

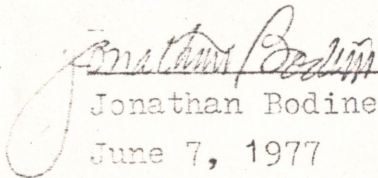
ARCHITECTURE AS A
SEARCH FOR SPACE
BY
JONATHAN A. BODINE

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Jonathan Bodine
June 7, 1977

Architecture as a Search for Space

by

Jonathan A. Bodine

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

of

Bachelor of Architecture

in

the College of Art and Architecture

Montana State University
Bozeman, Montana

June 7, 1977

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Dedication

I would like to dedicate this book to all those people who helped me through. First of all my parents Jane and Roy Williams who paid for the five years which culminated in this project. My brother and his wife for their moral support.

Of the staff of instructors I would like to thank Bill Senple, Guyton Stubbs, Stanford Wyatt. Also, Ilmar Reinvald who stalled and never really approved this thesis proposal because I "grated on his nerves" - not to mention what he did to my nerves. Dr. George McClure who threw out all of the first quarters work including models, schematic drawings, technical information and the entire bibliography. And finally David Wessel who was good enough to schedule my presentation each quarter during times I specifically requested not to be assigned because of other commitments.

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Introduction

Q What's the story behind Princess Anne's snub of Andy Warhol?

A Soup-can artists apparently aren't on the Buckingham Palace menu. When the 48-year-old Warhol requested permission to include the princess in a portrait collection, he was told by a royal official: "We have dozens of artists who want to photograph and do portraits of Princess Anne. Because she is so busy, only a few are lucky." The American pop artist commented dryly, "I didn't know there were dozens of artists in the world."



Shelter - the satisfaction of comfort.

Design - the manipulation of the environment in such a way as to provide comfort and alleviate distraction.

Architecture - the search for space.

Space - an abstract non-physical but mental reality which is communicated from the architect to the observer through ideas which are represented through concrete non-mental but physical constructions.

The project - a transportation unit such as a conventional passenger rail car:

1. Coach
2. Dining car
3. Sleeping compartment

At the beginning of this exercise I was convinced and then said that space was made and communicated by ideas that were built three dimensionally. In some cases I am still sure that this is the case.

Anyway, to show this I was going to go fairly deeply into some of the past and present masters and try to explain how to me their buildings represented idea three dimensionally. From this study I had hoped to better understand how an abstract dimensionless idea was given three dimensions.

For example I would cite Mies van der Rohe and his Crown Hall. Crown Hall was conceived as a pool of space that exists as a pool of space (Universal Space) for itself before it exists to house a particular function just as a clearing in a forest exists for itself before it exists as a pasture.

I was then going to go into the functionalists. How they made space from the idea of accommodation of functions. The next group was the technologists. They were those who made space by the placement of objects (technical) inside a volume. These objects represented the technological capabilities of the society. The idea of this tremendous capability when communicated to the viewer made the volume into space.

There have been a lot of technologists. And they played with this idea in many ways. Some used technological appearing materials, coating surfaces with this technological style as others have covered their surfaces with other styles.

Then there were others who communicated this technological competence by compositional contrast and surprise. Examples of these are the numerous projects with the regular structural grids juxtaposed against freeform walls (in plan and occasionally in elevation) to show their non-structural character. The fourth in this category are the real technical objects. In these the object not only represents the technology to the viewer but it is in fact the manifestation of that technology which makes possible its existence (B-52 bomber).

Next would probably come someone like Robert Venturi or Robert Stern. In both cases they use clever plays on history and building type to make - for lack of a better word - space (even though they probably wouldn't call it that). Anyway, Venturi makes many references to history on both the outside in elevation and on the inside in plan. These plays on history, to the person with the proper background, would add much richness to the volumes thus contained. To him not only is the wall an "architectural event" because it is the "interface between interior and exterior" but it is also the communicator of this historical data.

Stern is somewhat different but still works and communicates within this historical framework. His most interesting plays are with the window. The framing of a view with a window and the subsequent stage setting of that window to be the modern work of art (landscape painting) on the wall of the house. In a similar vain is the work of Philip Johnson. Wright had made his space by the push and pull literally of the wall and window in order to - very - physically let the inside go out and the outside come in. Johnson, in his own house makes a nice play on this. To do this he makes a tight box and lets the inside go out by making it all glass; he then brings the outside in by the placement of the 15th century landscape painting inside, in the livingroom.

In the search for how ideas are made into three dimension (i.e. Architecture) the last two people to be closely looked at by me were Peter Eisenman and Louis Kahn. When looking closely at their work an underlying similarity appears. This similarity is that, one way or another they both dematerialize their buildings in order to call attention to the elements of the building and more importantly the composition of these elements. Eisenman does it by painting all surfaces white thereby denying the material any importance of its own and making its only importance compositional. Kahn does it by covering the entire building with a single material thereby lessening the importance of the material and magnifying the importance of the placement and shape of the elements.

The basic difference in their work is in the underlying intentions of the two men. Eisenman sees his work as discussion; grabbing the viewer and shaking him to give him a new and broader awareness. Kahn on the other hand is more concerned with man and his potential.

The study of the work of both Eisenman and Kahn was the last of the series that helped me to change my mind. Upon close study it becomes apparent that the three dimensions and the idea are not at all closely interrelated. At best they are only casually related; that is, in the particular designer's mind. Idea is not the generator of any dimension. Granted, in many cases certain ideas were actually concretized but as pointed out in the discussion of technological space that could have been done in many ways therefore the three dimensions came from the predelection of the designer as did the idea he claimed to be working with. Each is quite independent of the other and rather arbitrary.

My original intention was to find the relationship between the physical dimensions and idea. After looking closely it is clear that there is no direct relationship - that particular ideas do not dictate particular physical manifestations. For this reason I decided to look at the four dimensions through which I see and understand my existence and to look at their relationship to the dimensions of thought through its existence. To do this one must first understand the four dimensions. First there is the point - no dimension. Then the line, a series of points - one

dimension. The plane comes next, formed by moving the line other than on its own axis - two dimensions. Next comes the volume, a plane either moved other than parallel to its position or rotated about a line it contains - three dimensions. And last existence, a volume moved through time - the fourth dimension. A volume through time has existence.

Now, since both the physical world and the mental world have existence we have a common point (in the look at dimension) through which to relate dimension in these two worlds. Since existence is the common point we should go backward through the dimensions and find out where idea is located.

As existence is volume through time physically, mentally existence is thought through time. The next is three dimensions - thought, which is notion or attitude given depth. Mentally two dimensions - notion or attitude is logic given width. The single dimension (line, a series of points) is logic which is a series of ideas. Therefore idea is a point - nondimensional - a source from which things may be built.

This corresponds to my earlier notions about the existence of ideas in Architecture - that they can be concretized by a building (at its center) but that its three dimensionality is not determined by them.

Now its time to take another look at Louis Kahn. Kahn

said that a room is not a room without natural light. By this he implied that a room only exists through time and that this passage of time (the natural light) must be apparent. To this I would reply that a room is only as empty as the men's minds which occupy it. Each room has the potential for everything. If, in the creation of the room an architect tries to concretize function or idea he, by limiting the potential of that room with the function or idea, shows how empty his mind is. A room must be a room before it knows what it is.

A room is the limit of the existence of a man. No matter where that person is he is in a room - either created by his mind or by his surroundings. Space must be that room that lets a man feel his full potential.

At this point I shall start my project.

Architecture as a search for space

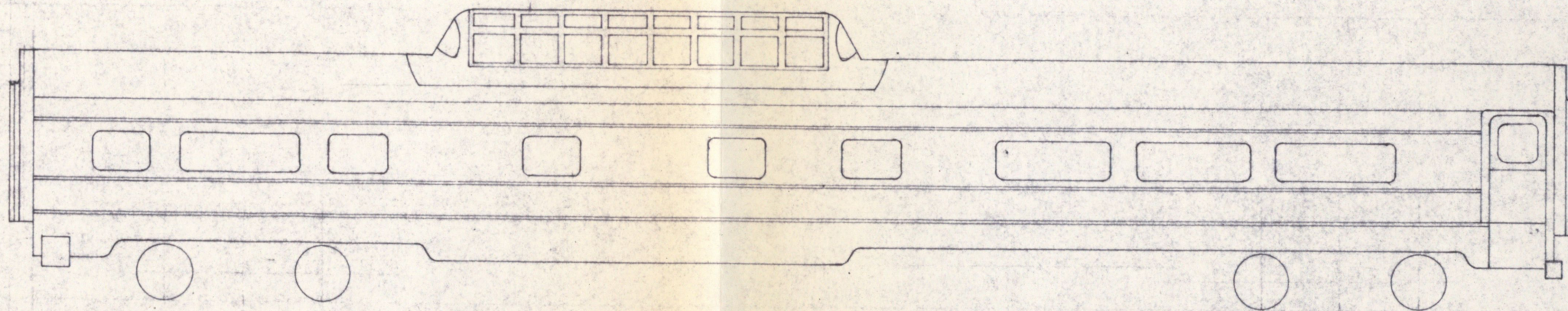
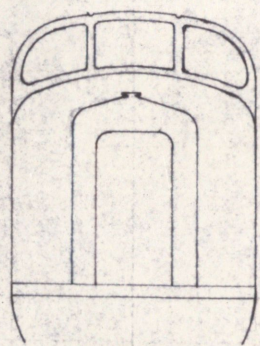
If there is a difference between a volume and space or architectural space then, it is my contention, that the difference is a viewers ability to understand his location as different from another's location and the ability to understand all locations. In order to understand all locations they all must be easily referenced to a single point. From this point or center all other locations are easily described.

