

Conditions in Architecture

A Design Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Architecture
by
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Abstract

Mortal Limit
by Robert Penn Warren

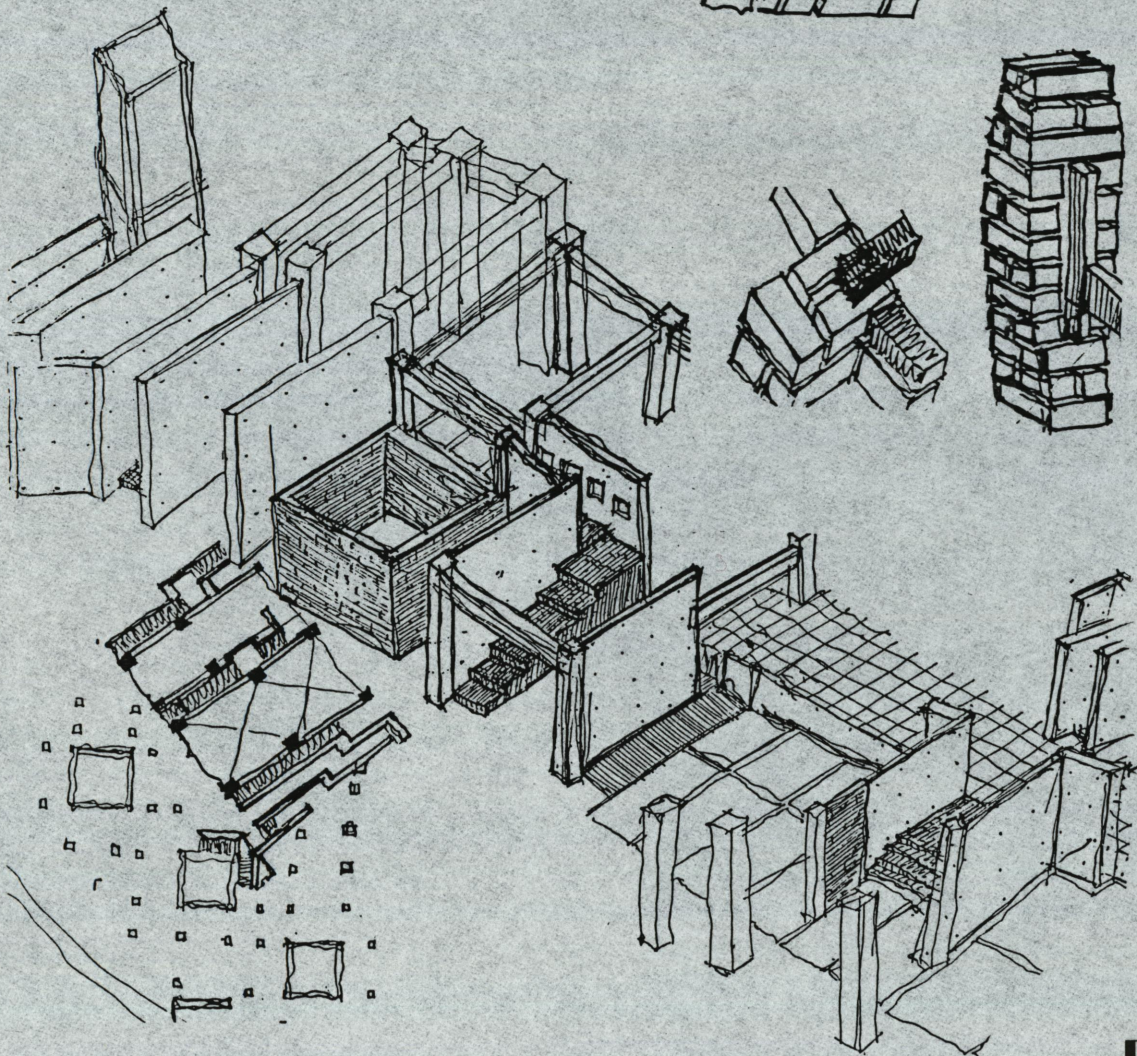
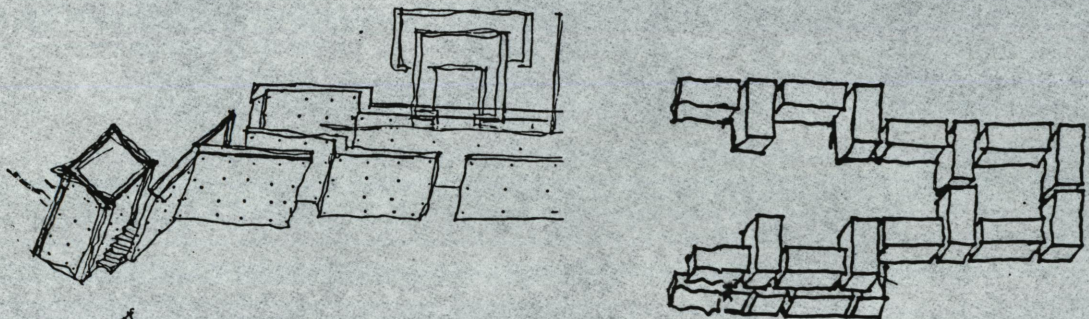
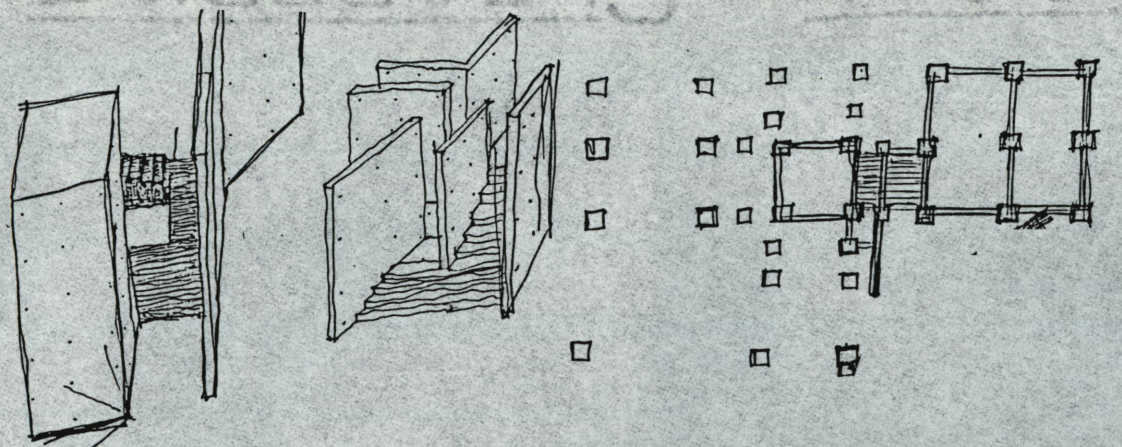
*I saw the hawk ride updraft in the sunset over Wyoming.
It rose from coniferous darkness, past gray jags
Of mercilessness, past whiteness, into the gloaming
Of dream spectral light above the last purity of snow-snags.*

*There-west-were the Tetons. Snow peaks would soon be
In dark profile to break constellations. Beyond what height
Hands now the black spec? Beyond what range will gold eyes see
New ranges rise to mark a last scrawl of light?*

*Or, having tasted that atmosphere's thinness, does it
Hang motionless in dying vision before
It knows it will accept the mortal limit,
And swing into the great circular downwardness that will restore*

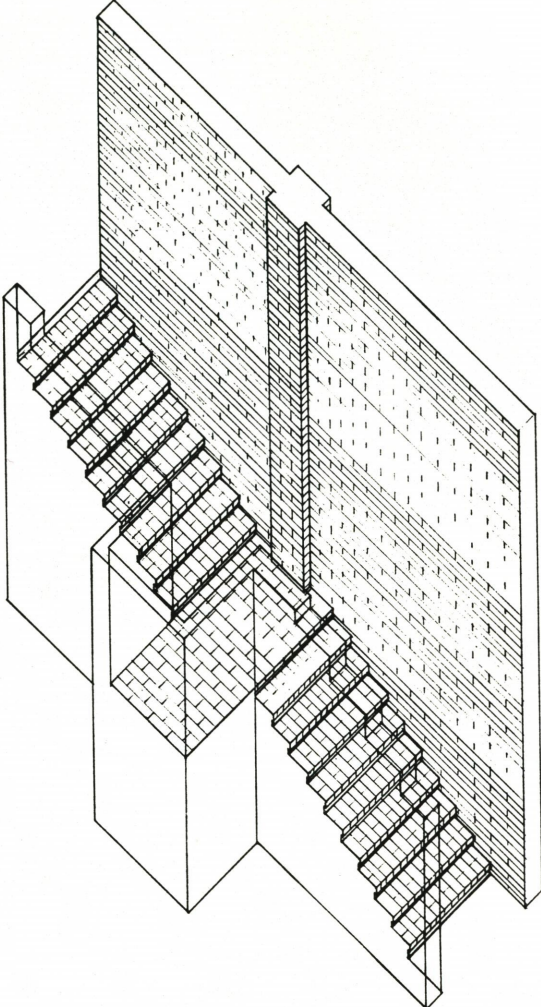
*The breath of earth? Of rock? Of rot? Of other such
Items, and the darkness of whatever dream we clutch?*

