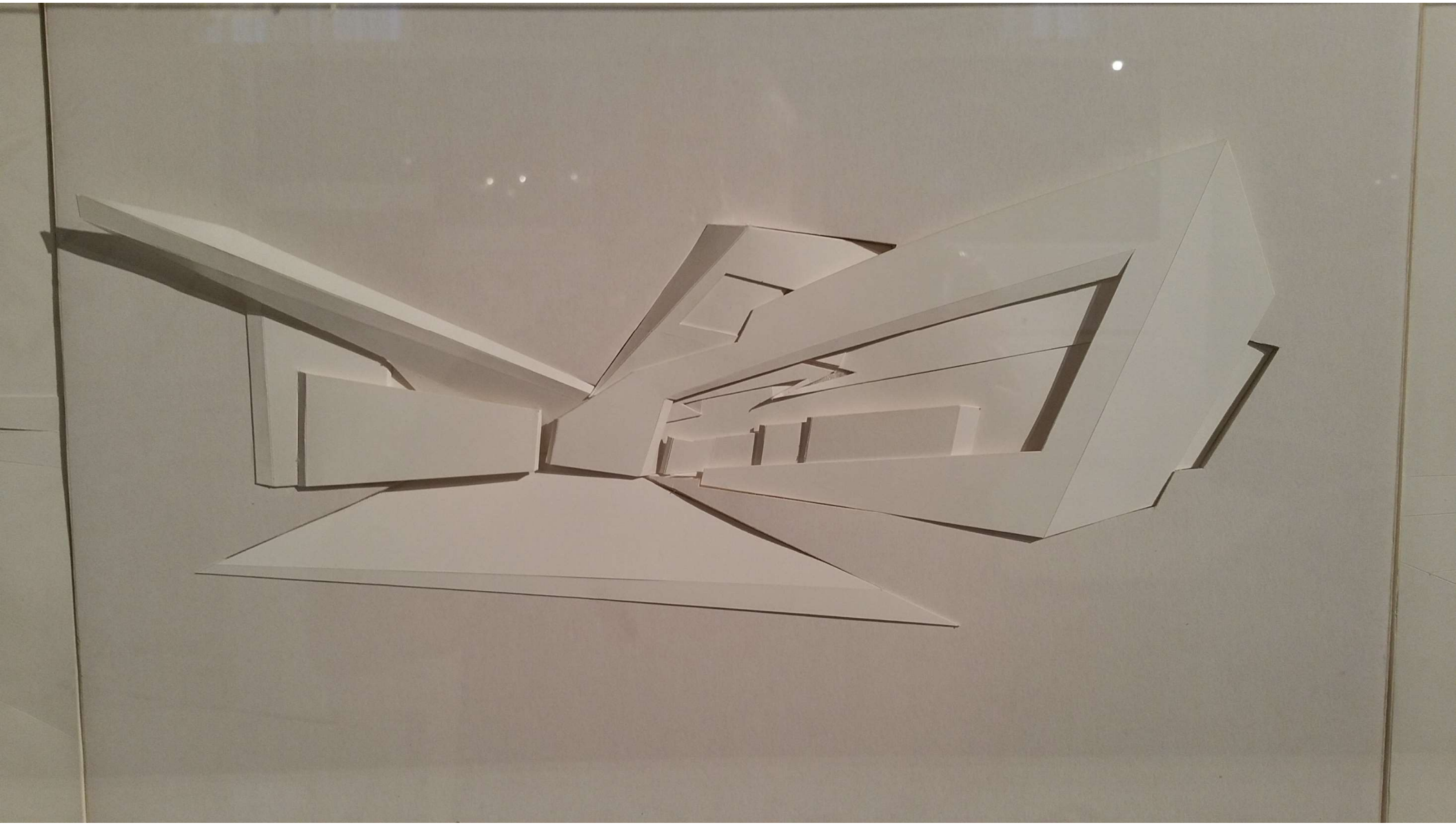
SECTION J-J

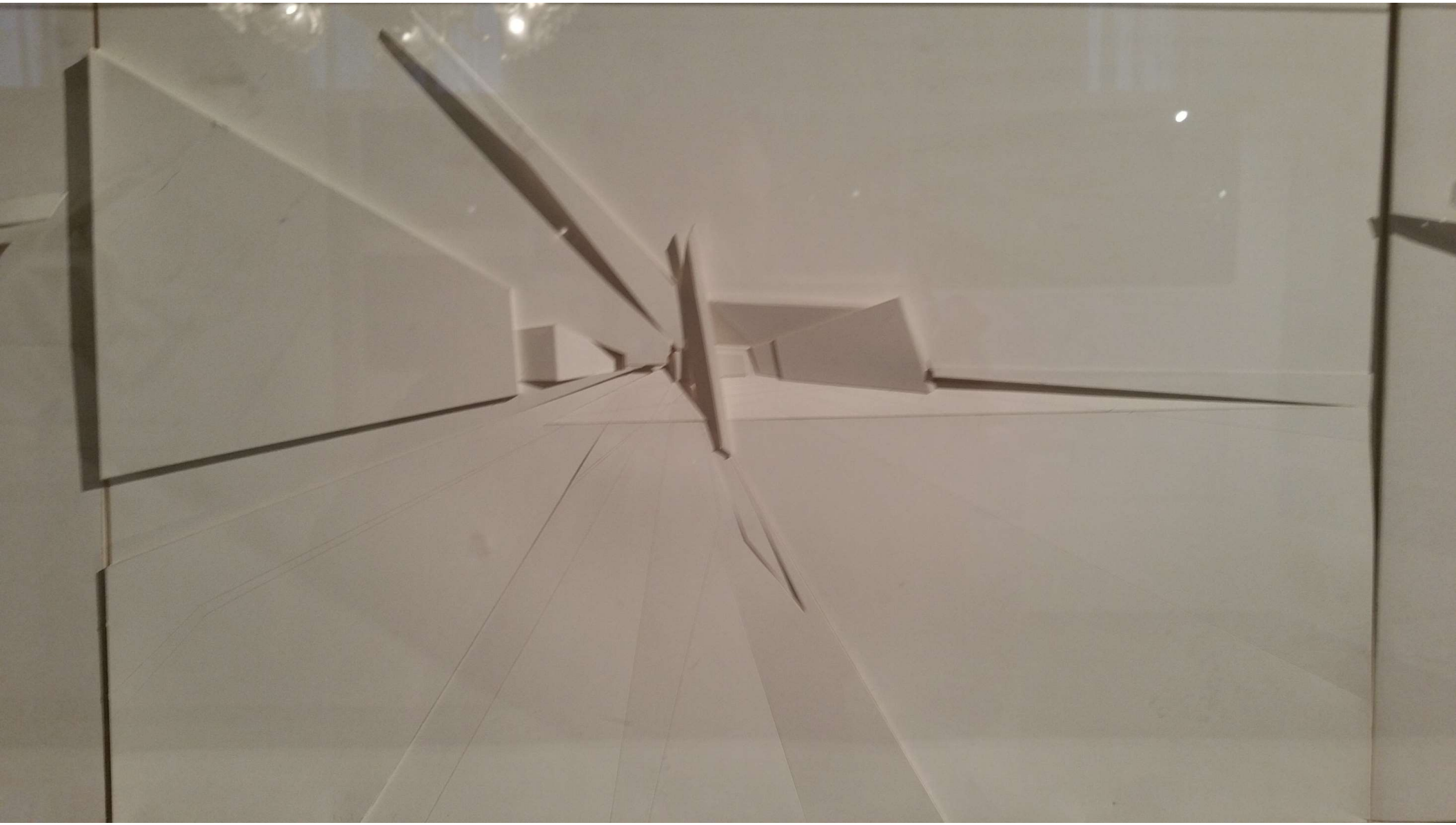
SCALE: 1"=1'-0"