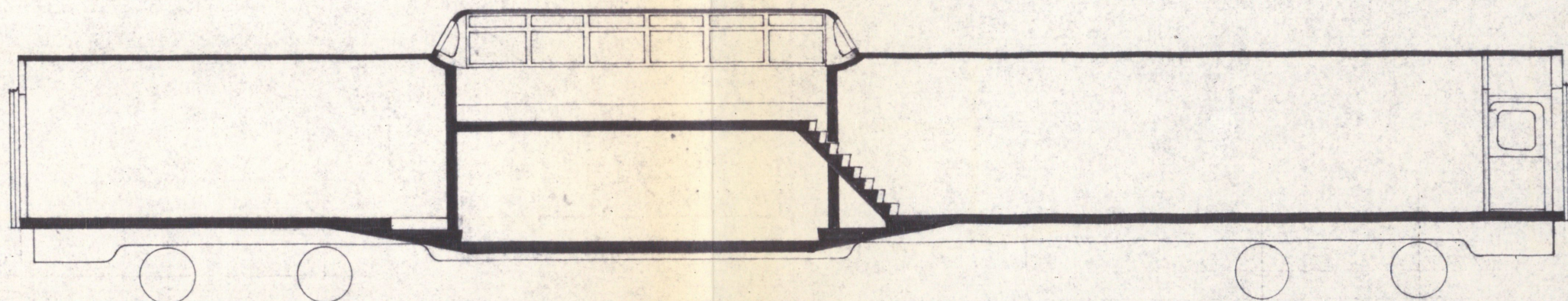
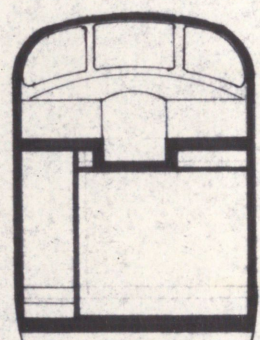
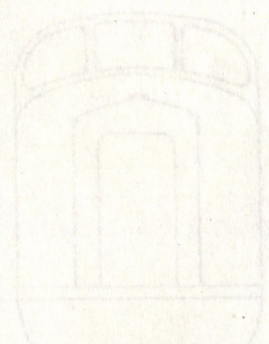
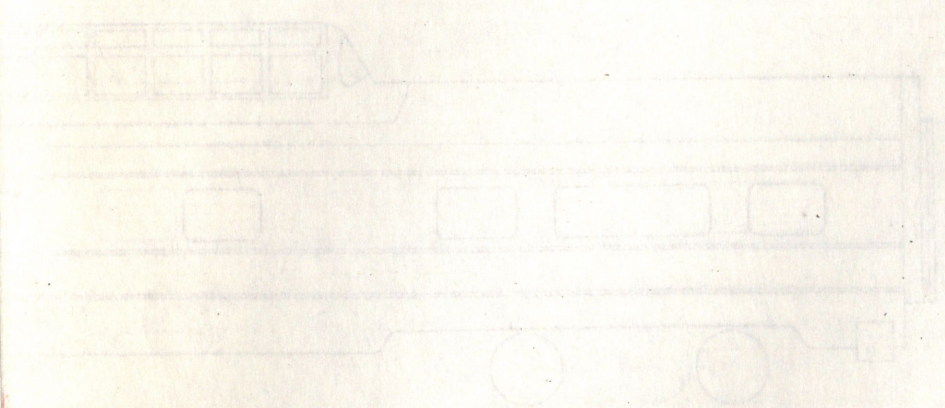
Rescently many architects have felt it necessary to reference their constructions in the fourth dimension - time. They contend that consciously they must mark the time period in which they operate. My feeling is that since I am a product of this time period then necessarily my constructions will also be a product of this time. The things that will mark its time will be not only the technology of construction at the time but also the building will embody either consciously or unconsciously the attitudes and thoughts of the time.

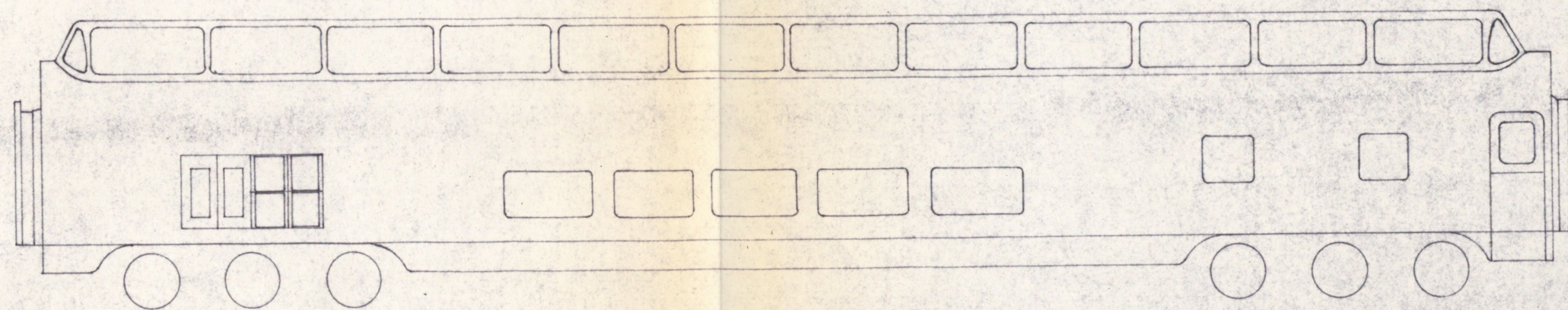
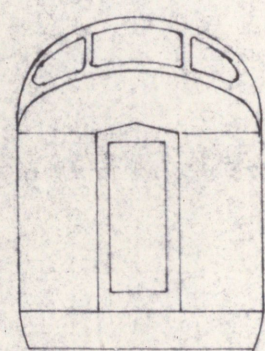
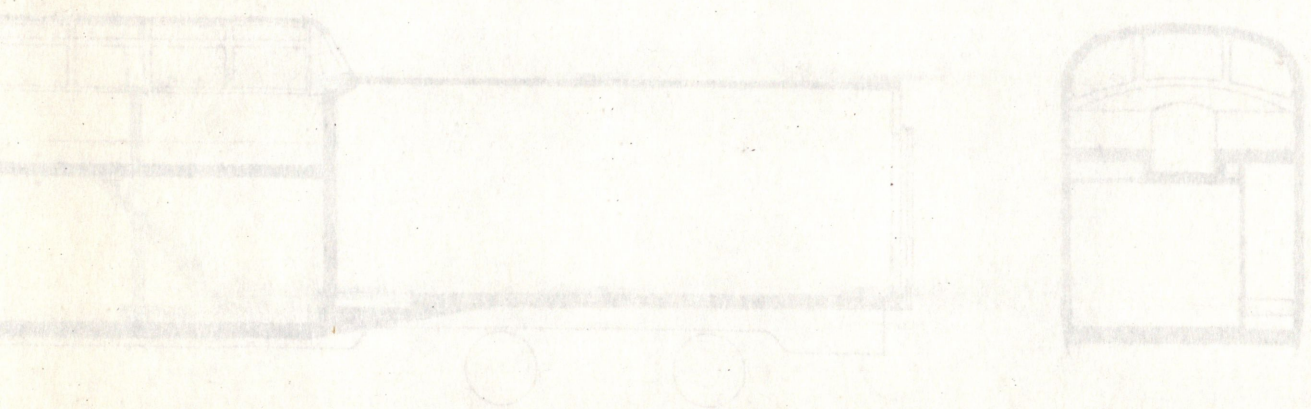
It makes no sense to me to reference anything to a point^t in time since it cannot be revisited. Besides that I understand space in three dimensions - not four.

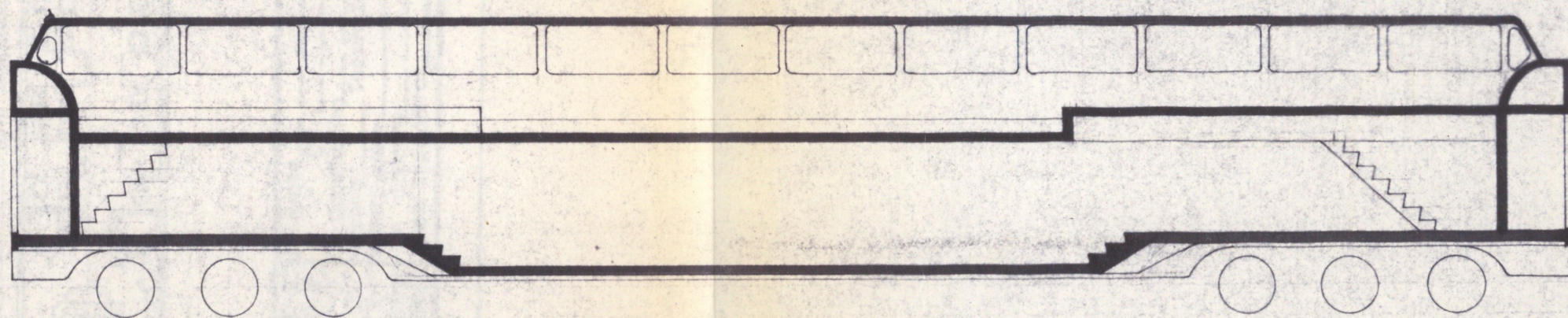
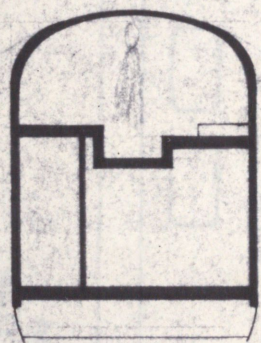
In the following project my interest was in developing volumes with centers - in this case a sphere but there are many more (not a cube) - and then making many similar but different rooms.

All the rooms are basically a sphere but by the manipulation of the circulation, window placement and even the change of the shape of the covering three very different but similar rooms were developed.