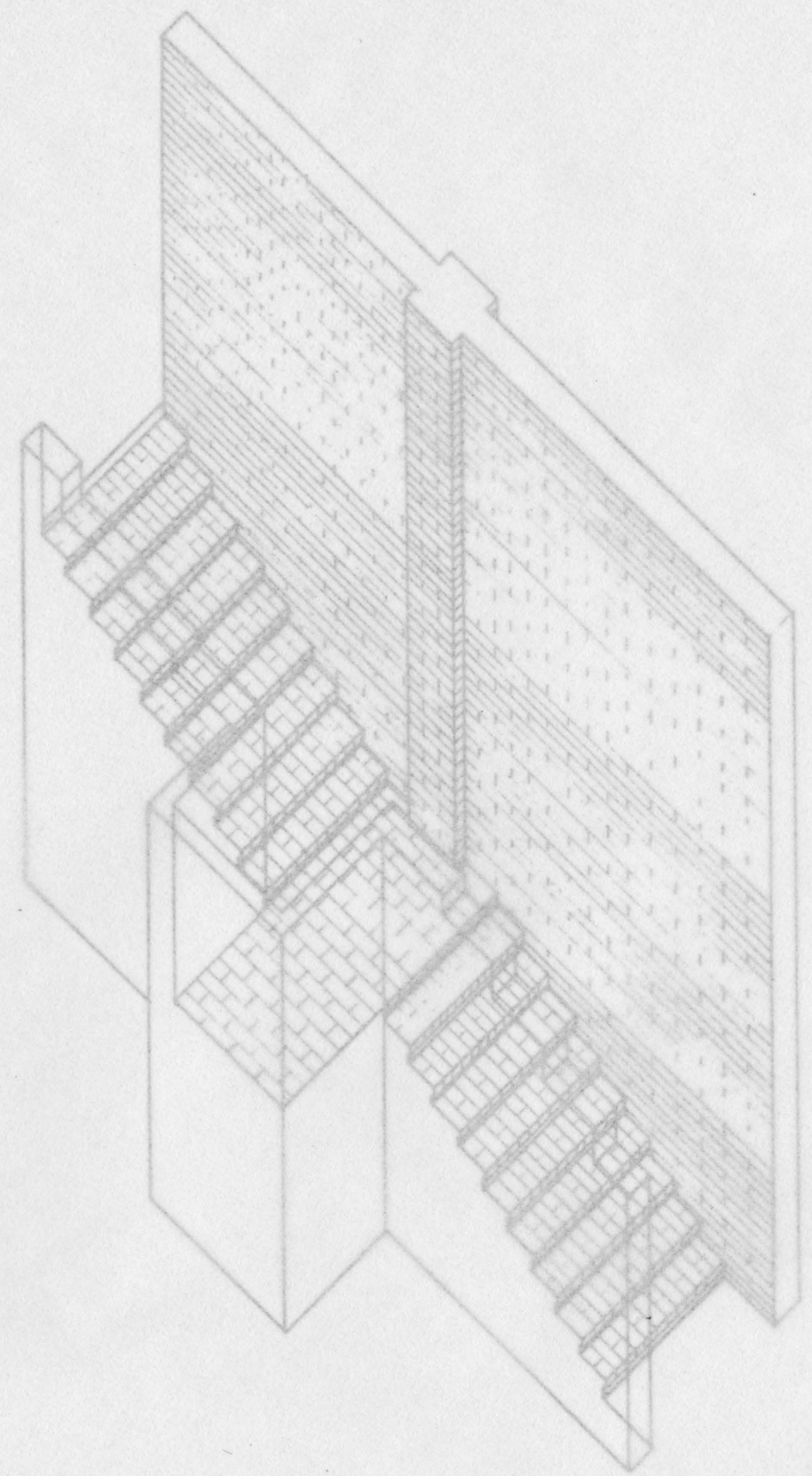
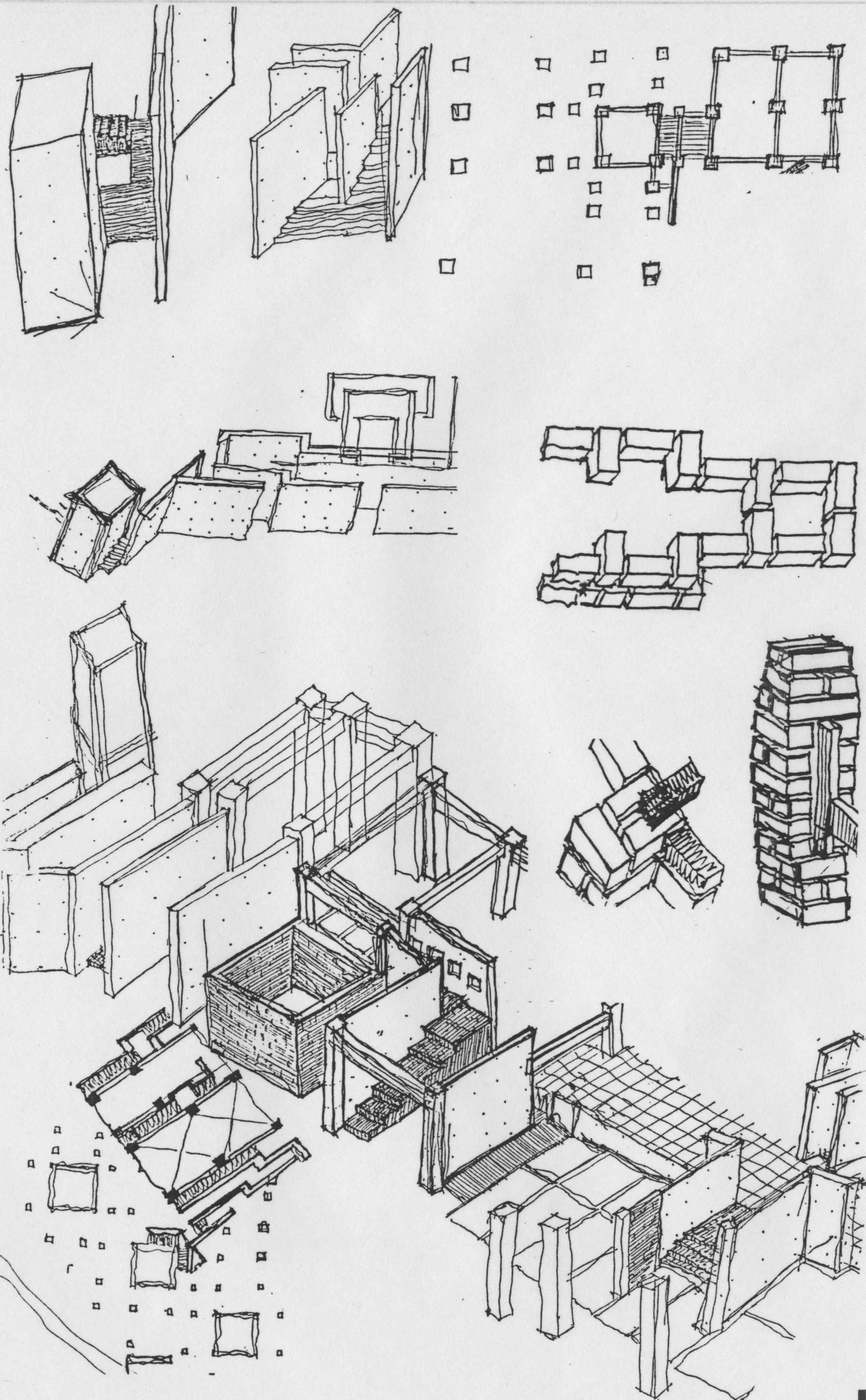
This is an endeavour in learning about architecture.
The project, a competition on Charles Bulfinch's Old Jail Site in Old Town
Alexandria, to make Townhouses, serves as a vehicle towards that end.



■ Sketch studies of condition.

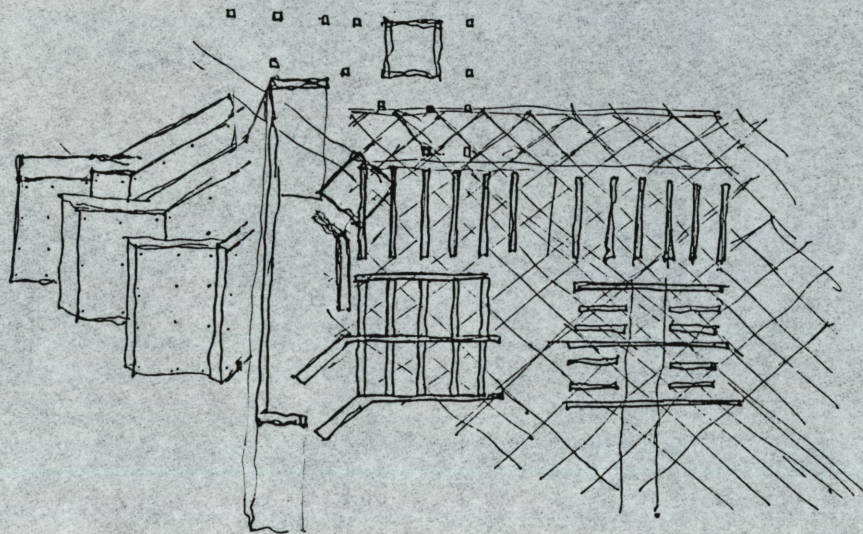
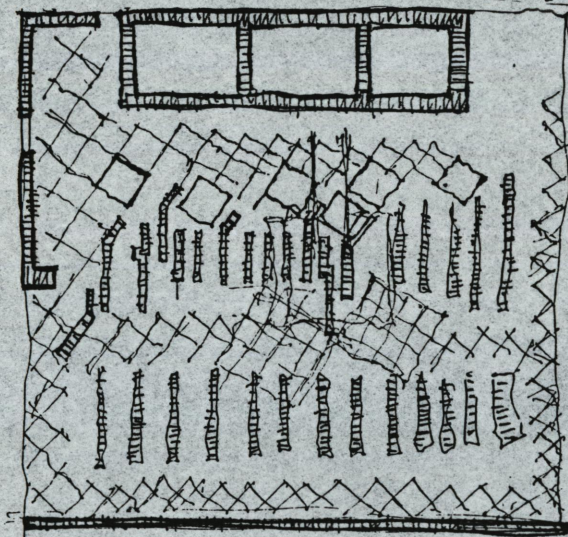
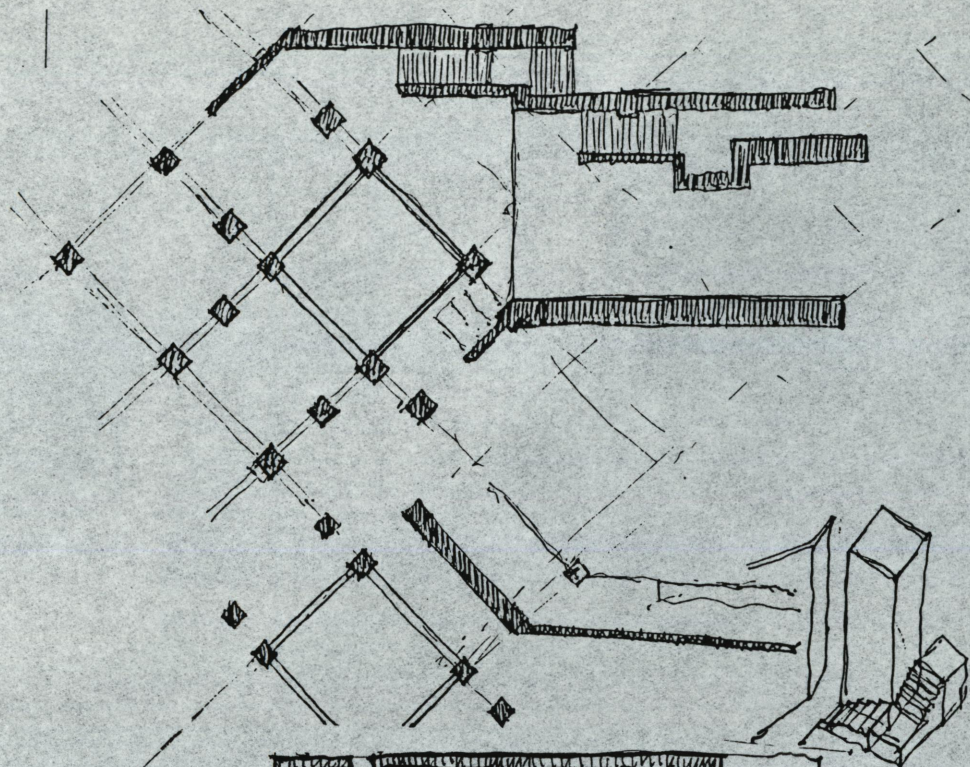
Brick stair and wall. ■ Axonometric of condition.