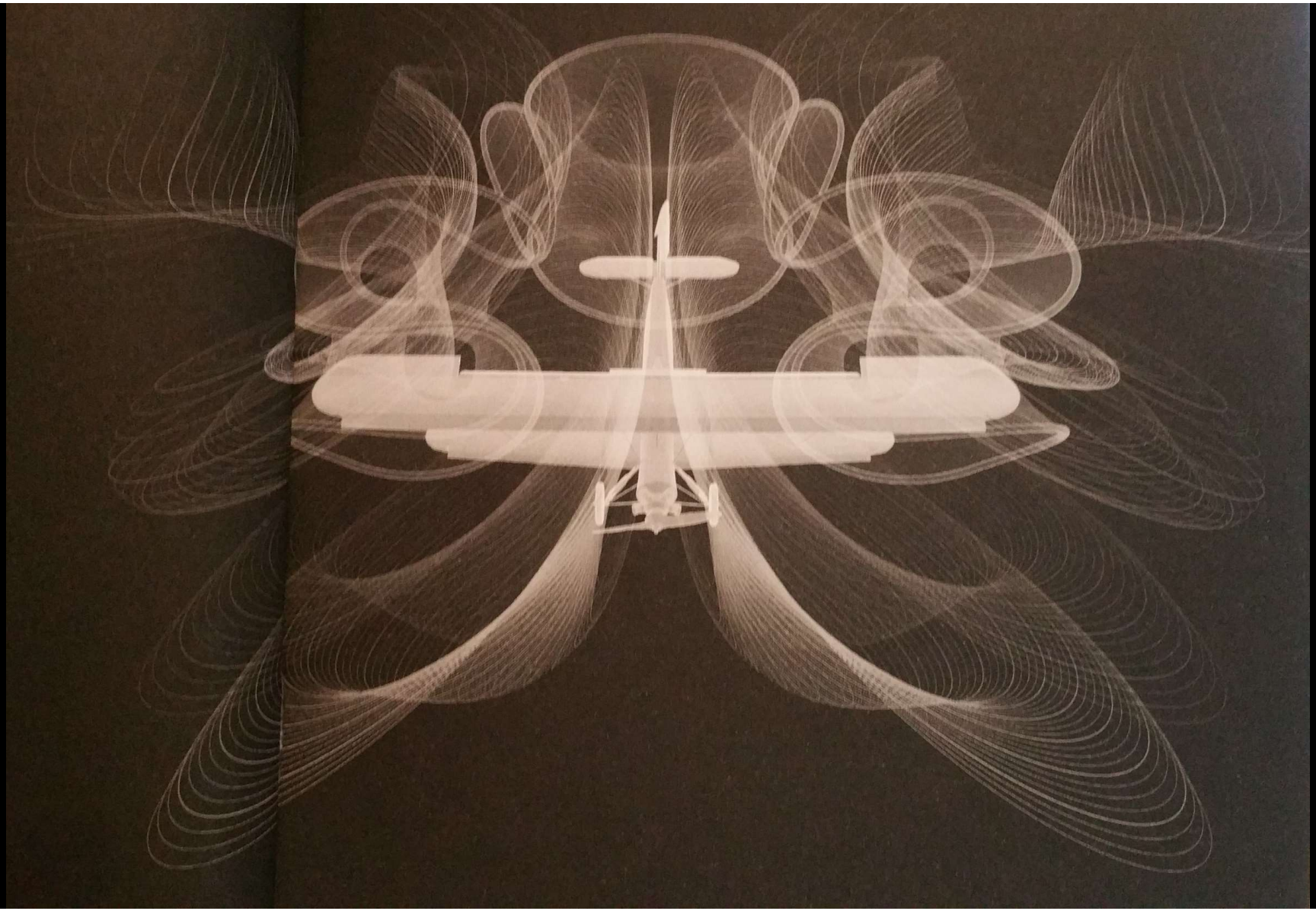
TYPICAL SHELL OPENING DETAILS

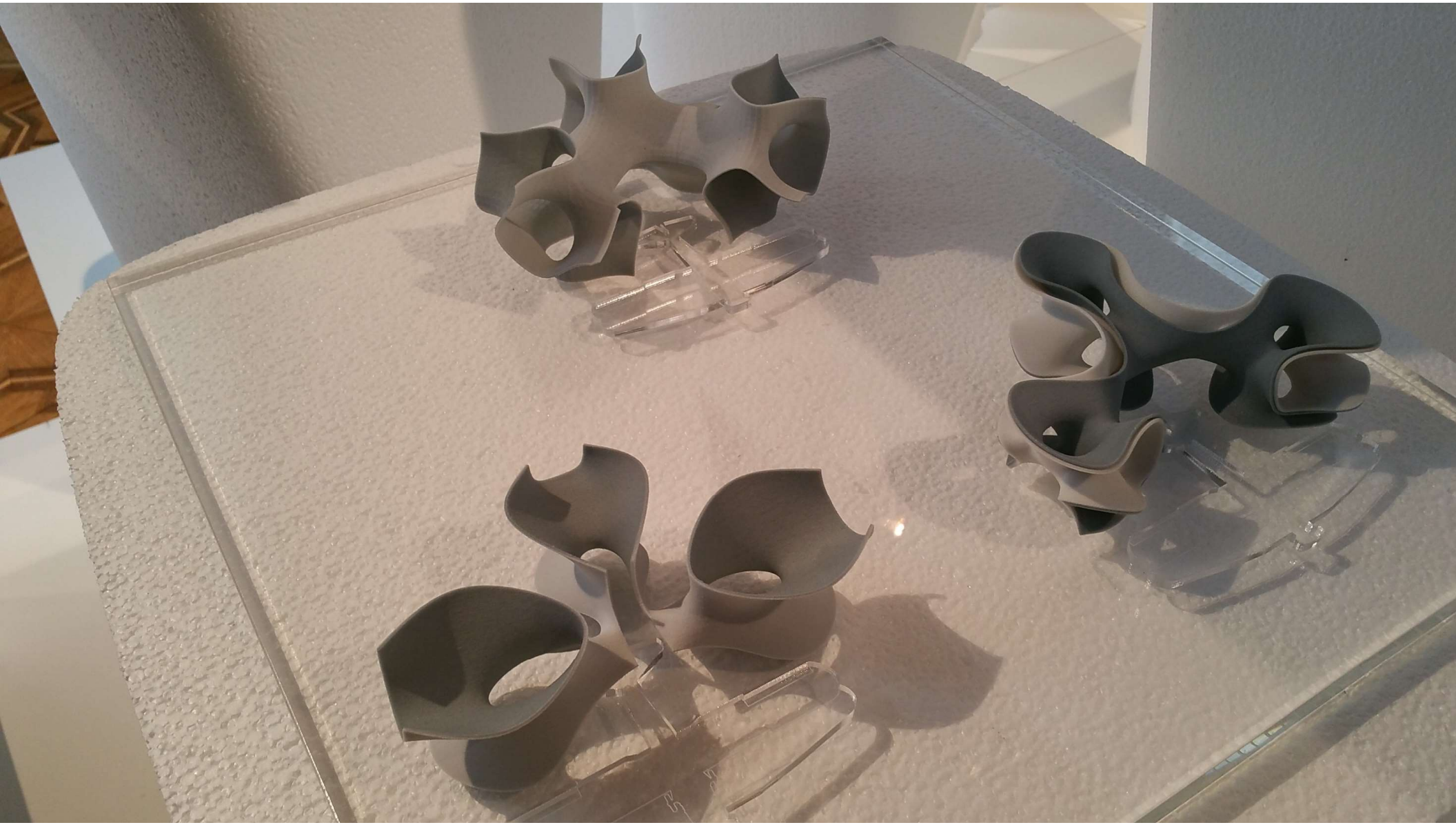


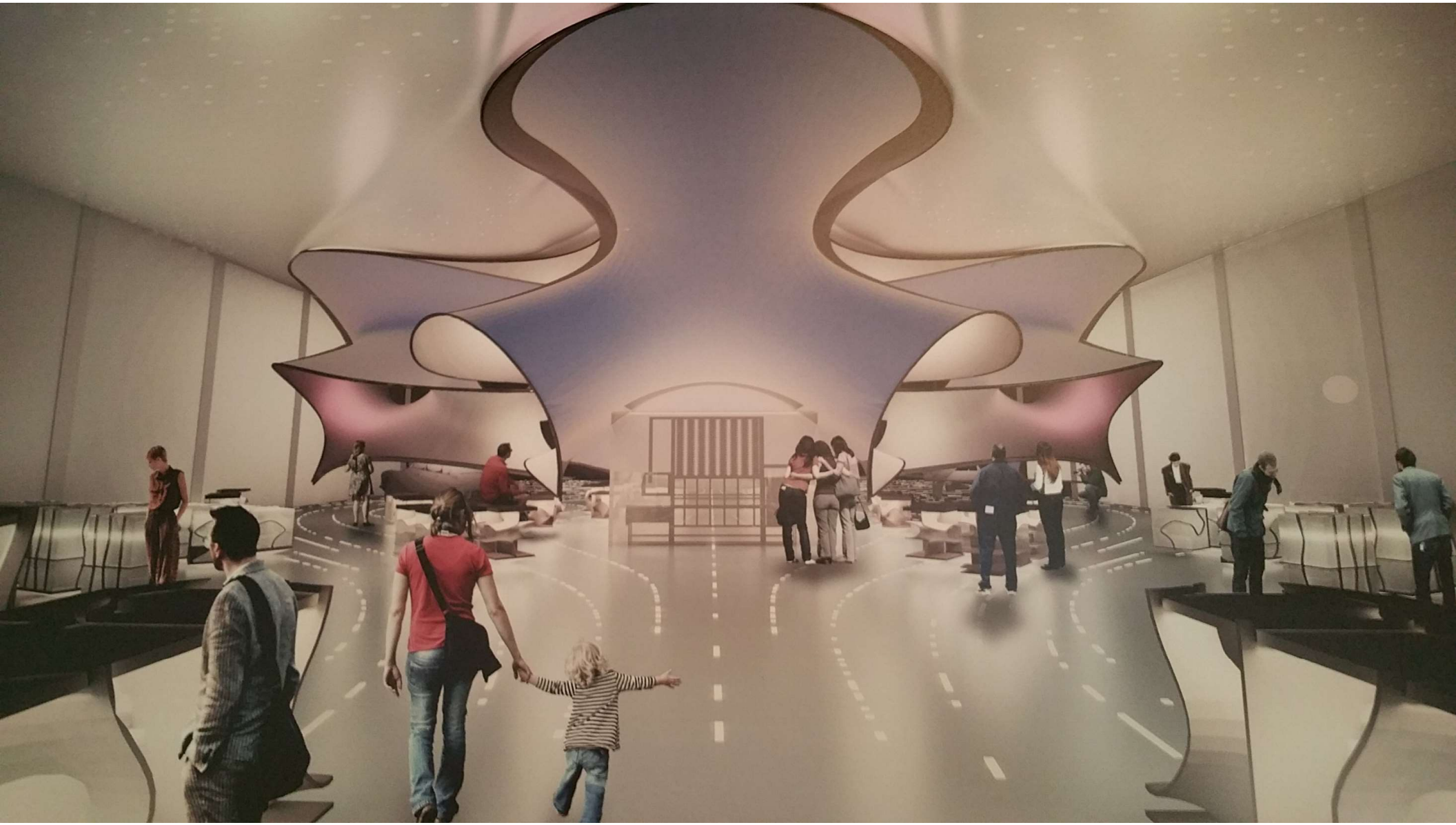

TRO
SAILS
Le dodici vele sono composte
da 3.600 pannelli su misura di
vetro curvato. Oltre all'incredibile
prodezza ingegneristica, questi