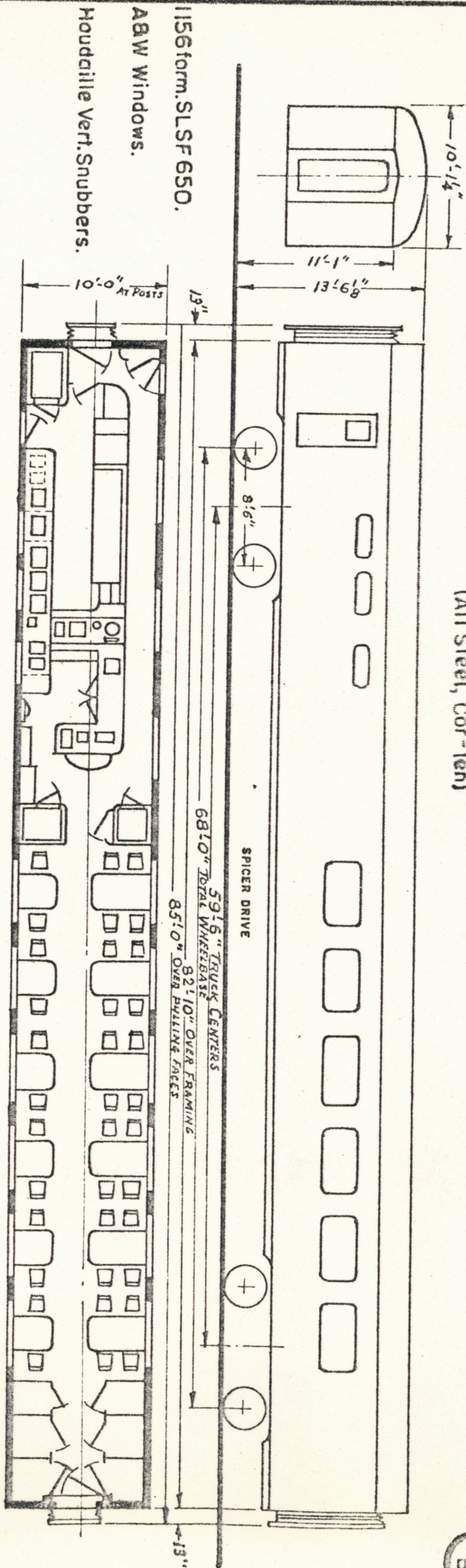






Built by Pullman - 1948, Lot 6768.
 Purch. from SLSF-1966.

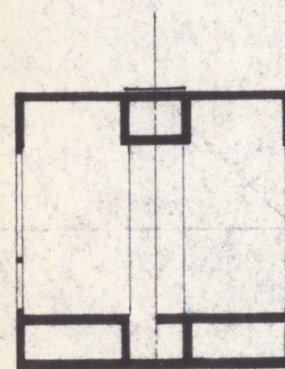
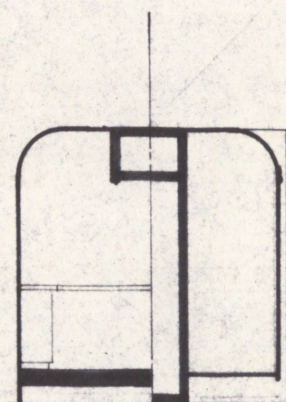
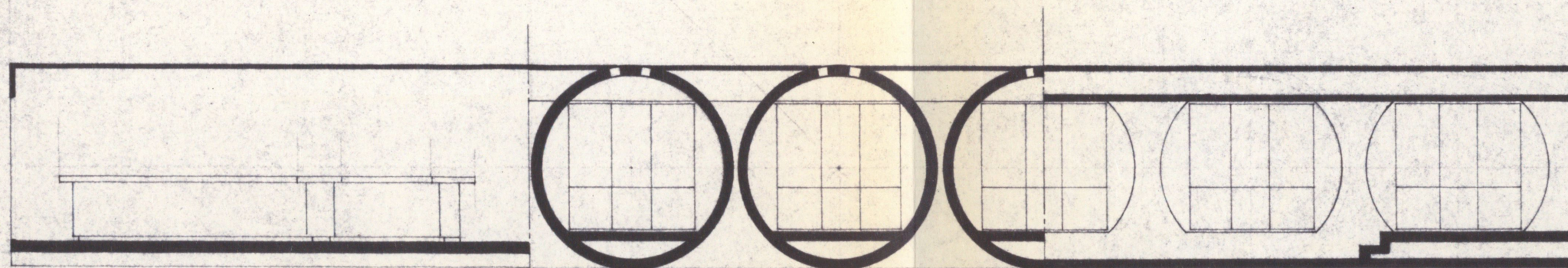
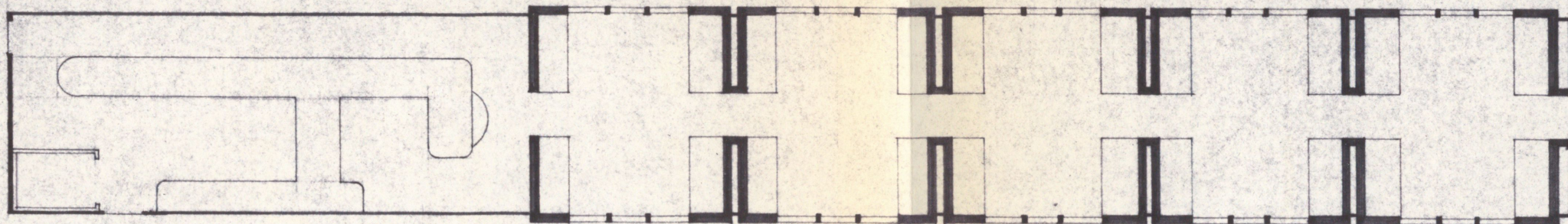
DINING CAR No. 1156.
 (All Steel, Cor-Ten)



AFE 66-243.

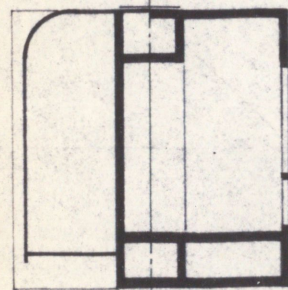
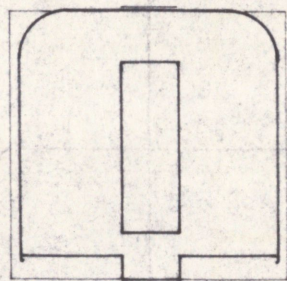
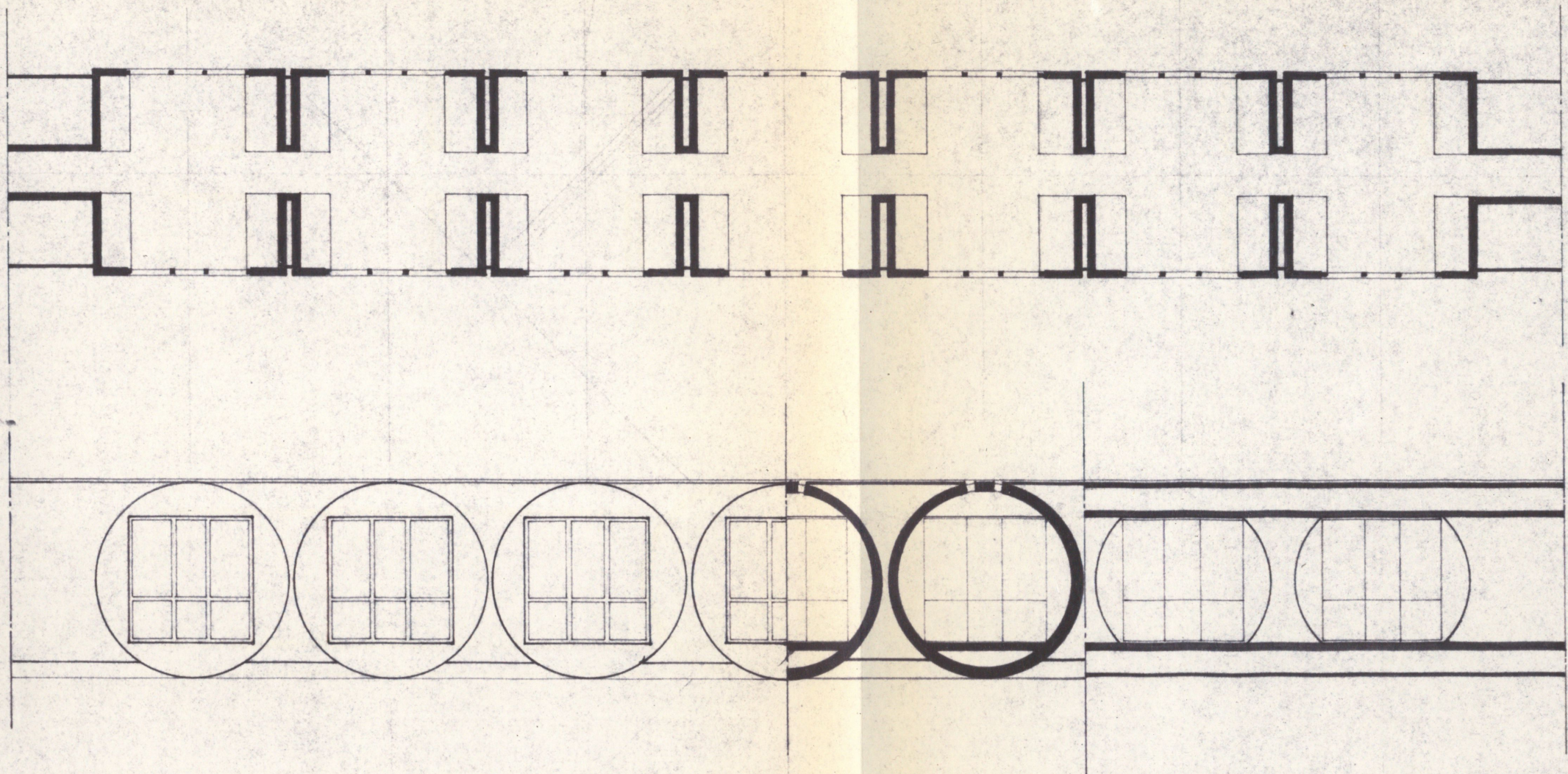
Weight	139200 lbs.	Truck Centers	59'-6"	Air Brake	HSC	Finish - Exterior	Painted Steel
Length Over Framing	82'-10"	Wheelbase - Truck	8'-6"	" " Cyl.	A-6 1/2, B-7"	" - Interior	Painted Aluminum
" " Buffers	85'-0"	- Total	68'-0"	" Conditioning	Waukesha	Lighting	Electric
Width	10'-0"	Wheels	36	Heating	Vapor	Draft Gear	WM-6-DP
" " Framing	10'-1 1/4"	Journals	5 1/2 x 10, 6" x 11"	Water System	Pressure	Buffer	Spring
Seating Cap. Y.	36	Kind Of Truck	Cast Steel	" Capacity	Gals	Coupler	Pullman
Handbrake	Peacock 800L Drop Lever	Truck Brakes	Clasp	Wheel Slip Control	Decelostat		Tirelock