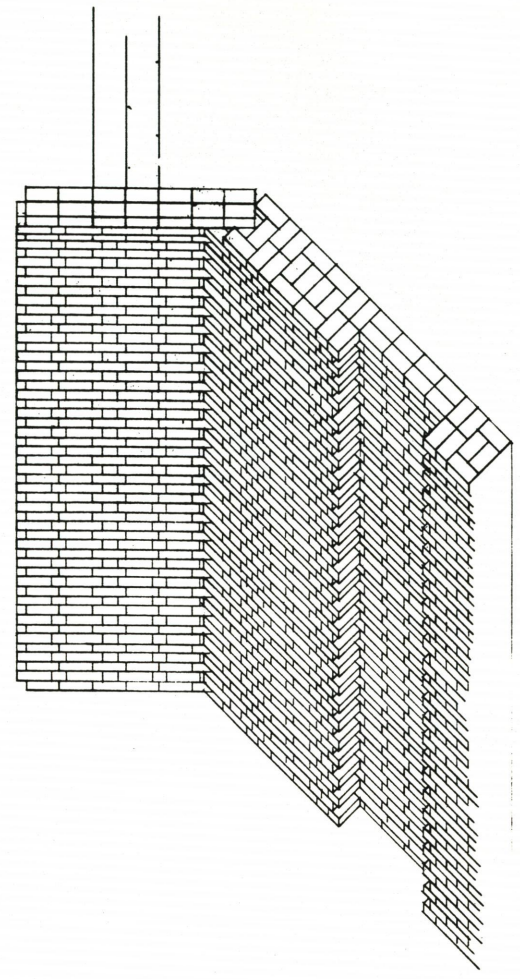
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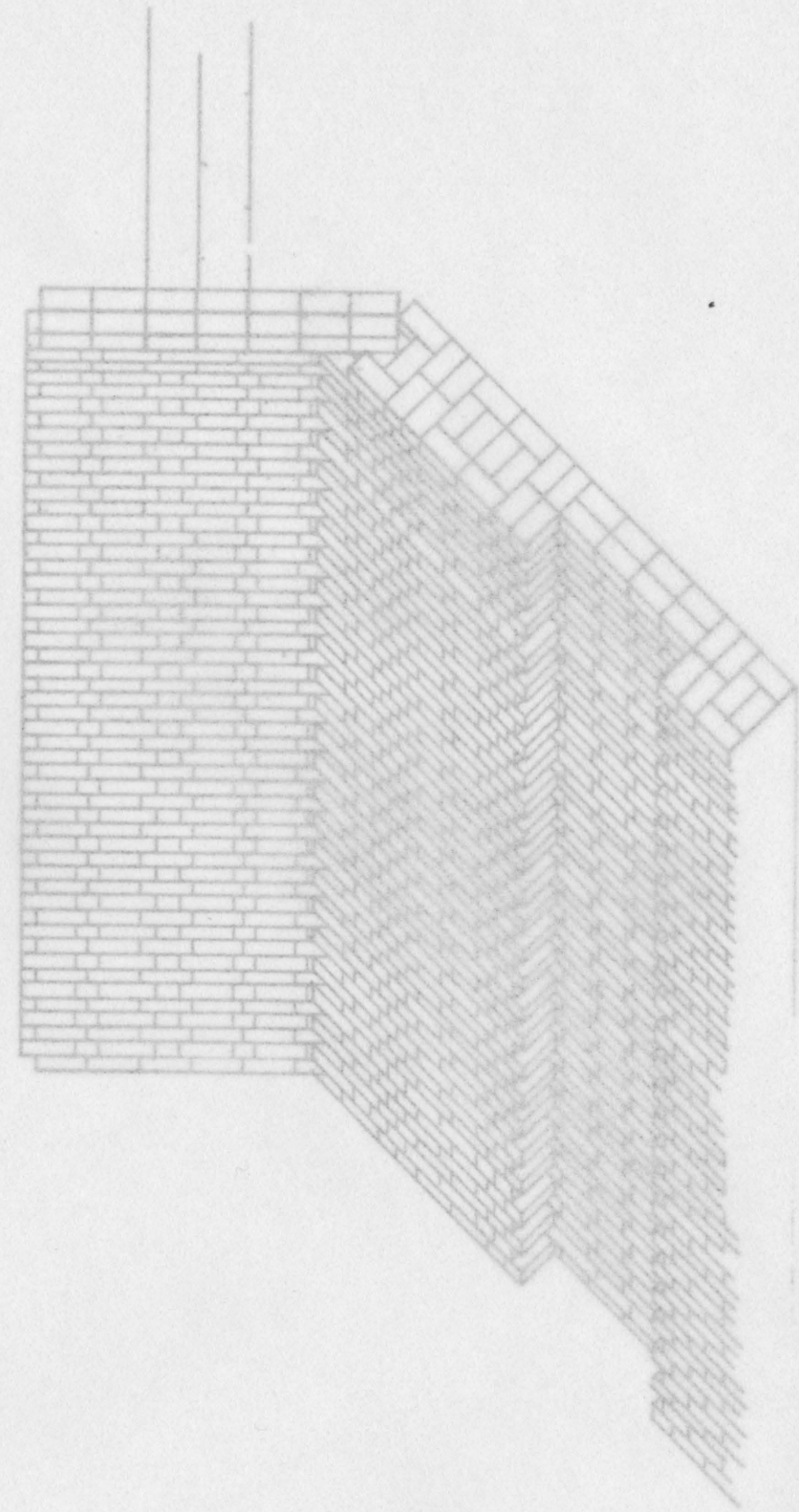
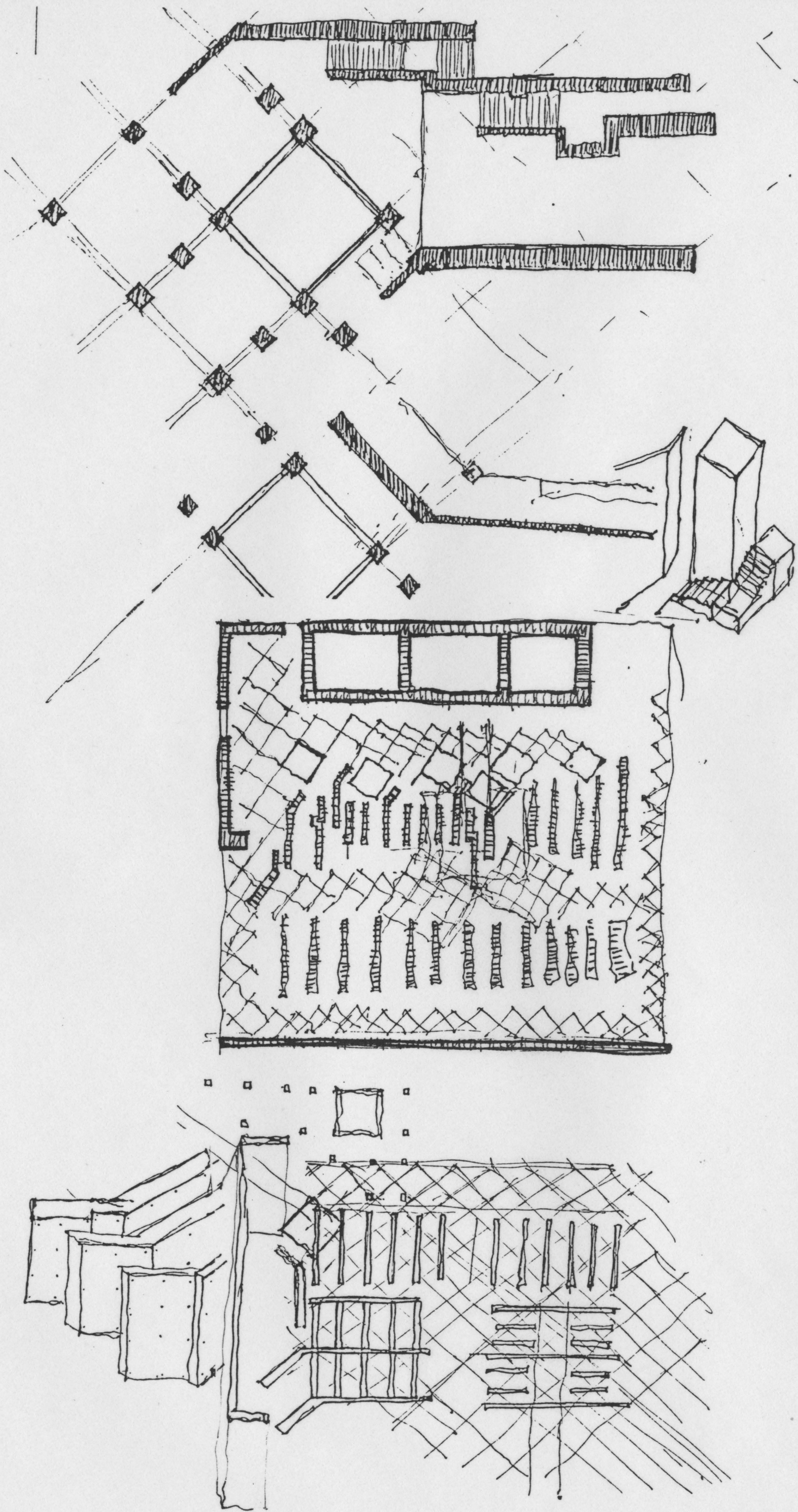
Brick stair and wall. ■ Axonometric of condition.



■ Sketch studies
of condition.