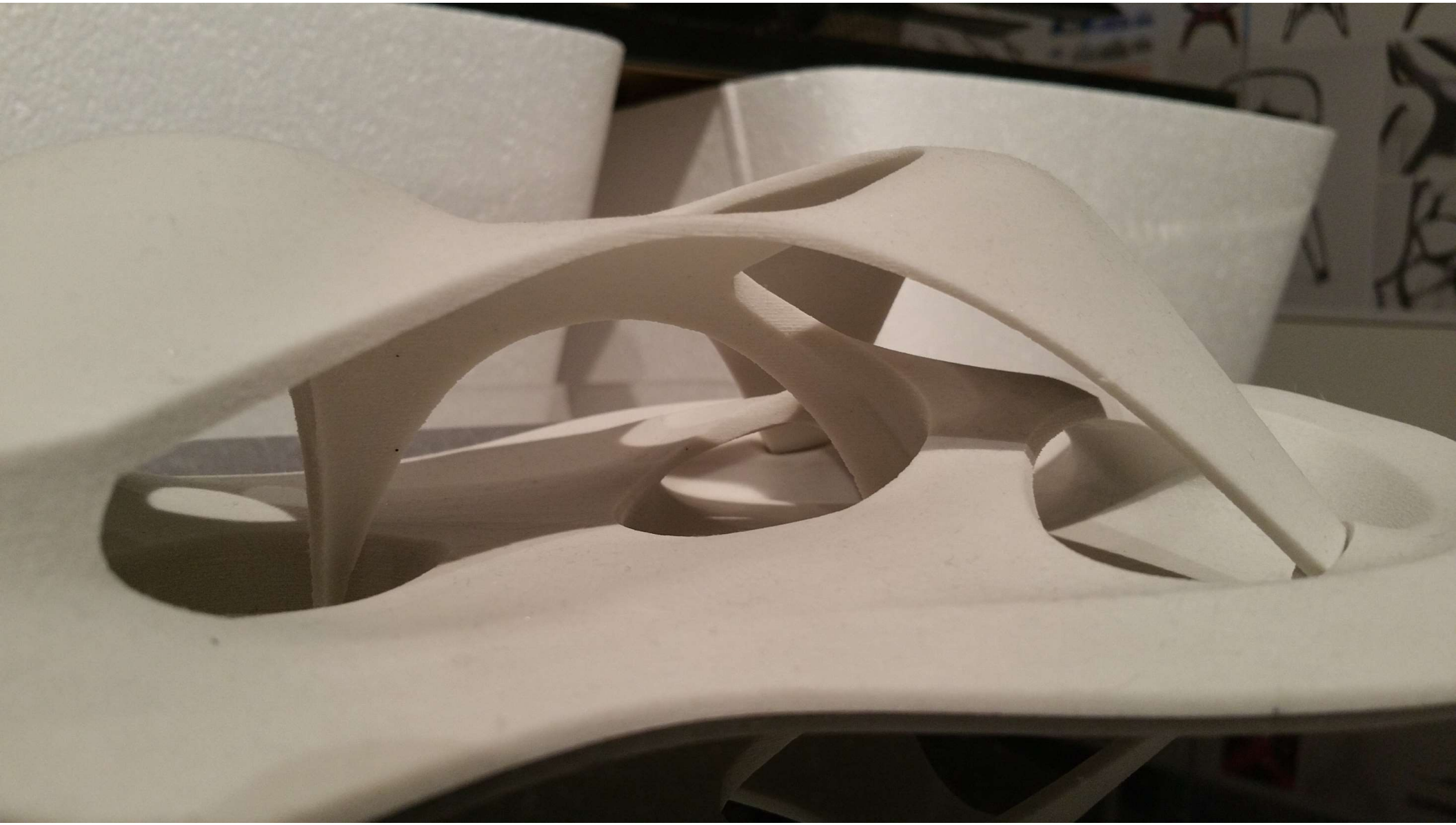


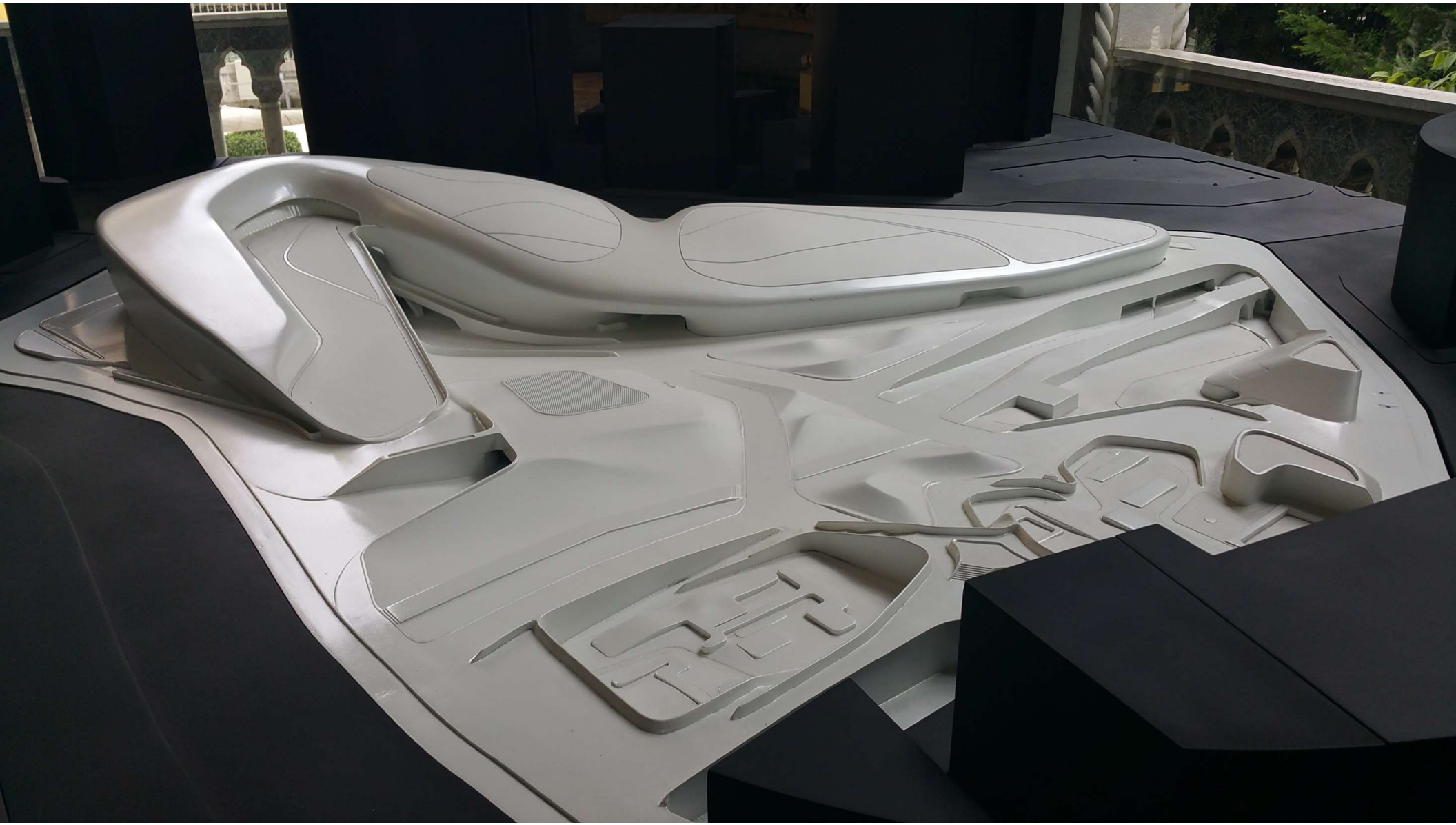













GABRIEL BOUYS/AFP/GETTY IMAGES

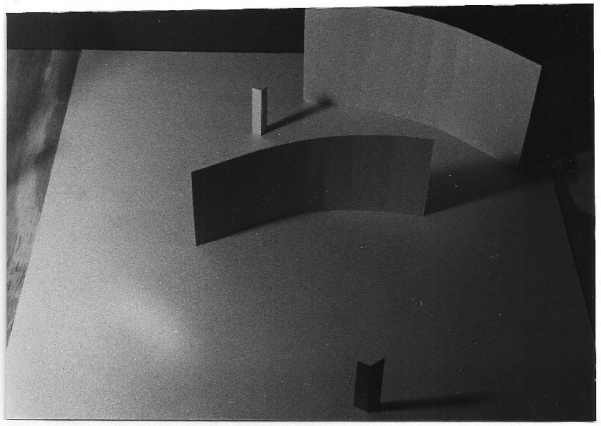


FIGURE 3: ORIGINAL CONDITION; BOTH HUMAN FIGURES

Both human scale figures are enveloped by the activated spaces, related to their respective gestured forms. Both activated spaces are equally balanced in their visually perceivable 'active' character. Since, the secondary gestured form is located forward, the primary activated space opens up, eliminating any 'passive' character.