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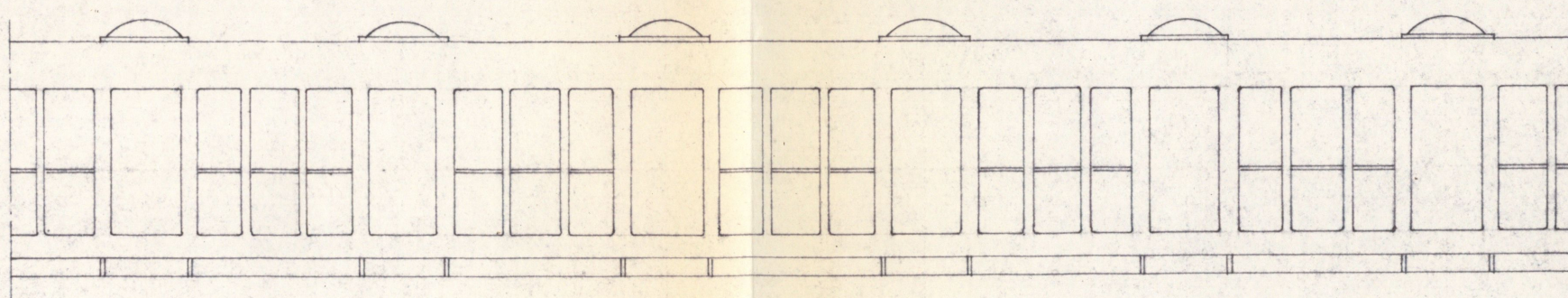
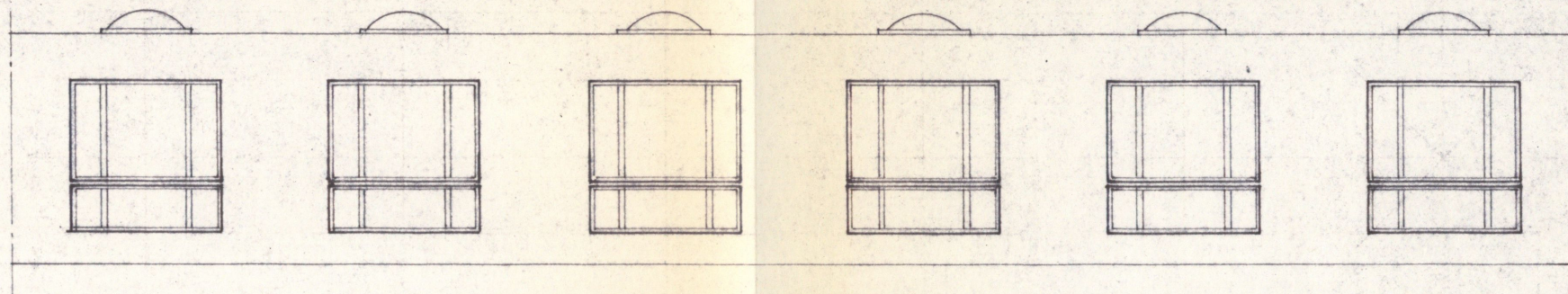
Dining

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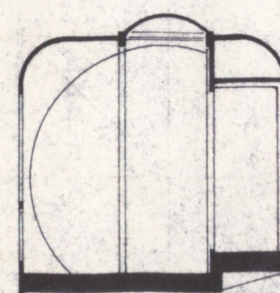
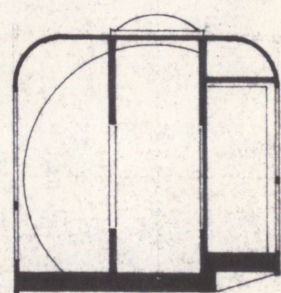
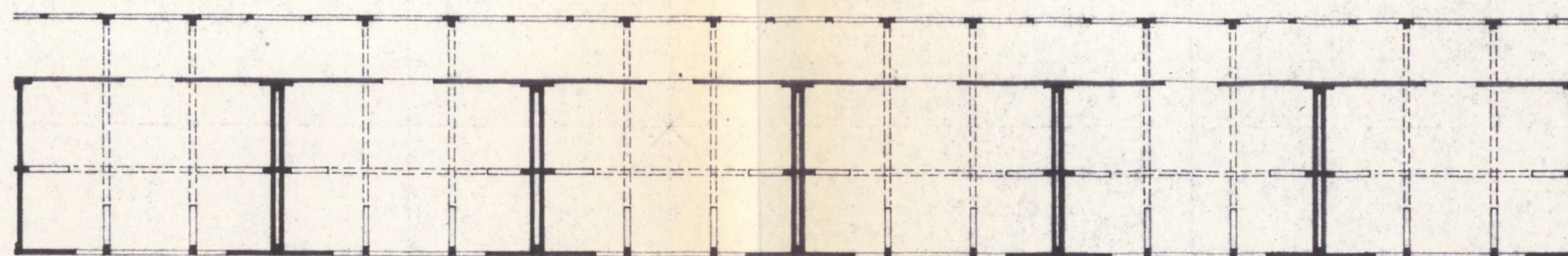
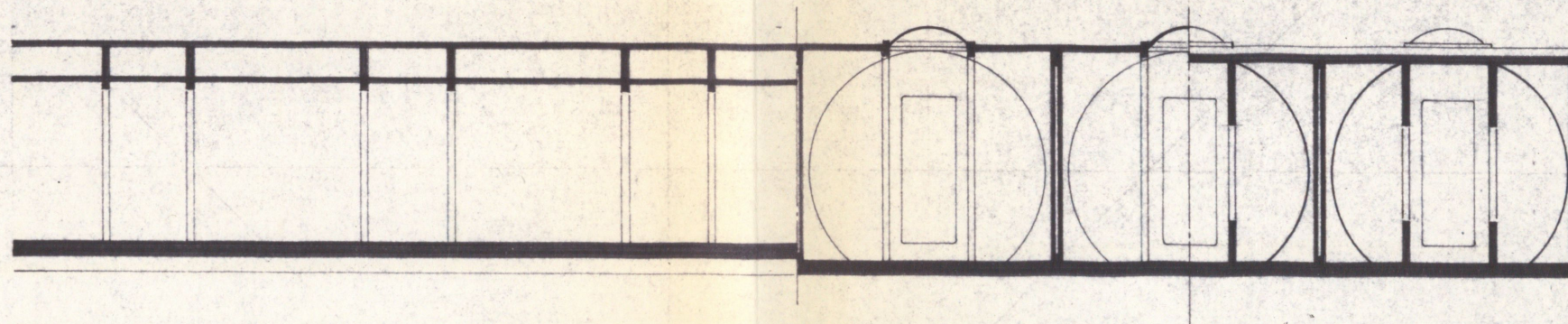
Coach

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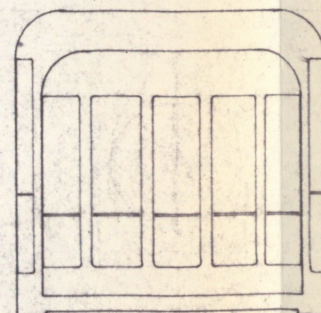
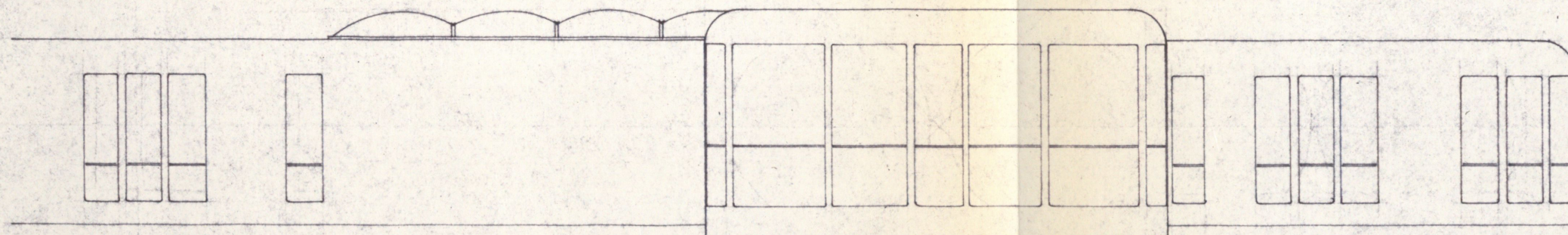
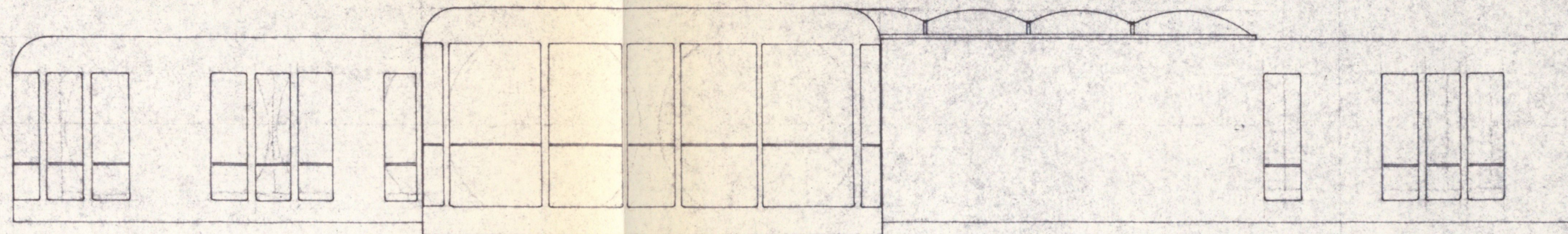
Sleeping