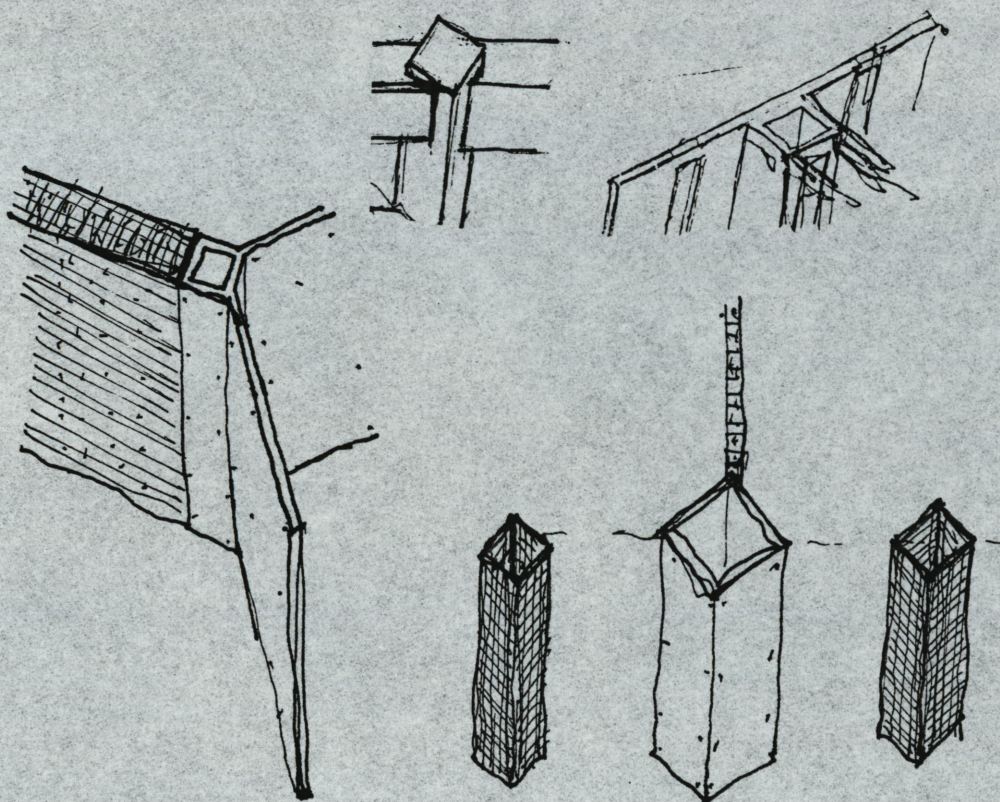
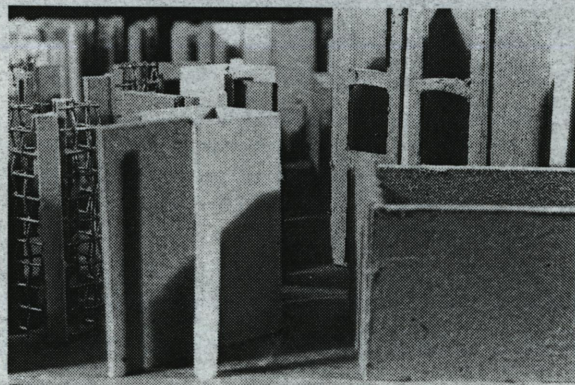
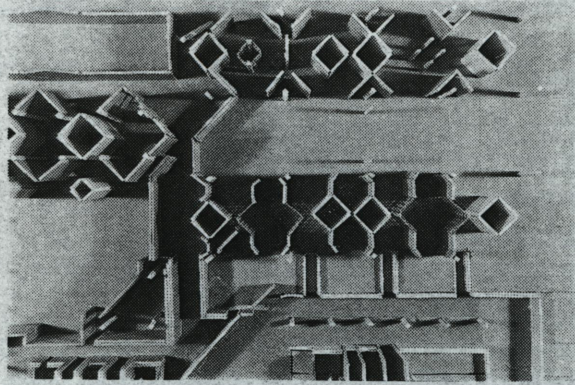
Brick wall making 45° turn. ■
Axonometric of condition.





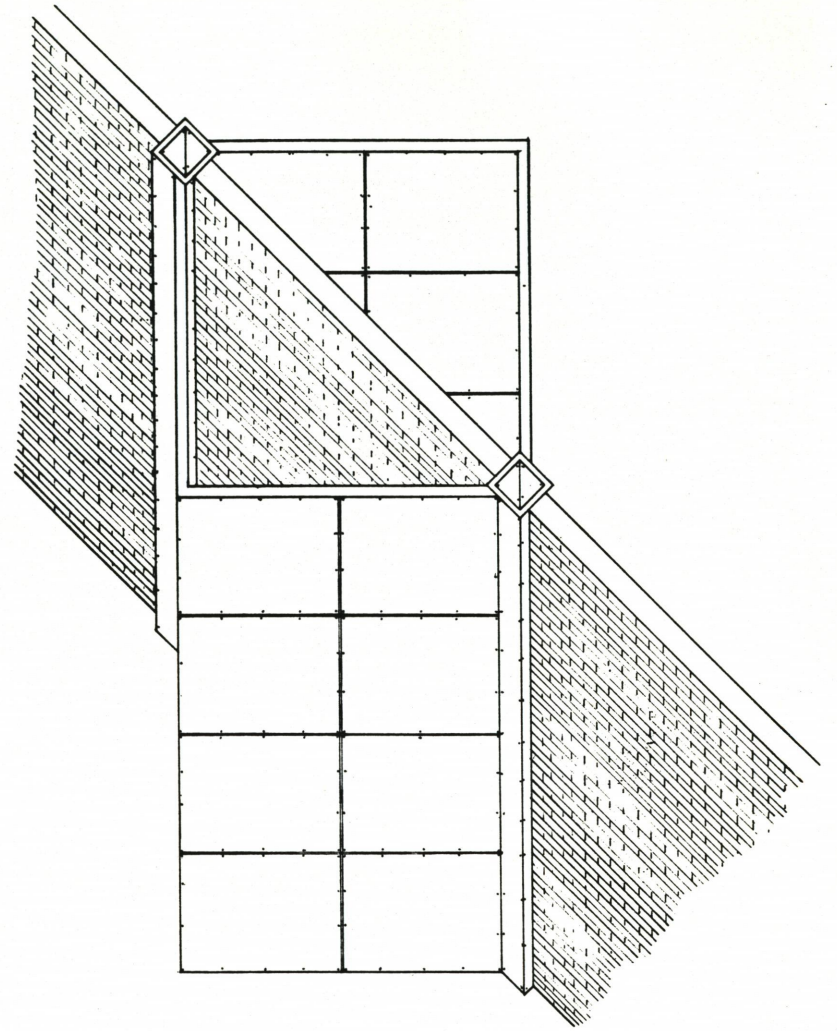
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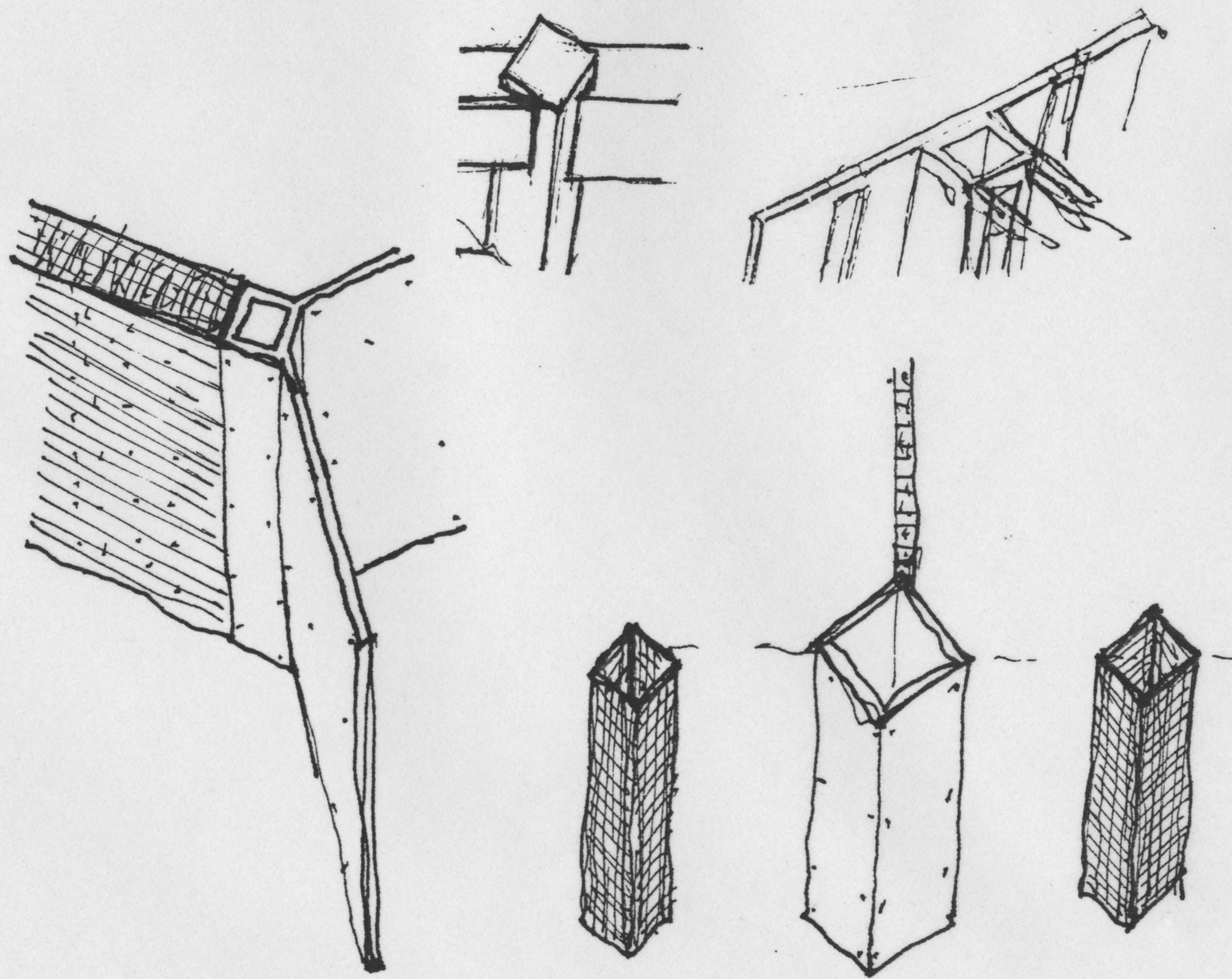
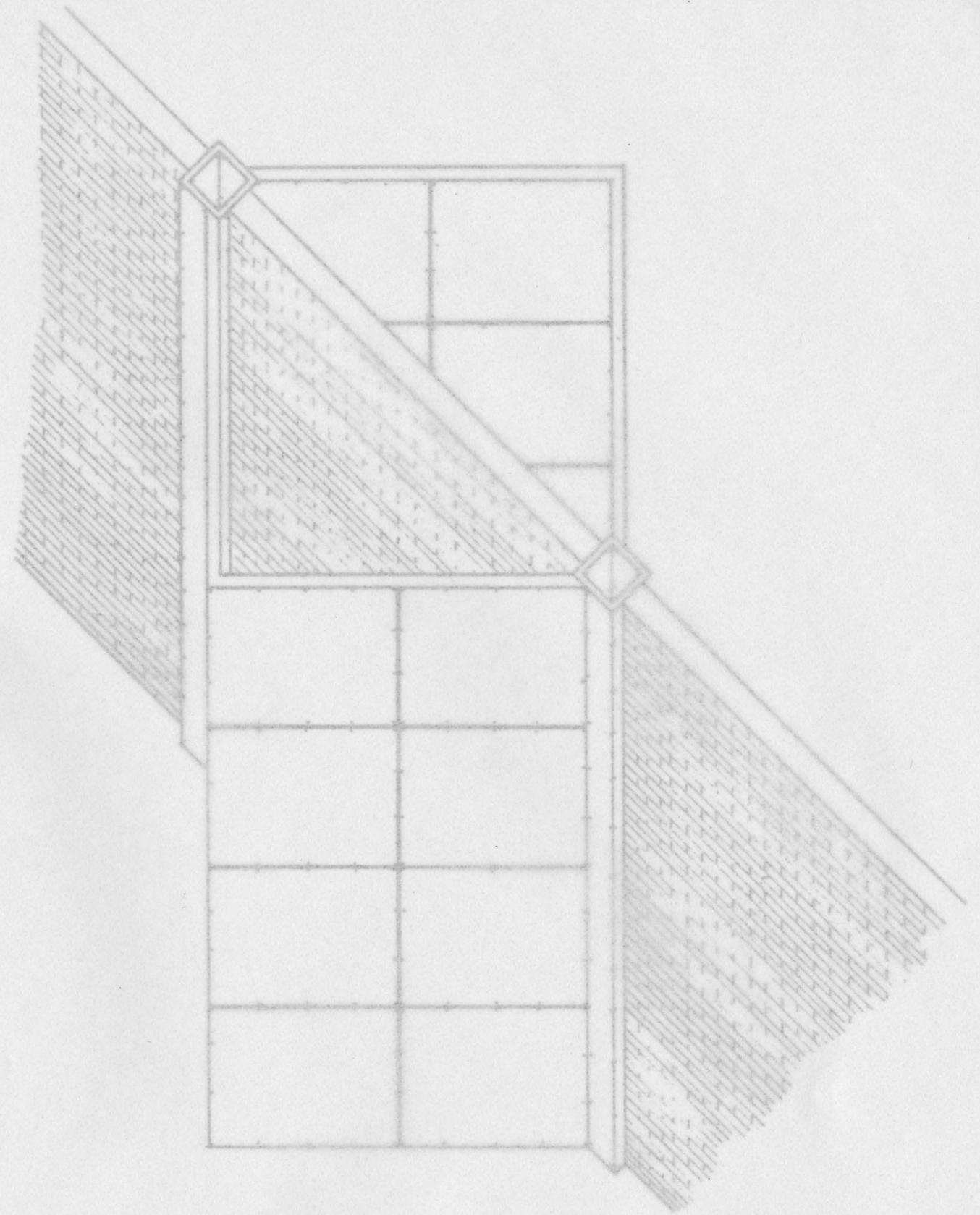
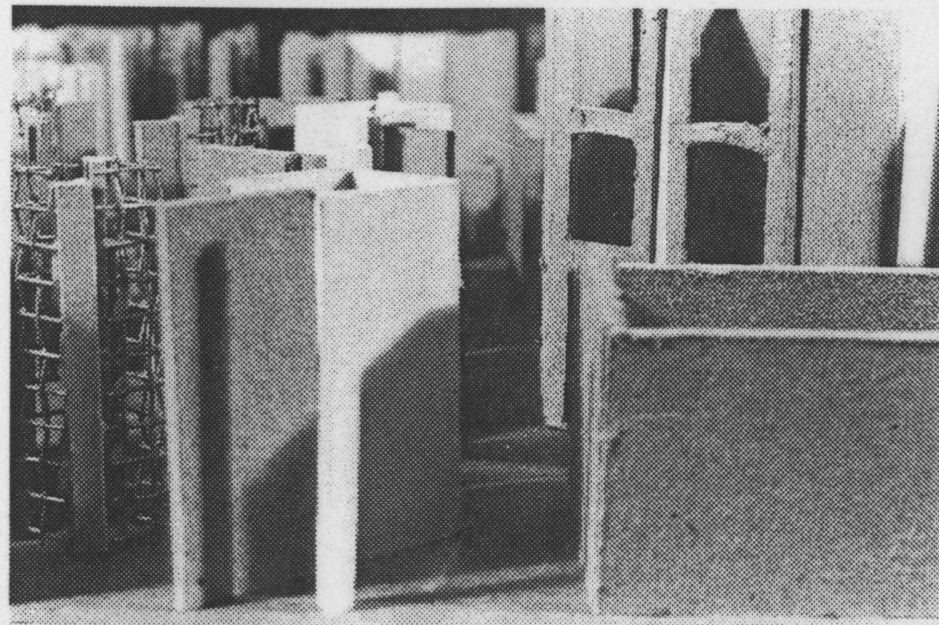
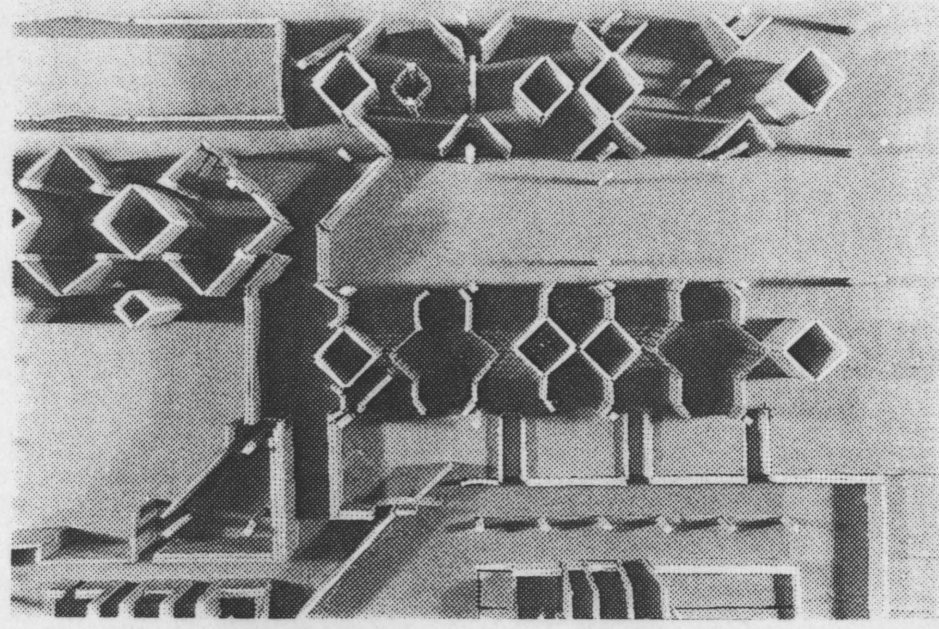
Brick wall making 45° turn. ■
Axonometric of condition.