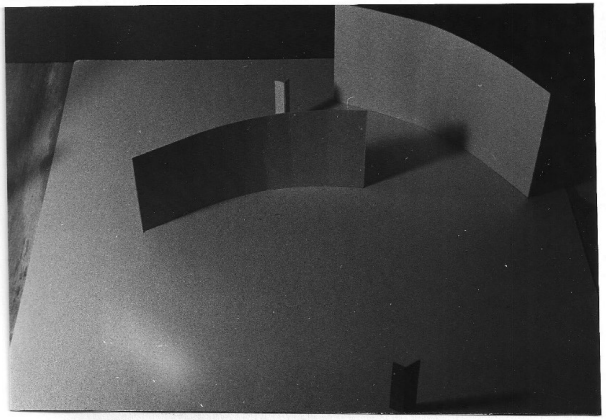


FIGURE 4: IMPROVED CONDITION; BOTH HUMAN FIGURES

The secondary gestured form is adjusted, moving back and to the left of its original condition. This closes off the primary activated space in the rear, shifting the influence of the primary gestured form to the front with the secondary gestured form, detaching both human figures from the newly concentrated activated spaces. (Fig. 6)

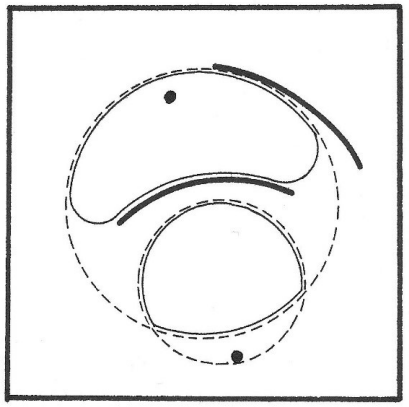


FIGURE 5: ORIGINAL CONDITION; ILLUSTRATION

This plan view illustrates the balance of the two spaces sensed as 'active'; graphically represented as thin lines. The thin dashed lines represent the enveloping space that becomes activated by their related gestures form. Note that in this condition, the influence of the primary gestured form does not extend down to reach the lower human figure.

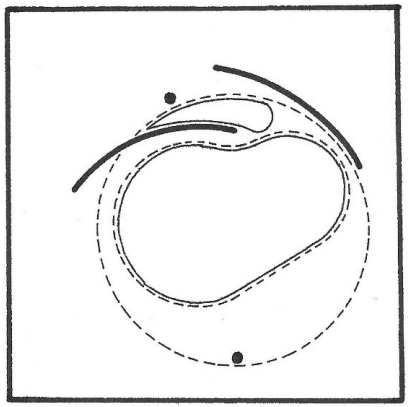
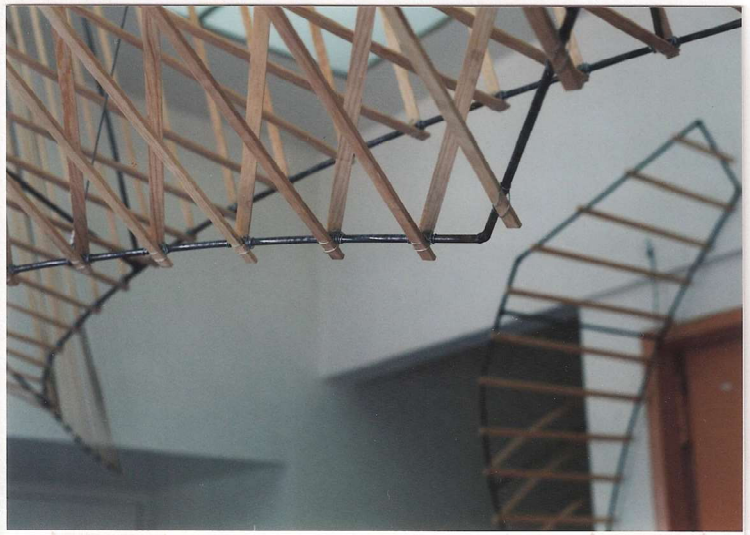
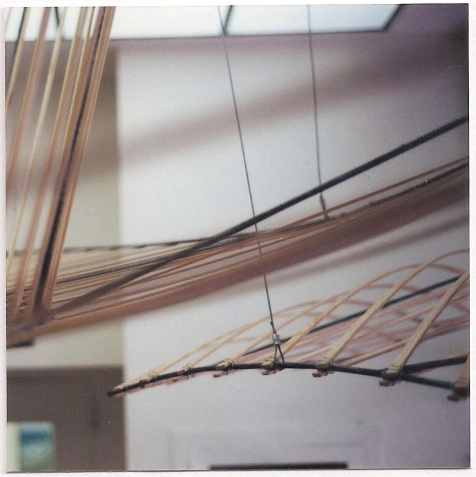


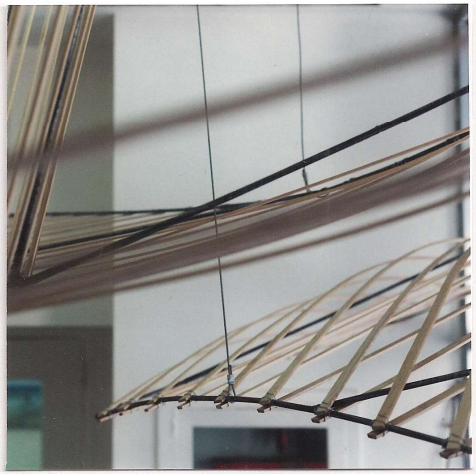
FIGURE 6: IMPROVED CONDITION; ILLUSTRATION

This plan view illustrates the shift in the primary activated space, from a balanced condition of two 'active' spaces to an unbalanced condition of 'tight' vs 'active' spaces, shown as thin lines. Influence of the primary gestured form creates a concentration of space extending out and to the right of the secondary activated space, detaching the human figure.