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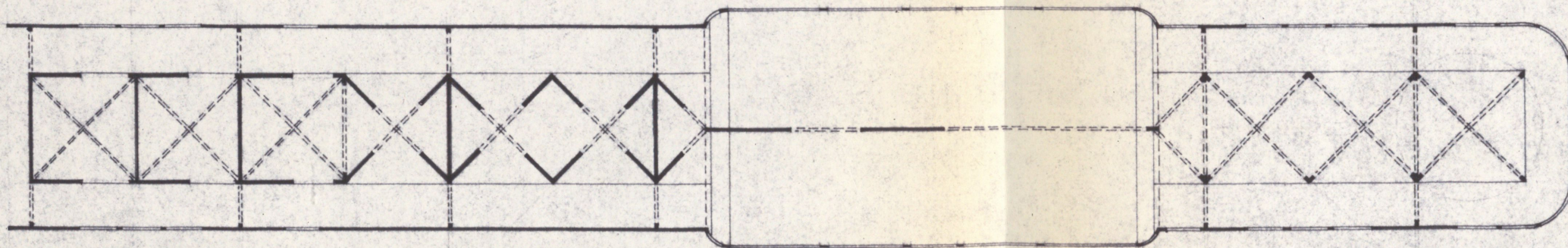
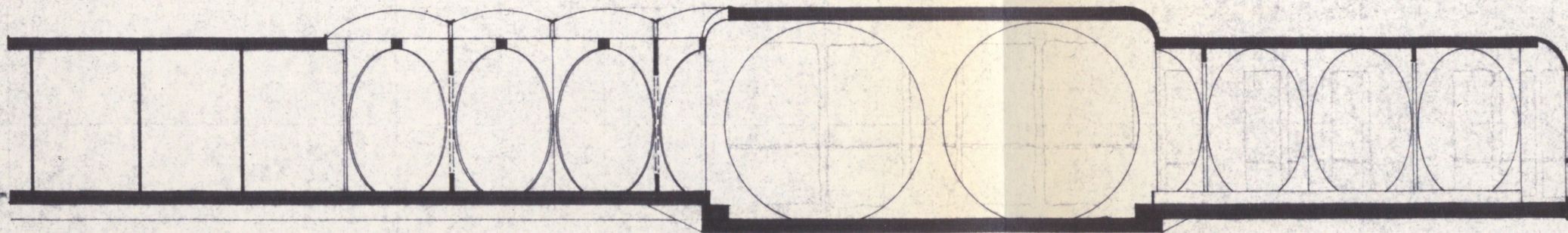
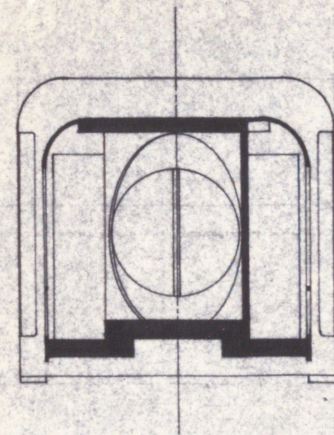
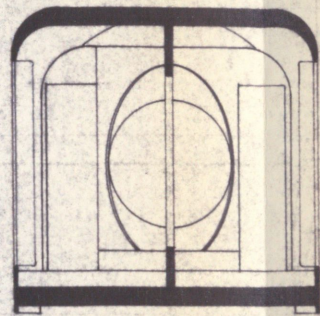
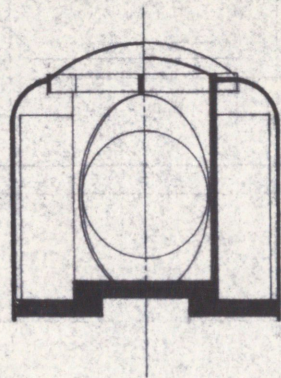