■ Model and sketch studies of condition.

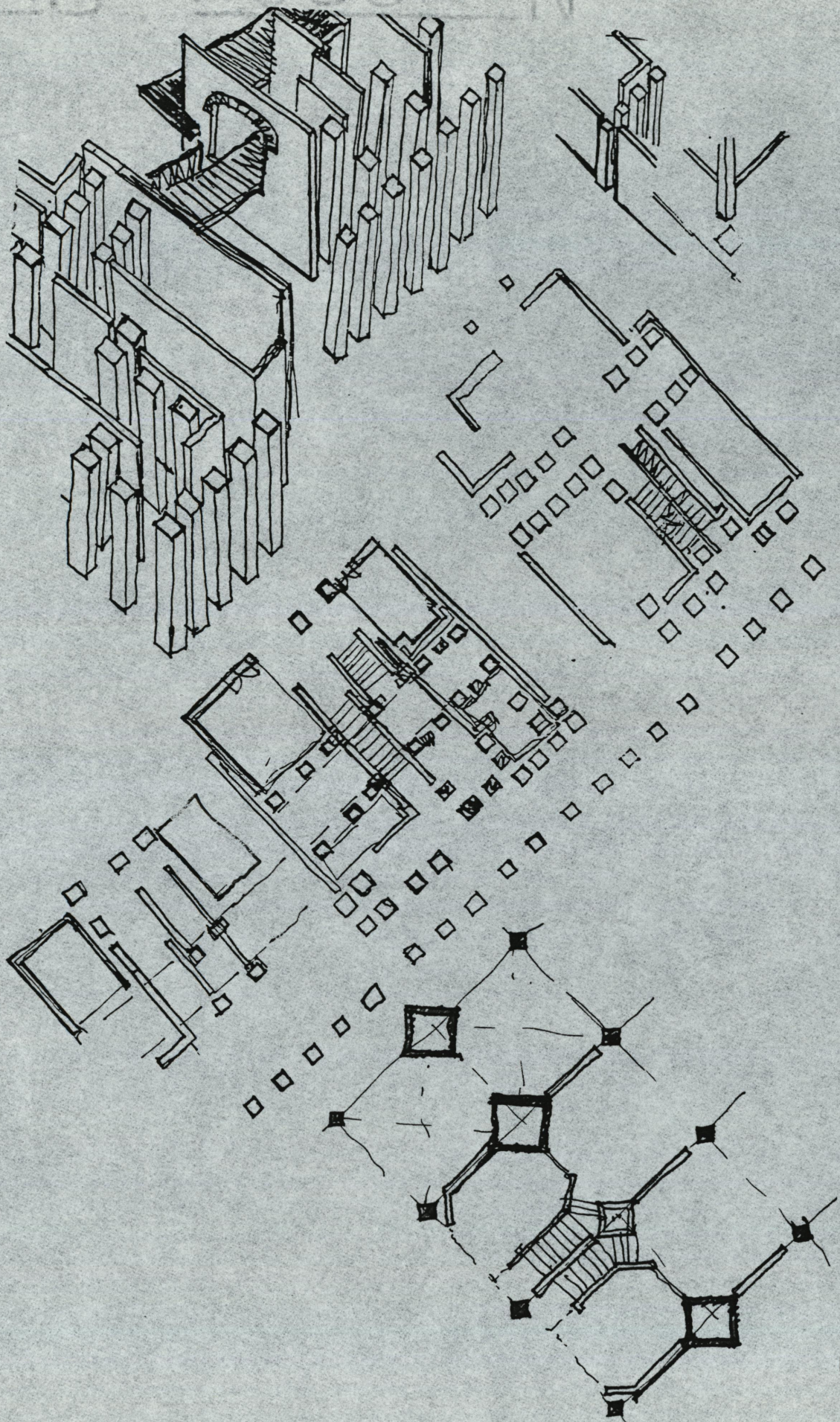
Concrete enclosure divided by brick wall. ■ Axonometric of condition.