EXIT





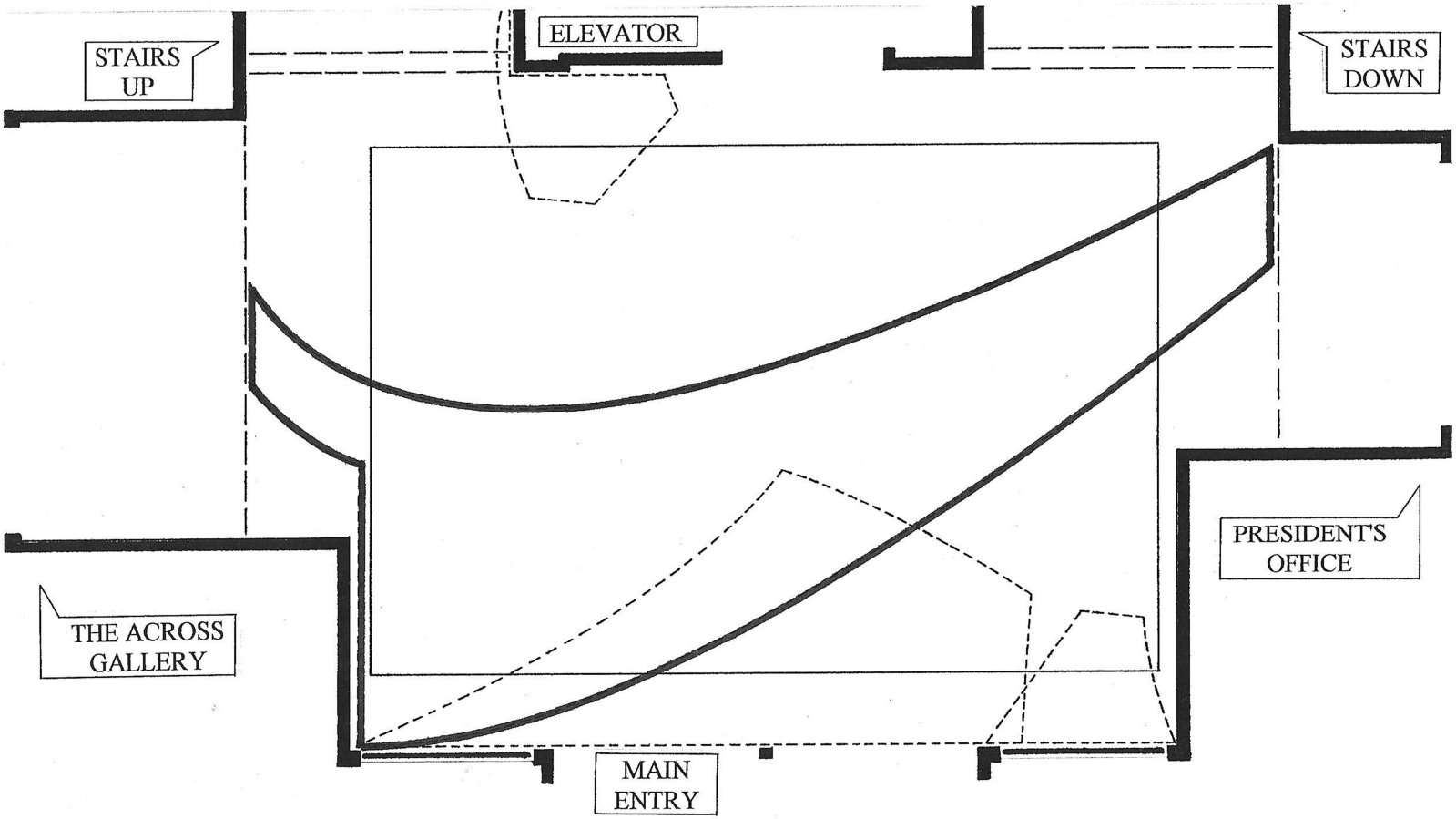


Figure 5: Form-A

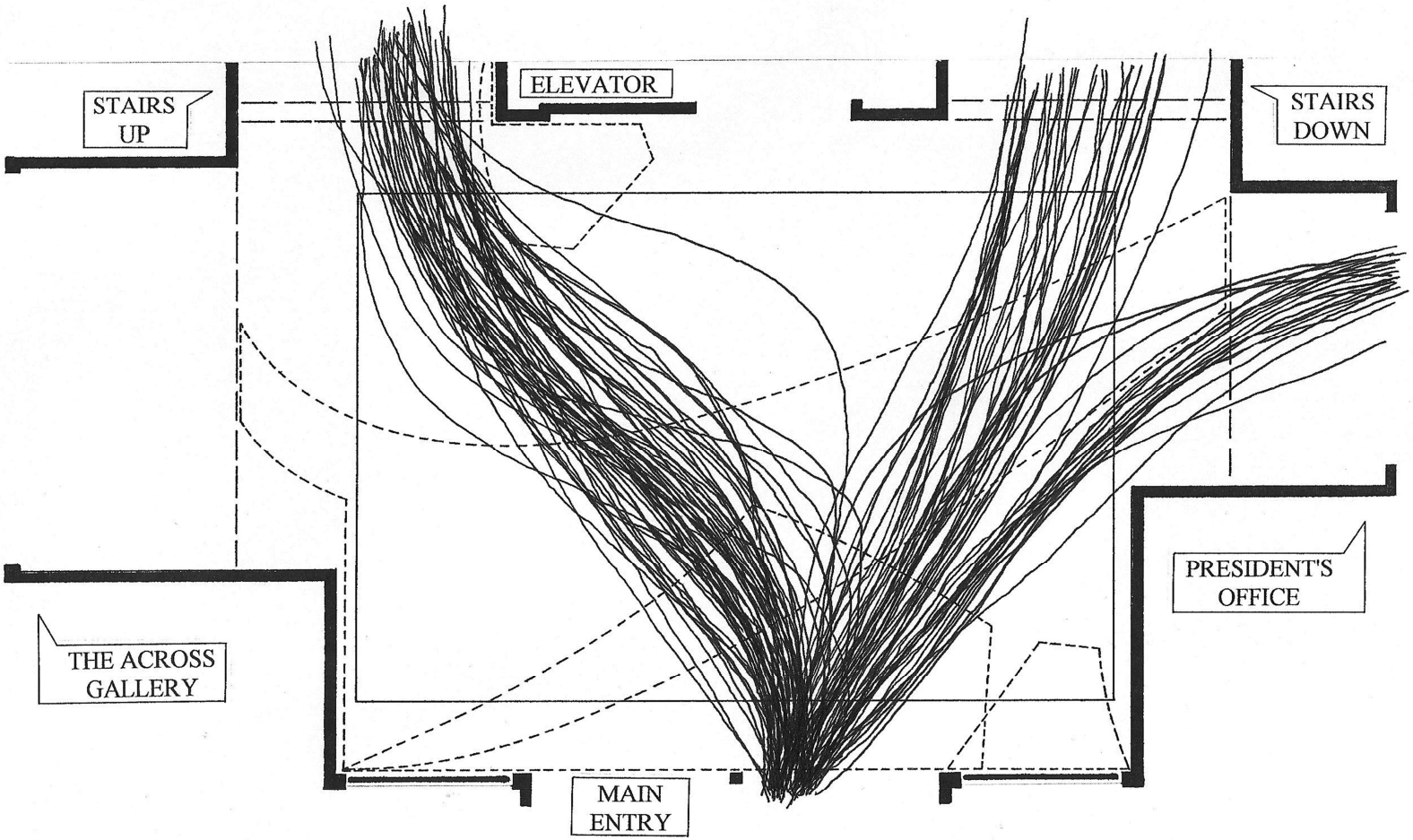


Figure 10: Entry Patterns through Main Door (Installed Condition)