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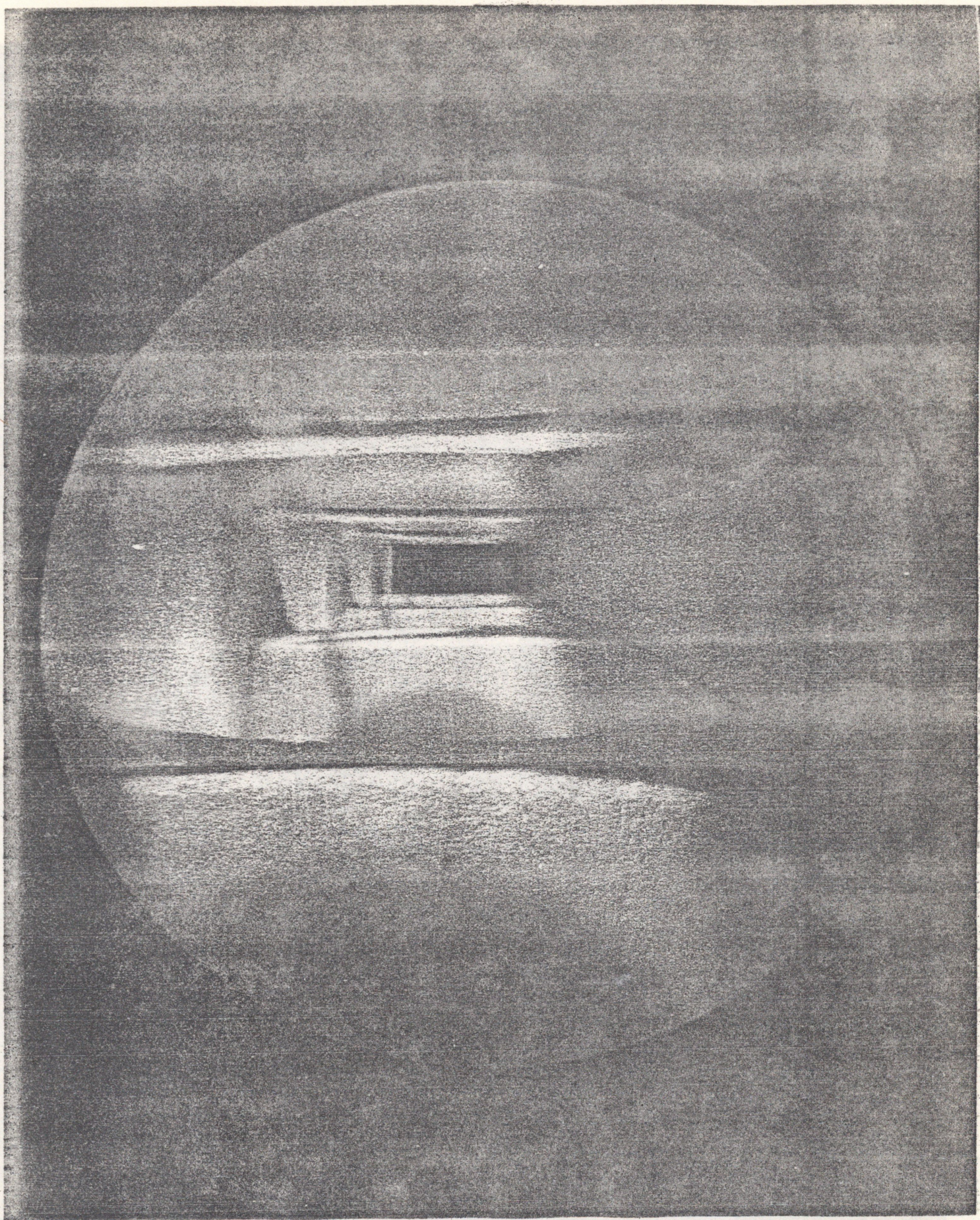
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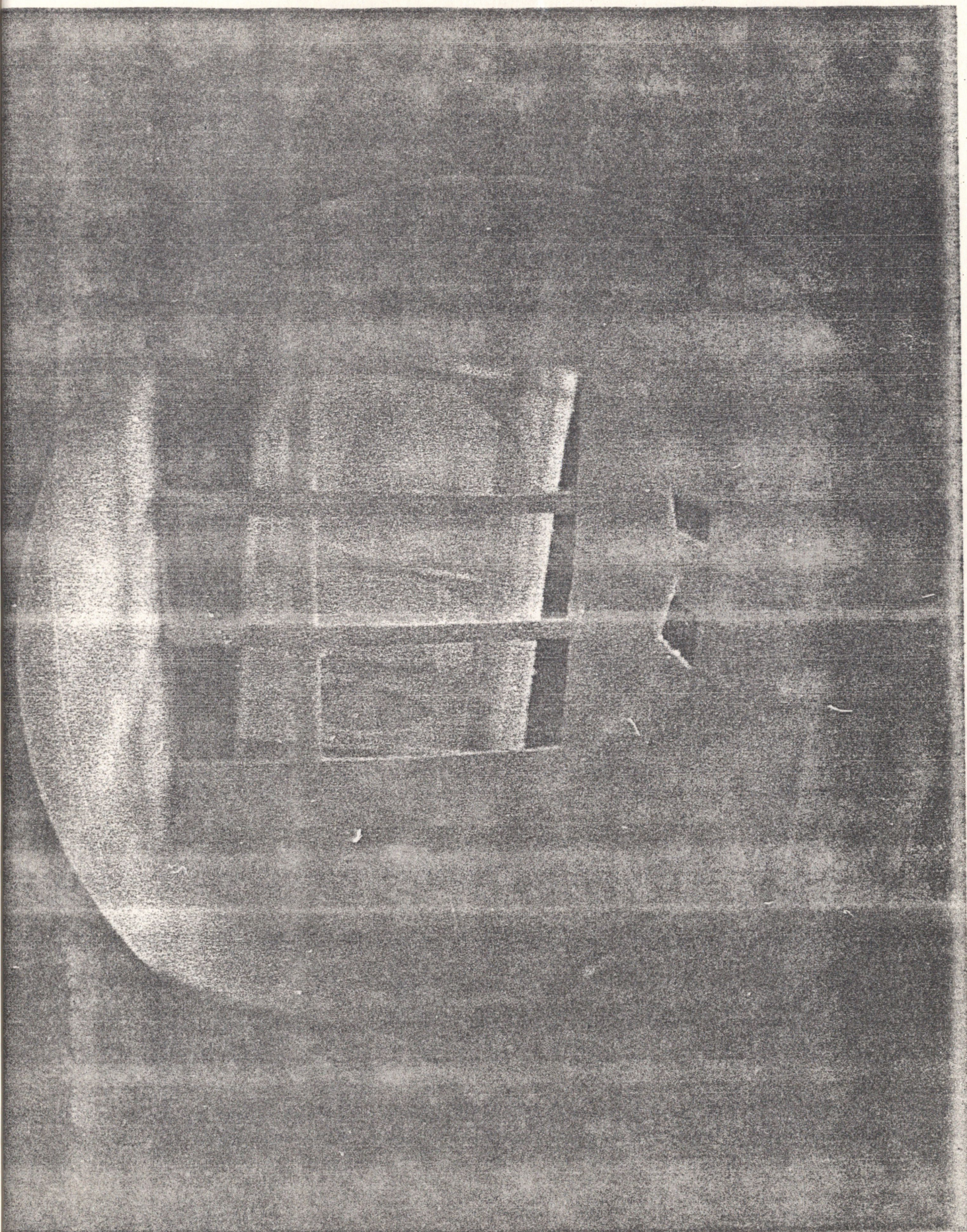
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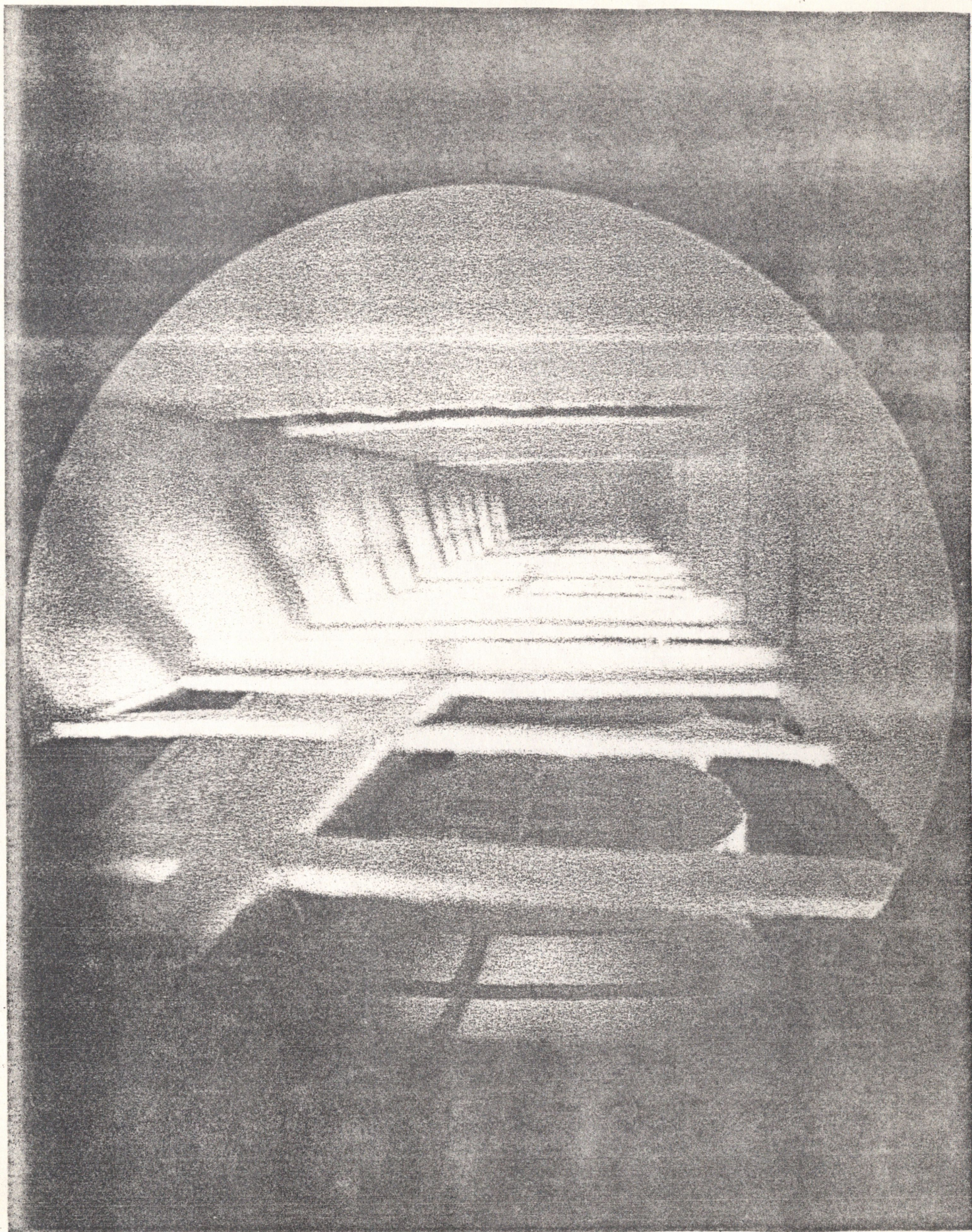