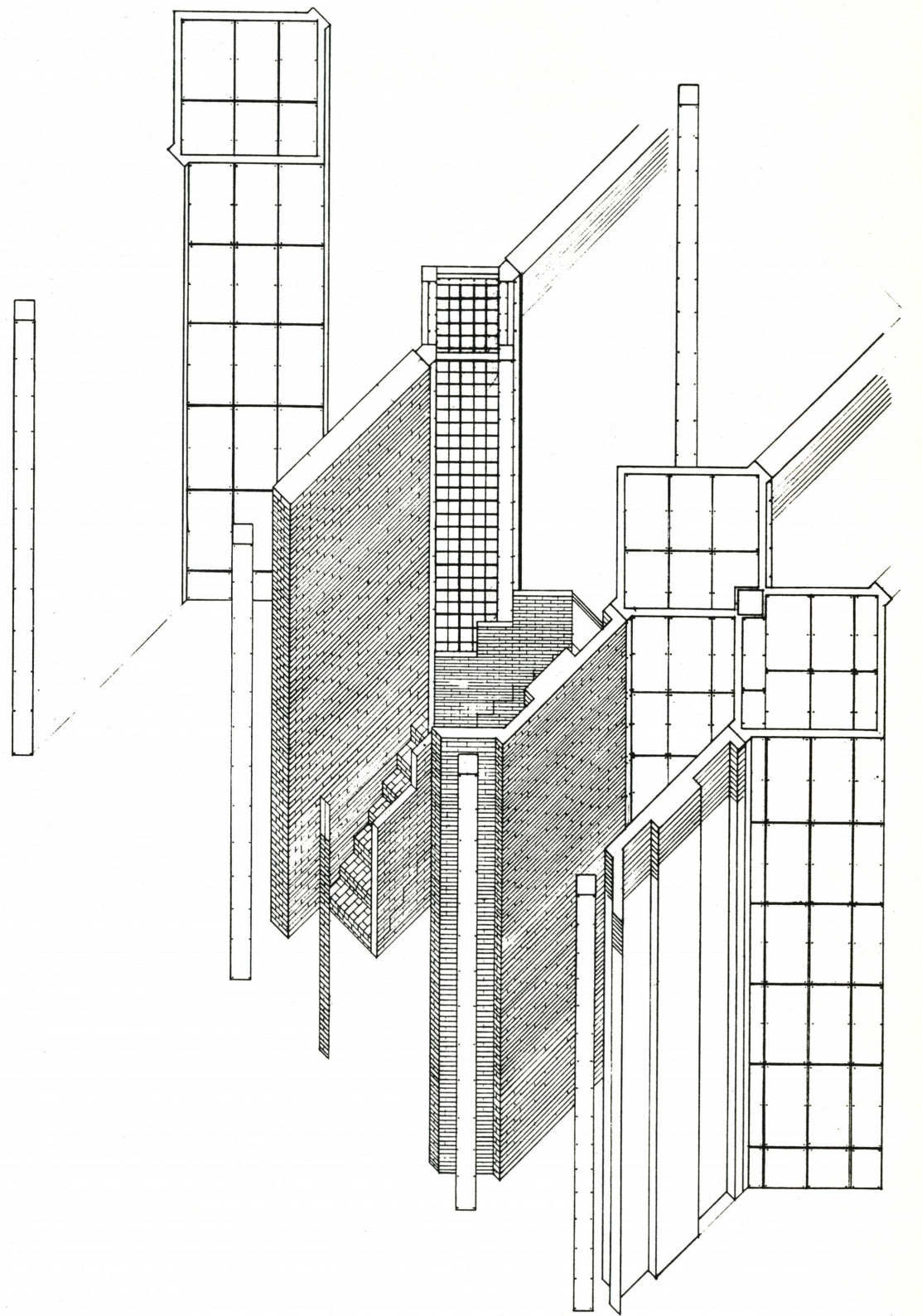
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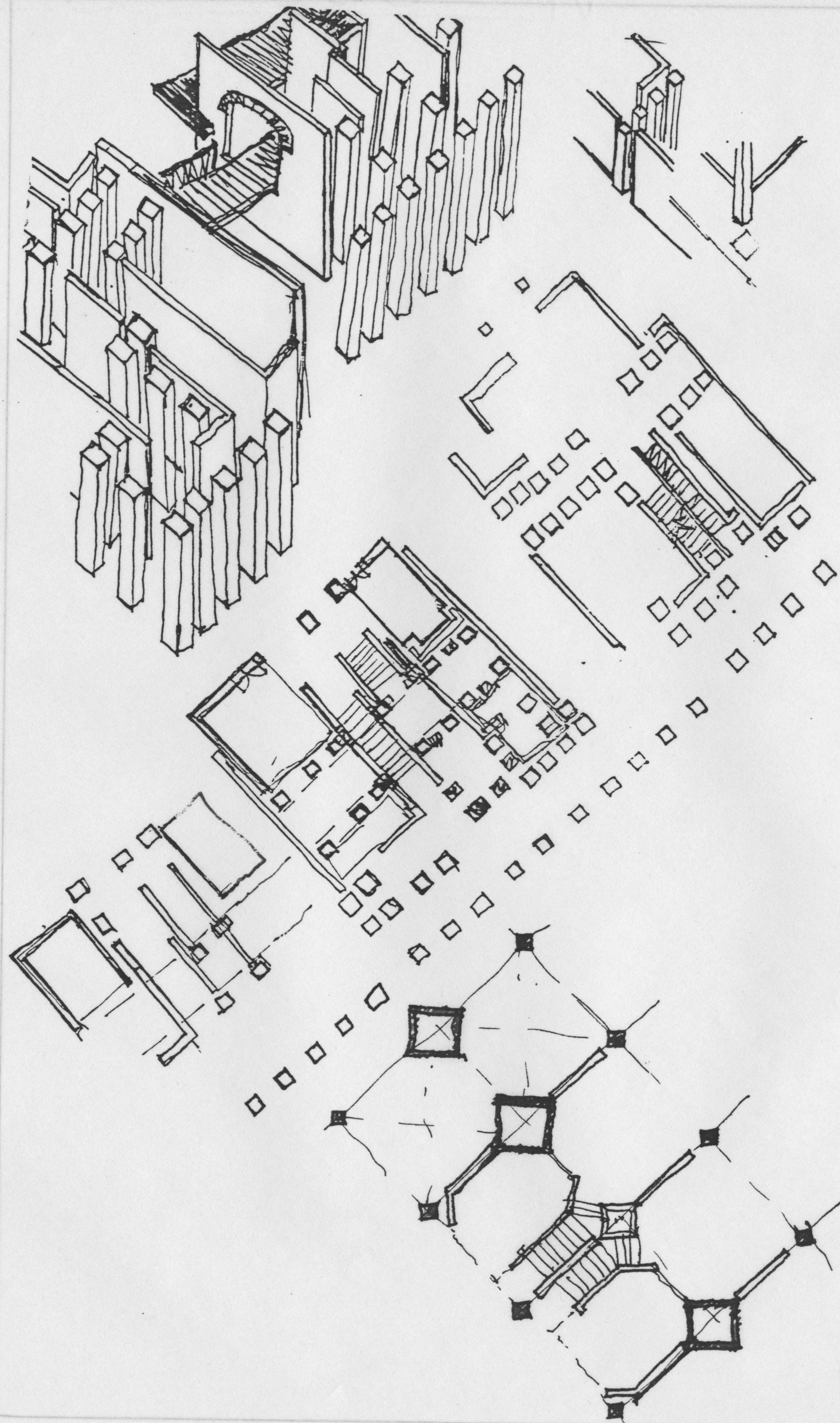
Concrete enclosure divided by brick wall. ■ Axonometric of condition.



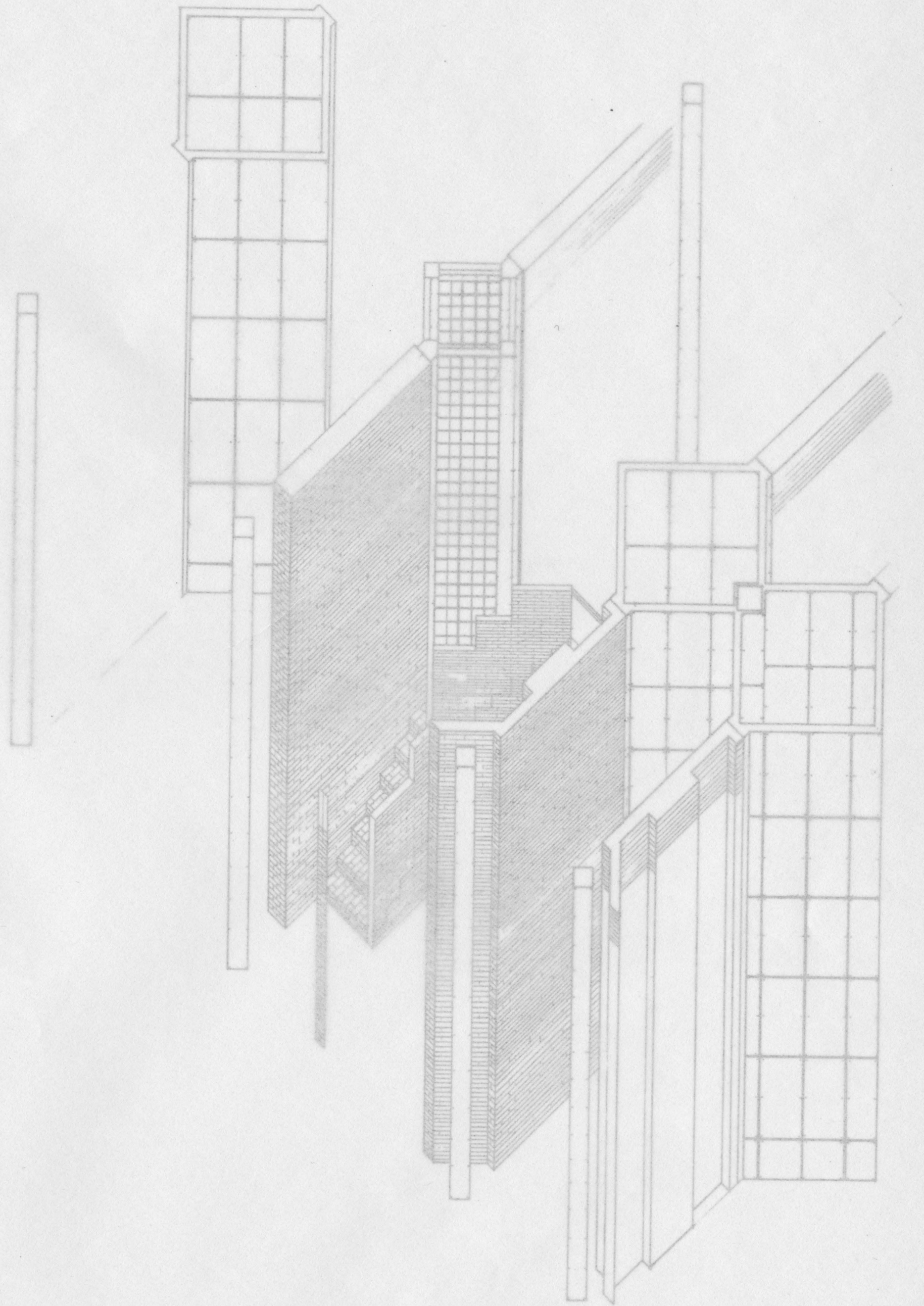
■ Sketch studies
of condition.