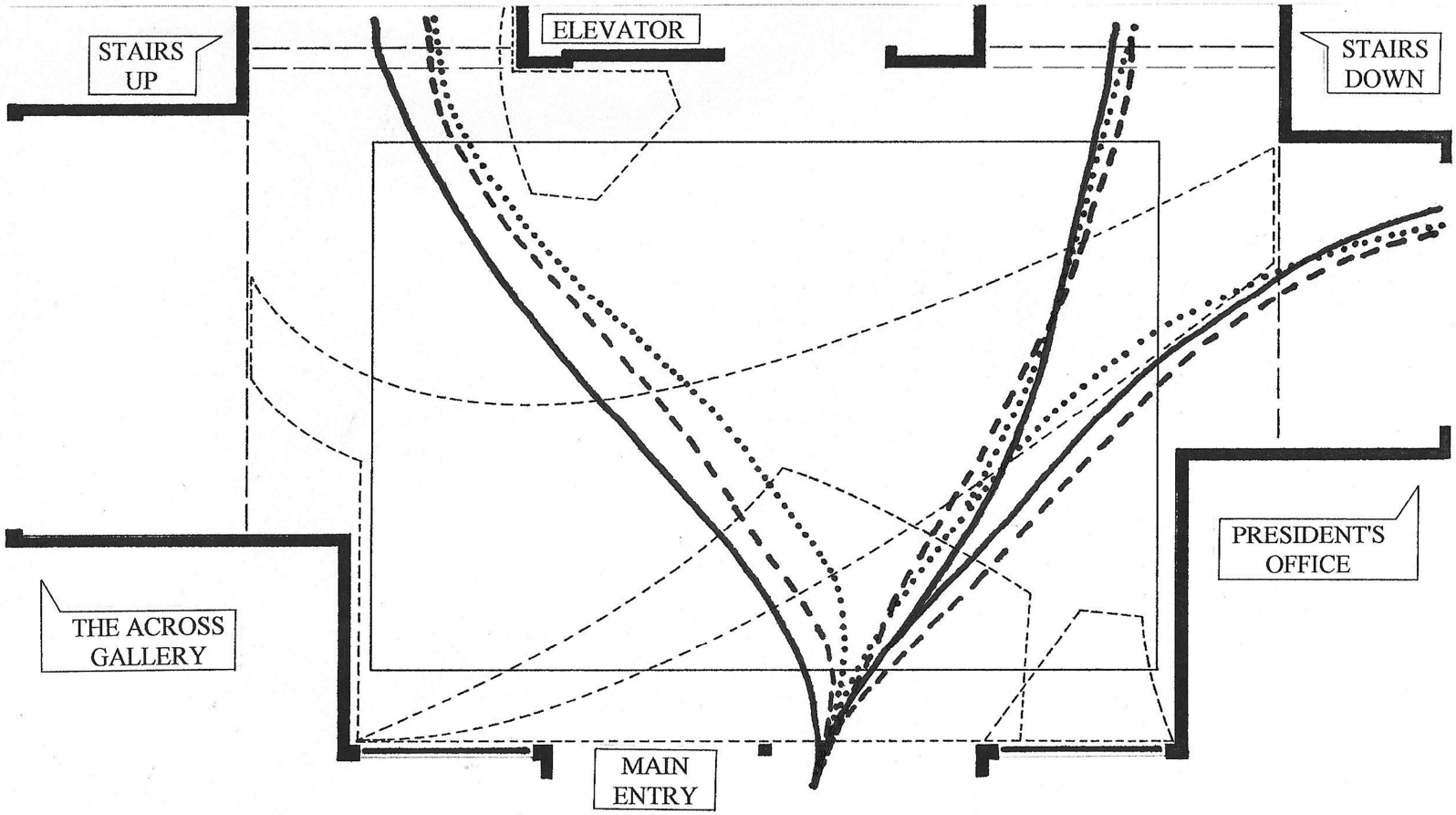


Figure 12: Composited Median Lines for Entry Patterns through Main Door

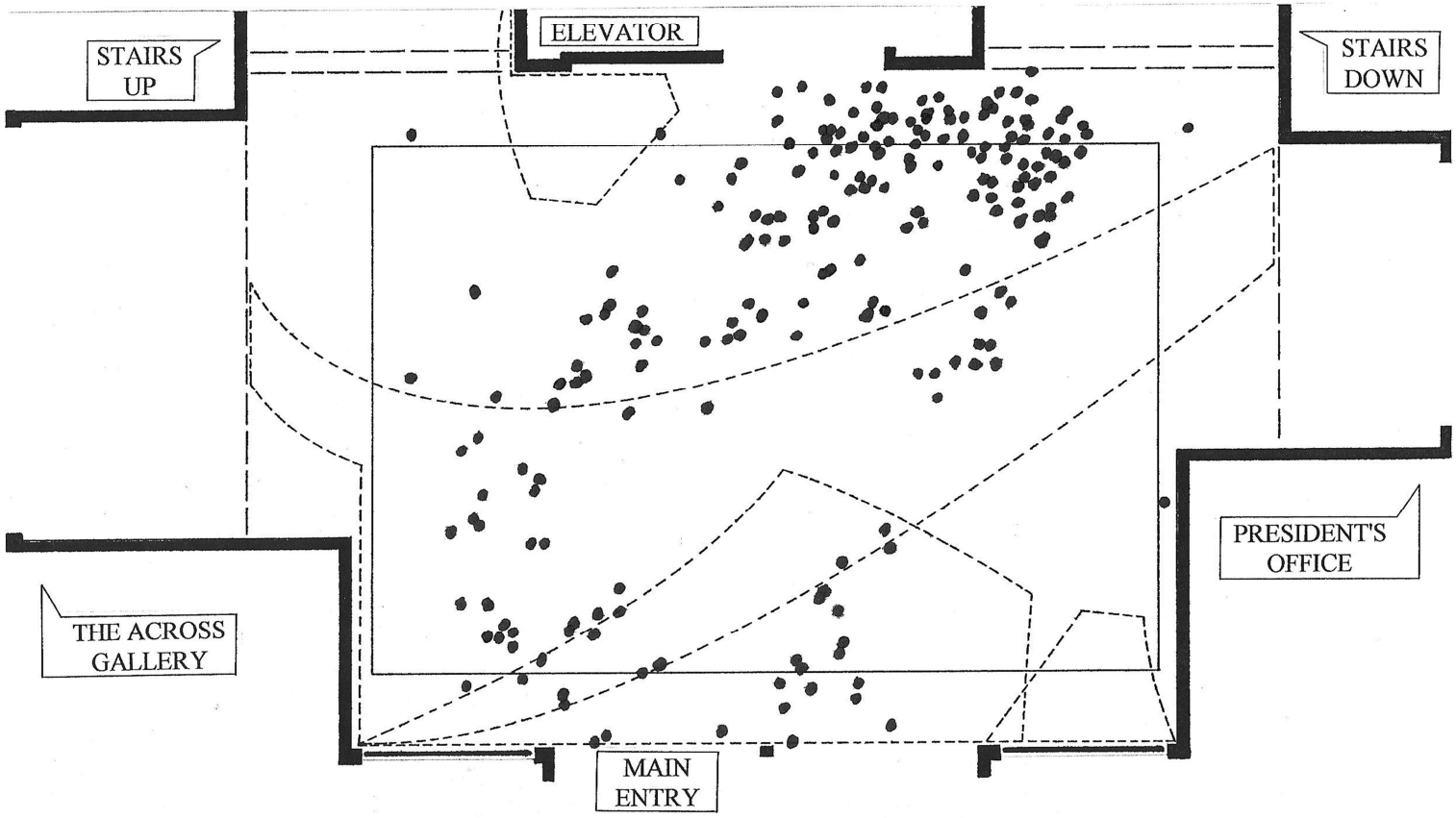


Figure 19: Stationary Points Waiting for Elevator (Existing Condition)