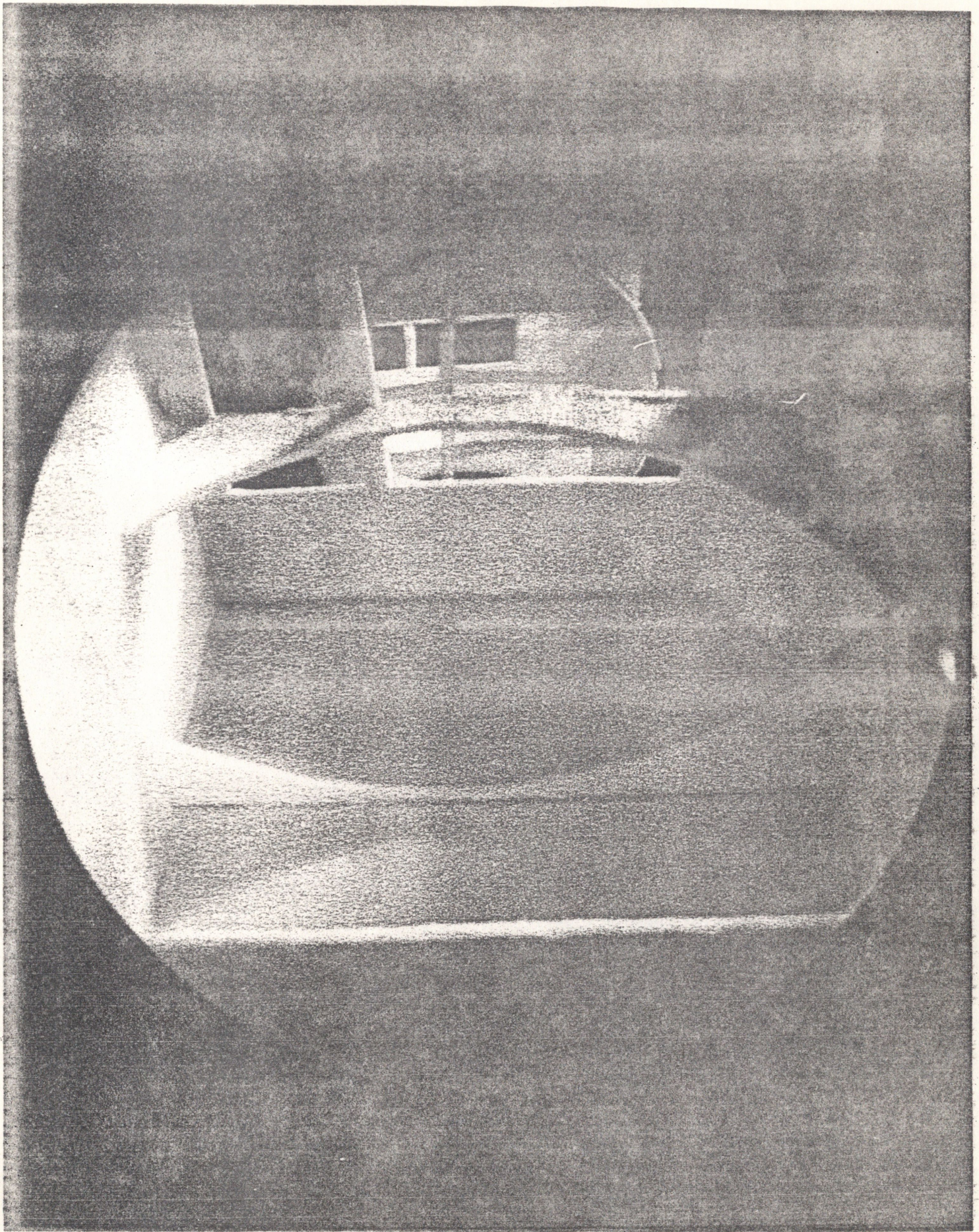
Observation

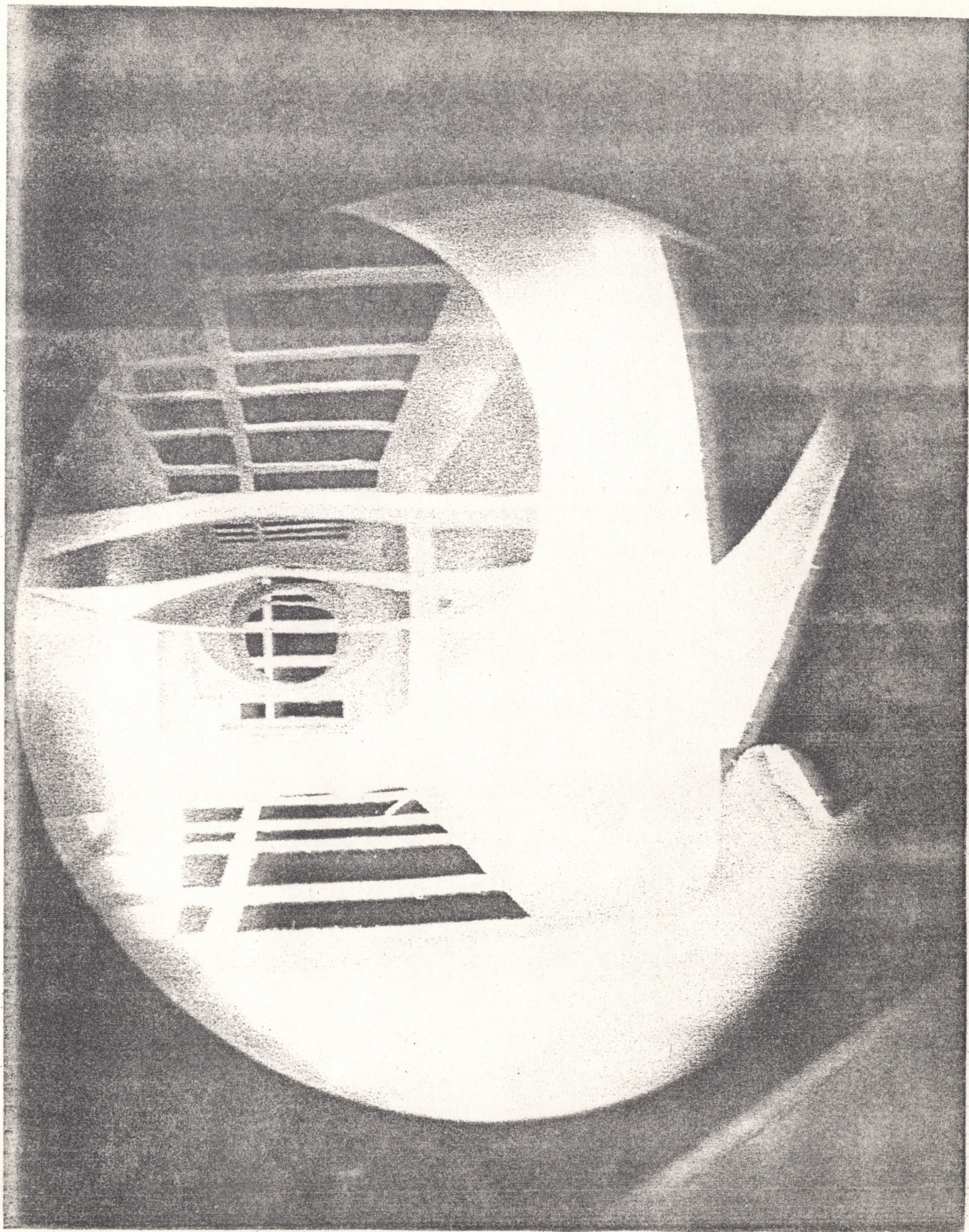
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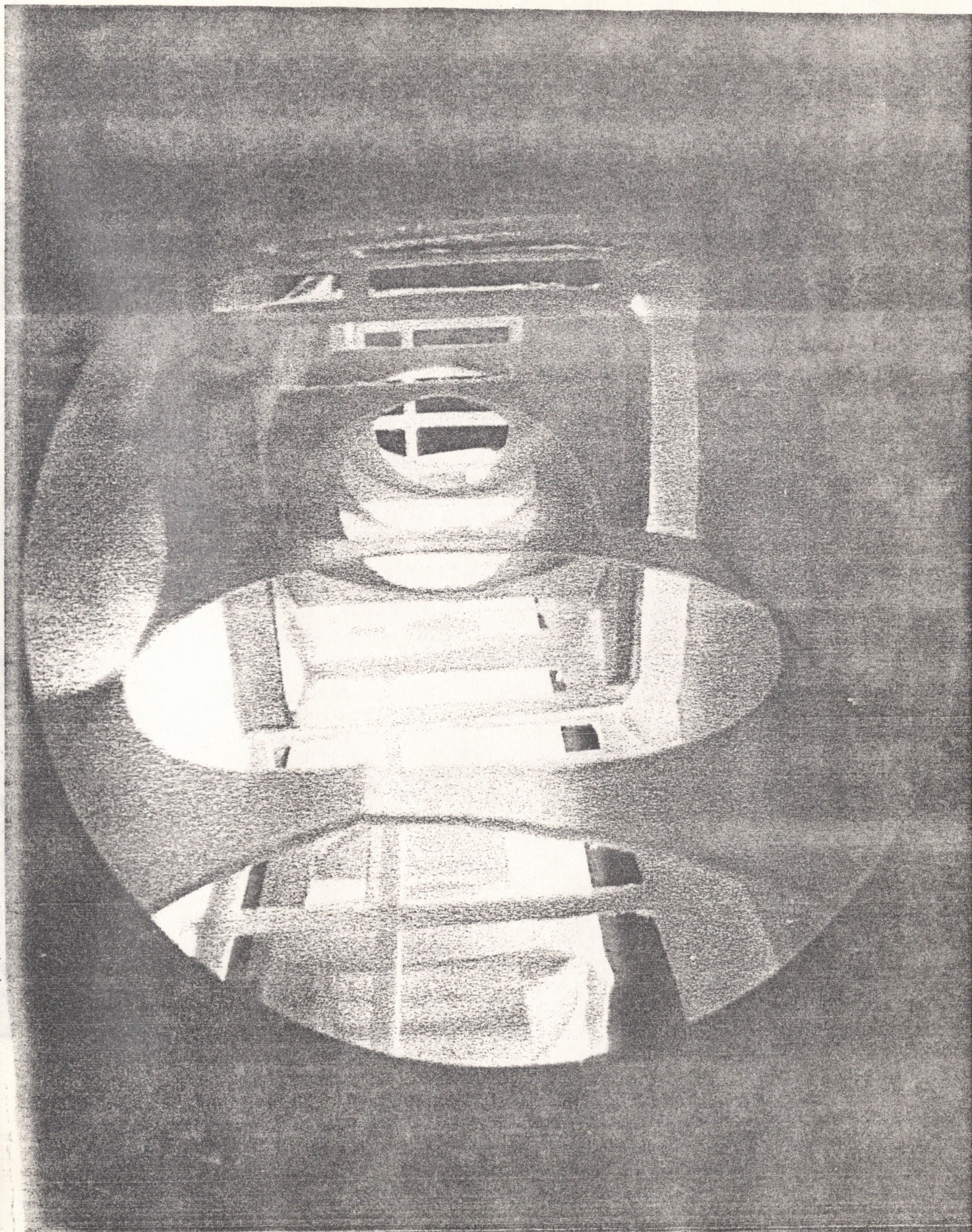