Assimilation of conditions to form dwelling unit. ■
Axonometric of condition.

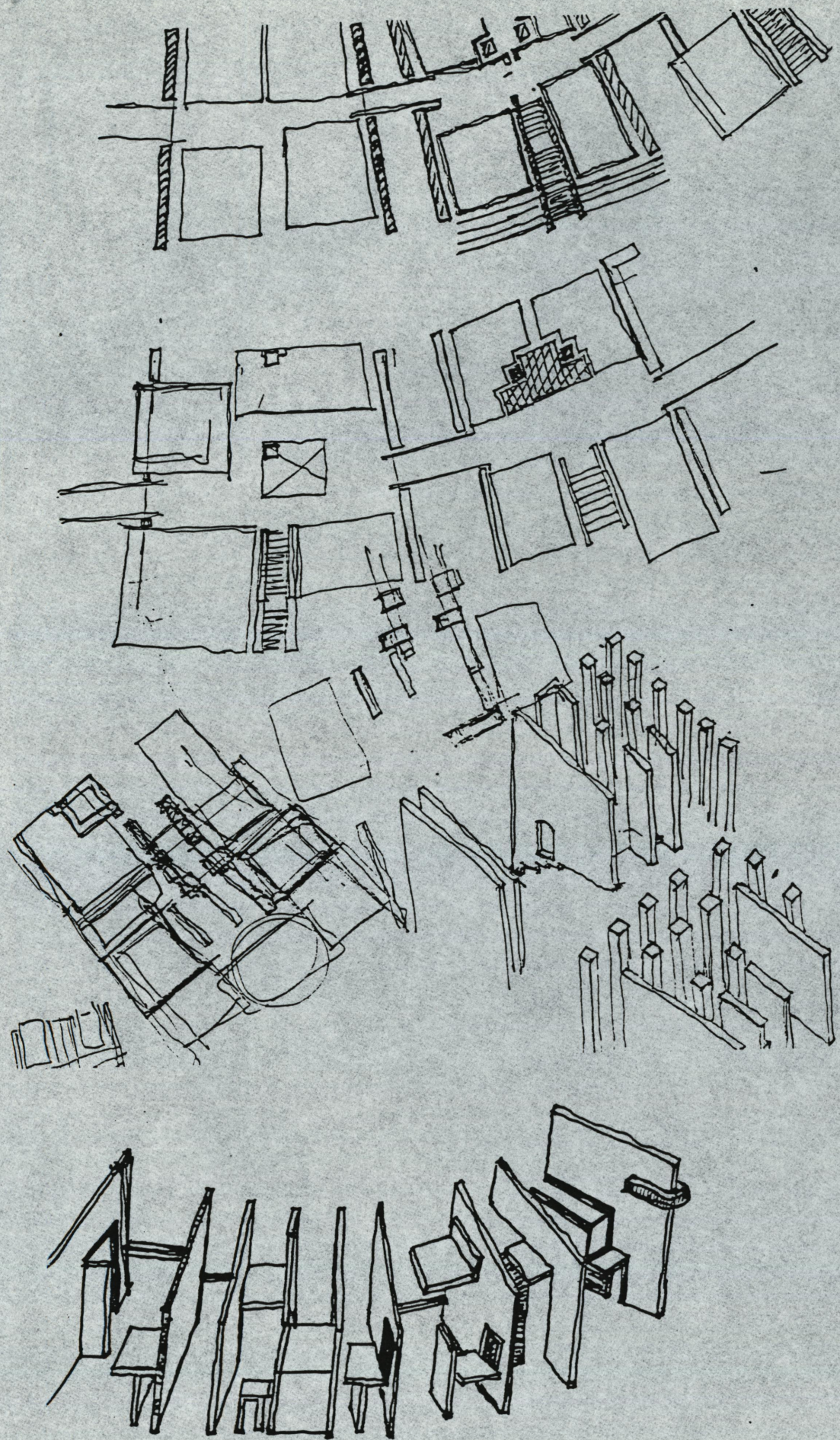




■ Sketch studies of condition.