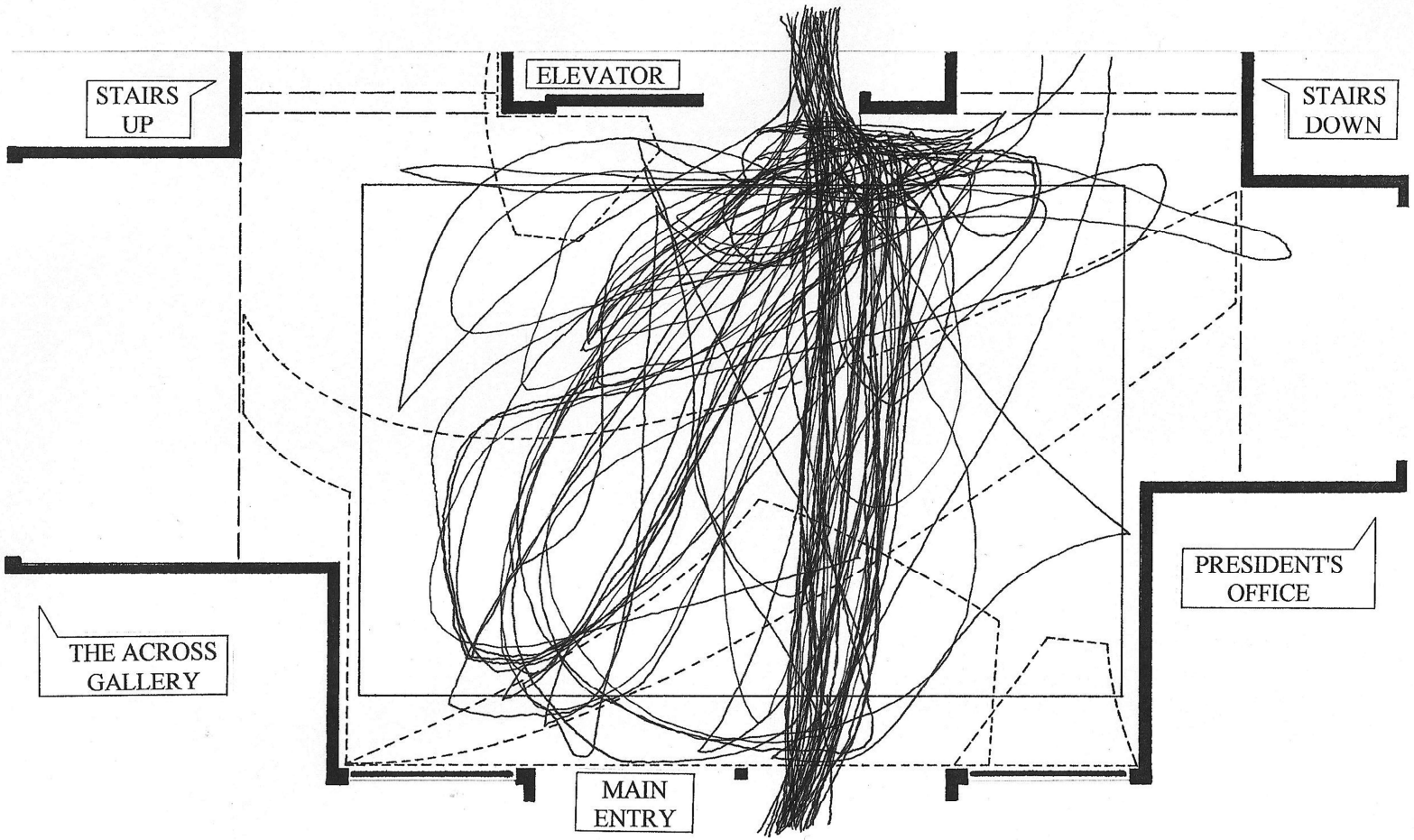


Figure 18: Movement Pattern Waiting for Elevator (Existing Condition)

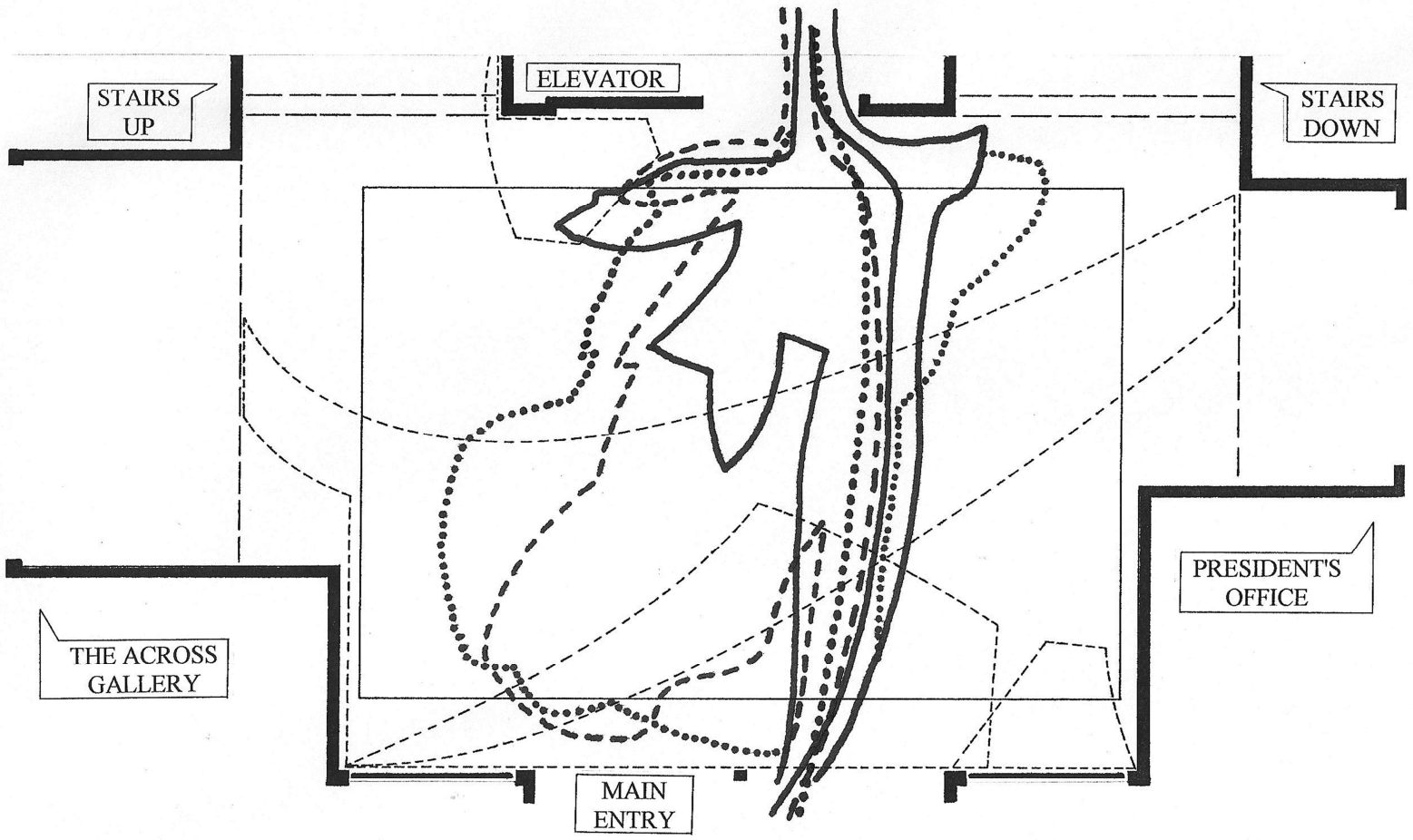


Figure 24: Composited Median Lines for Pattern: Waiting for Elevator