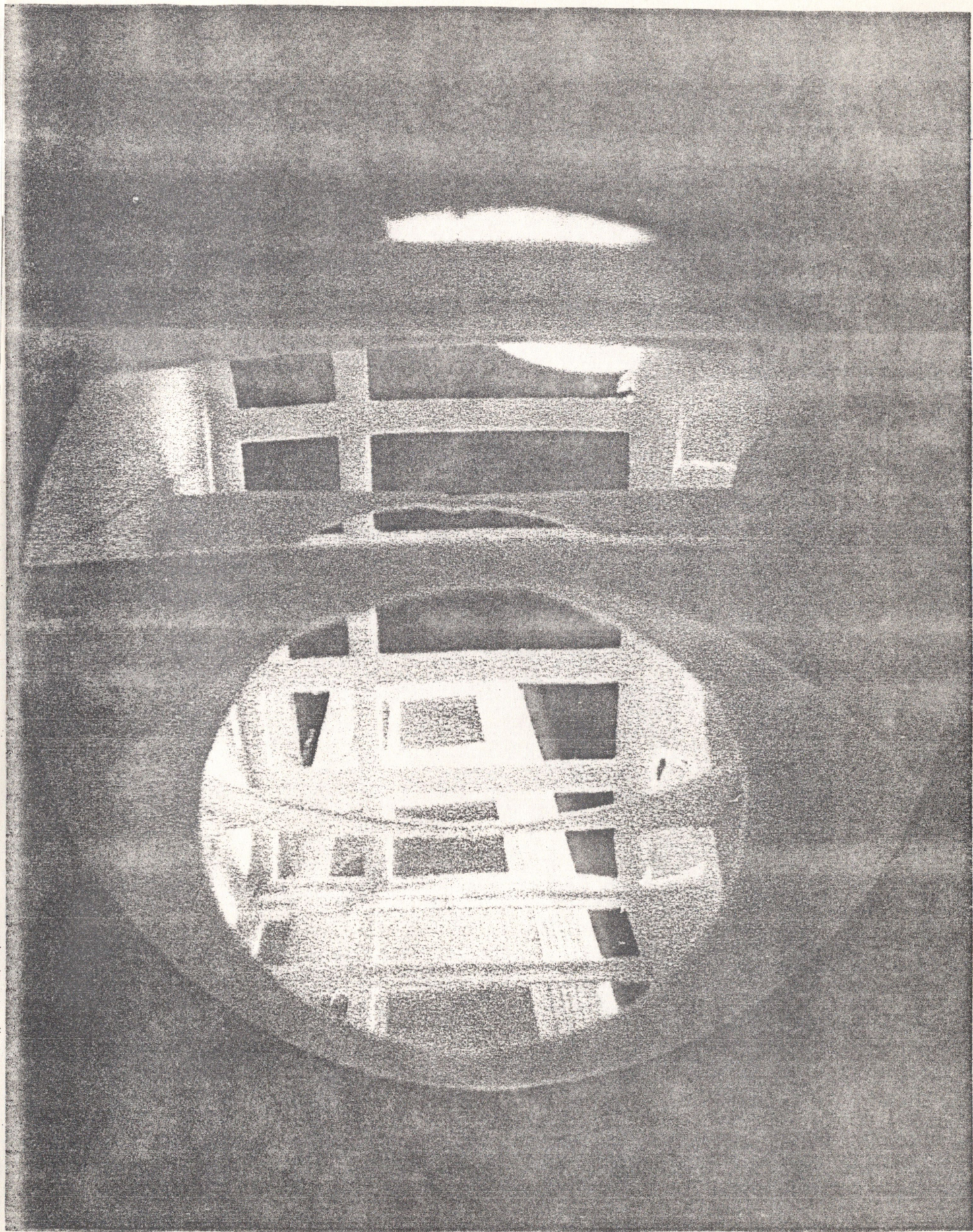


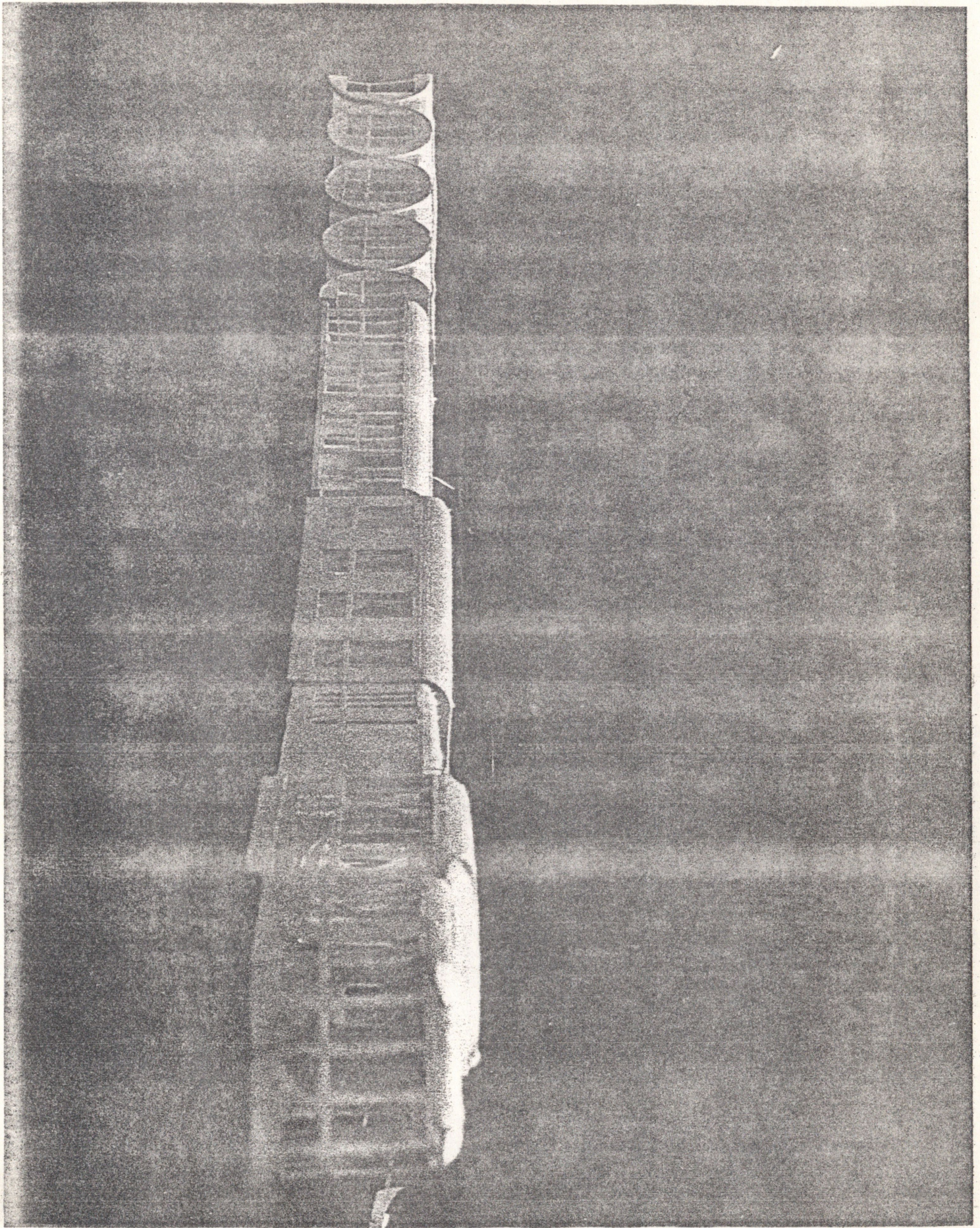


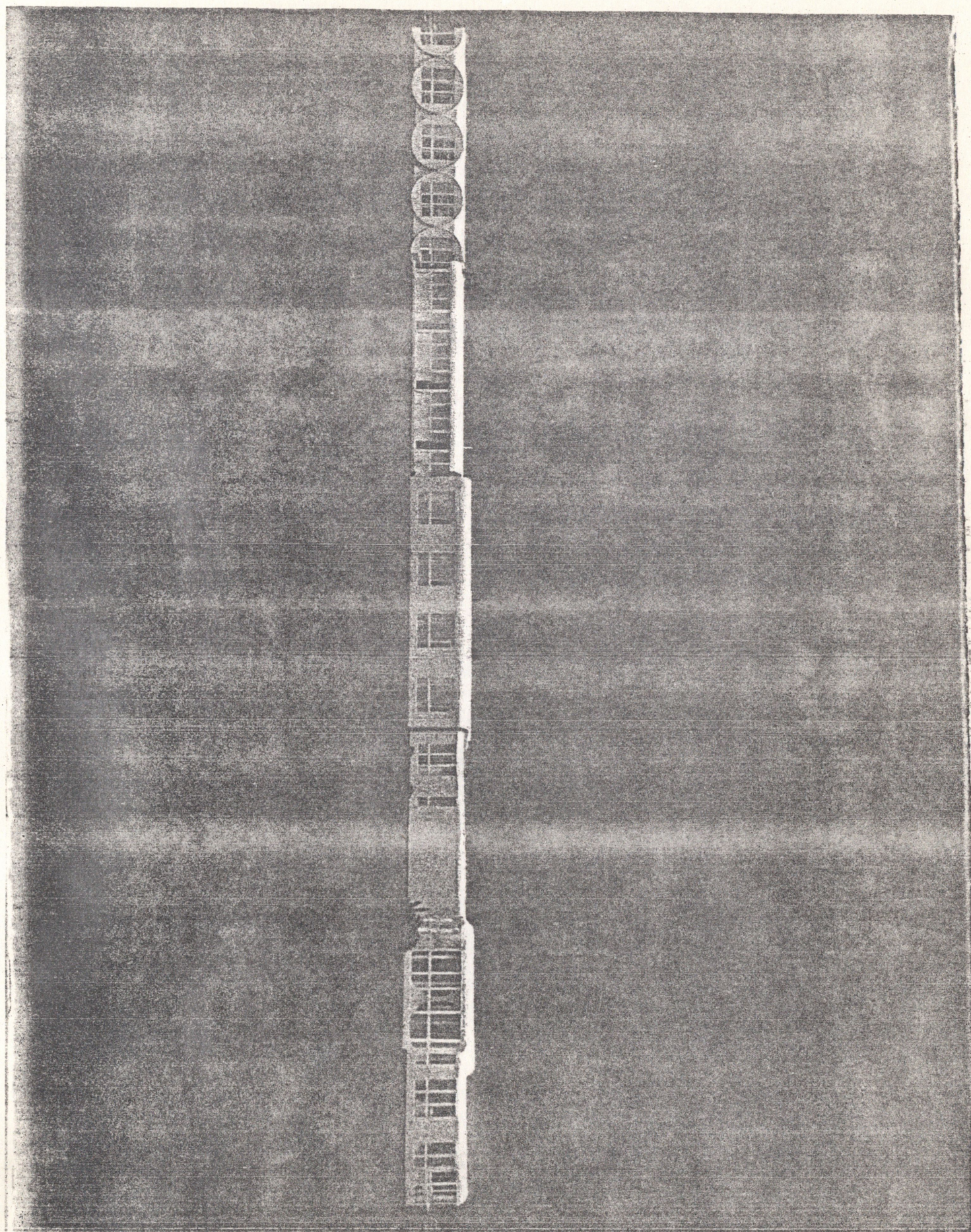












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