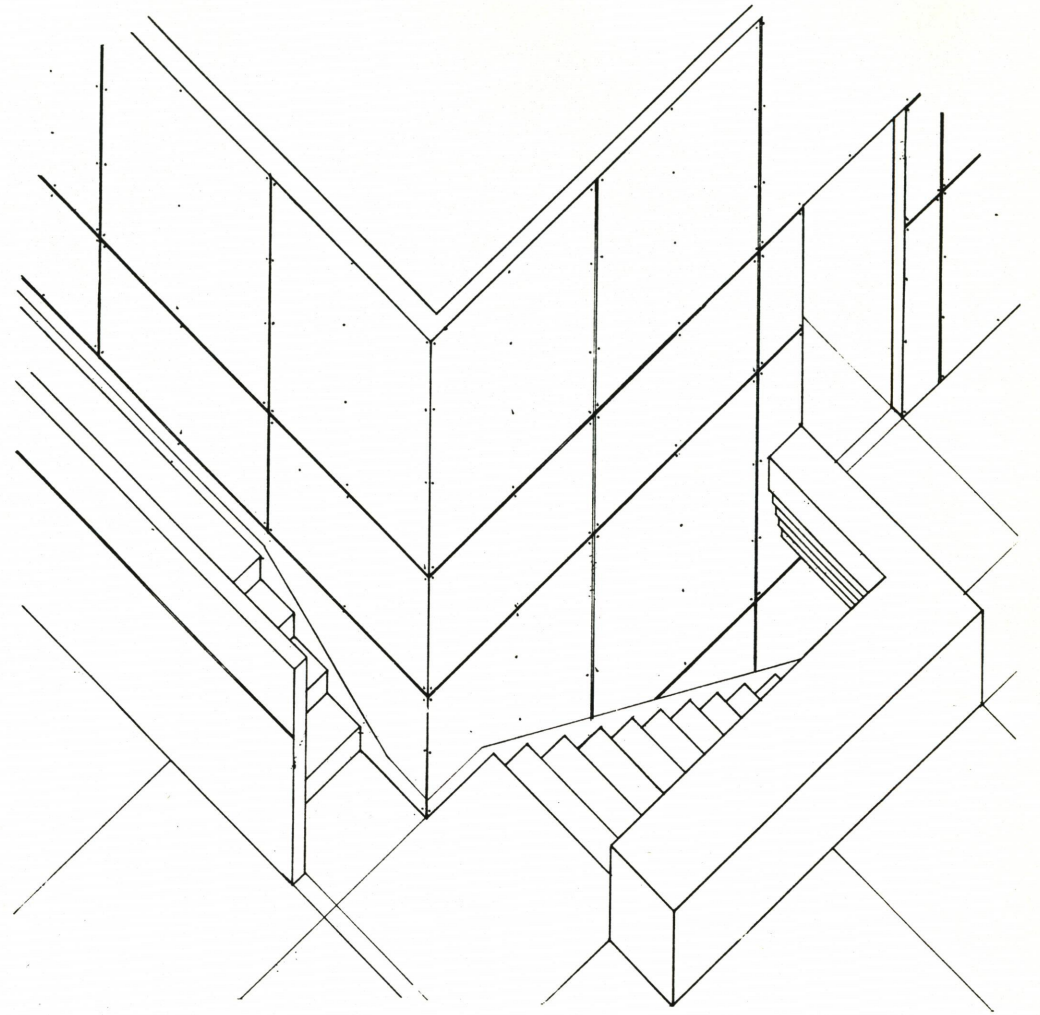


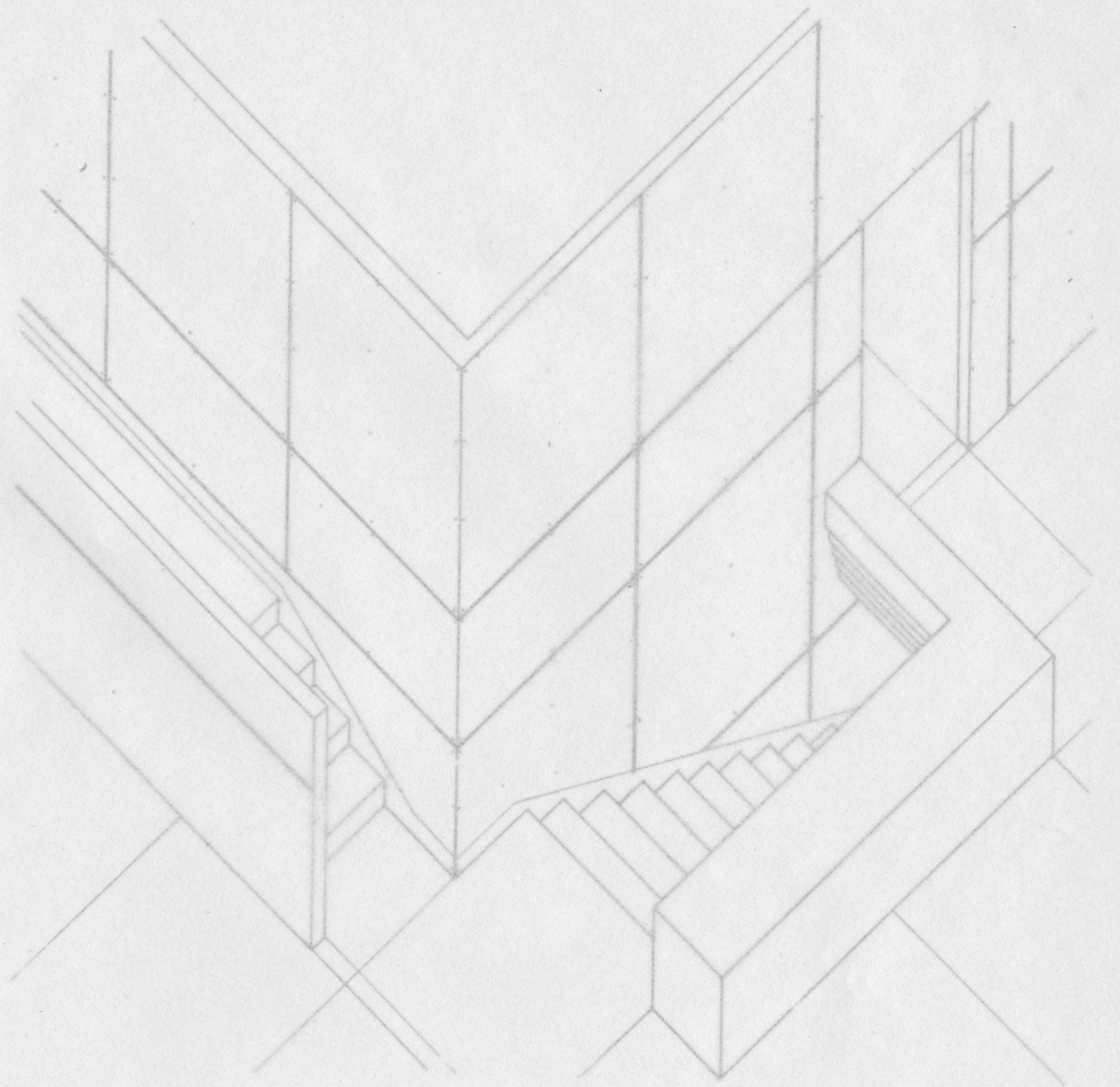
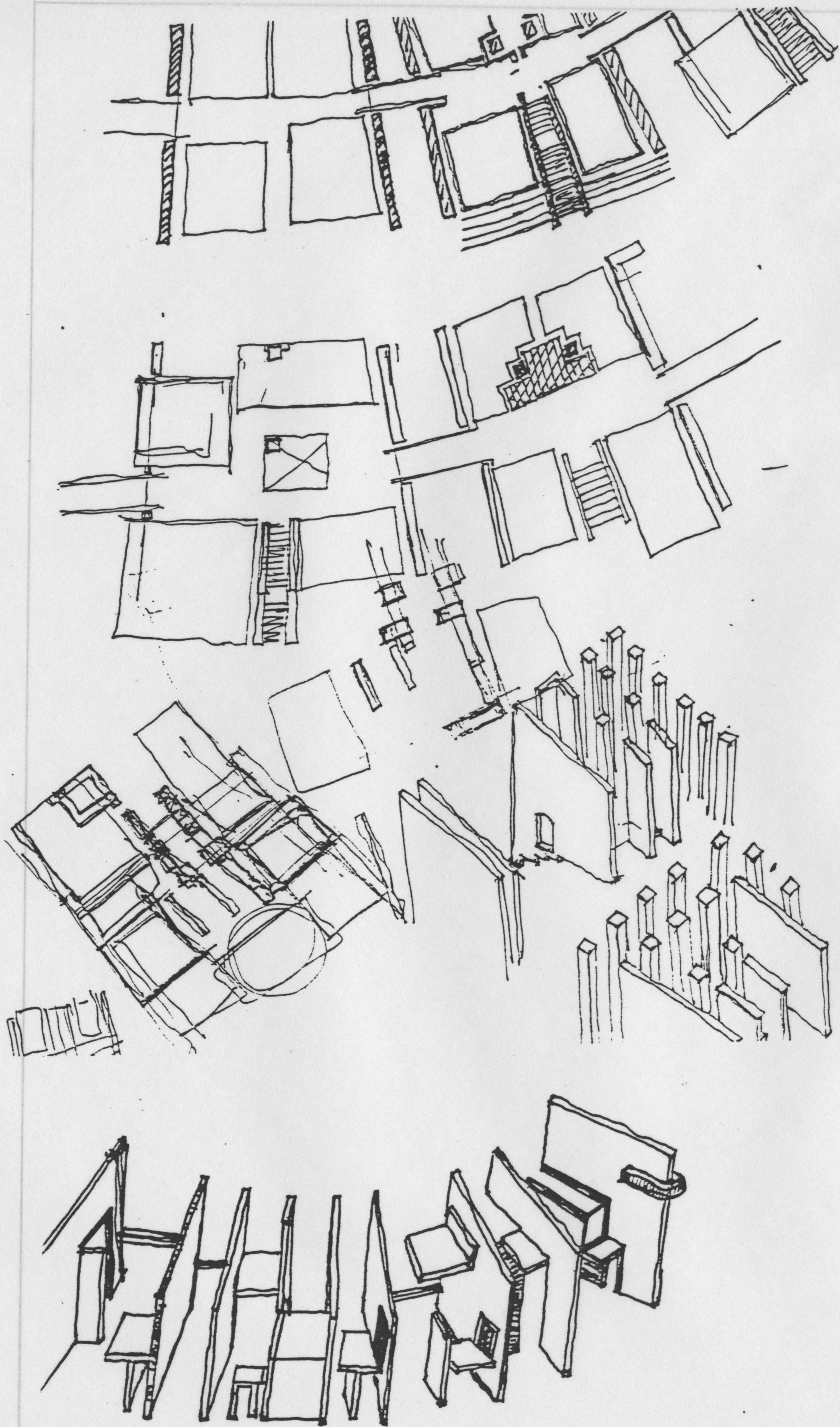
Assimilation of conditions to form dwelling unit. ■ Axonometric of condition.



■ Sketch studies of condition.

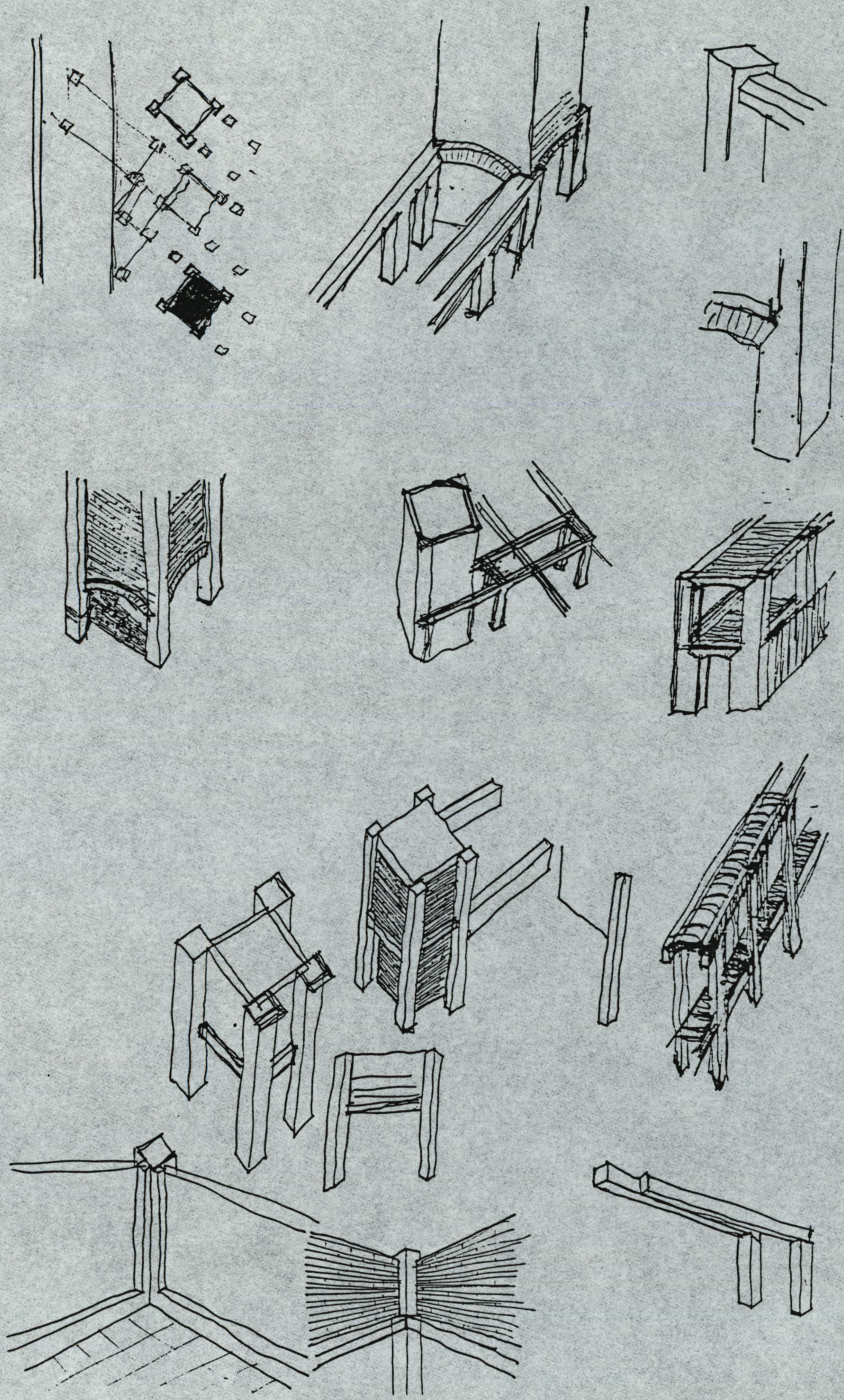
Exterior concrete wall and stair. ■ Axonometric of condition.





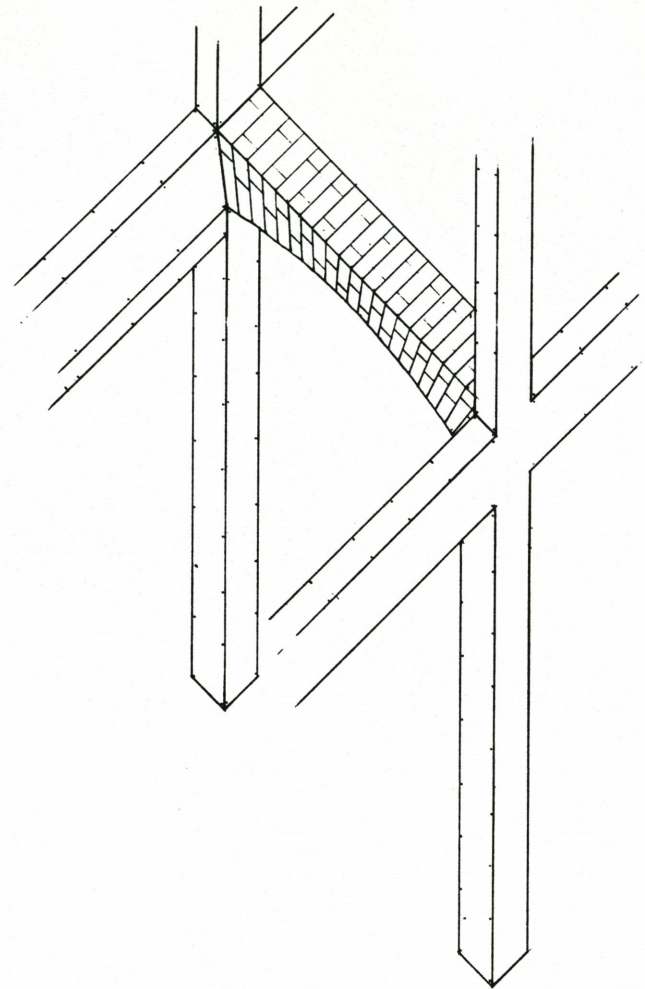
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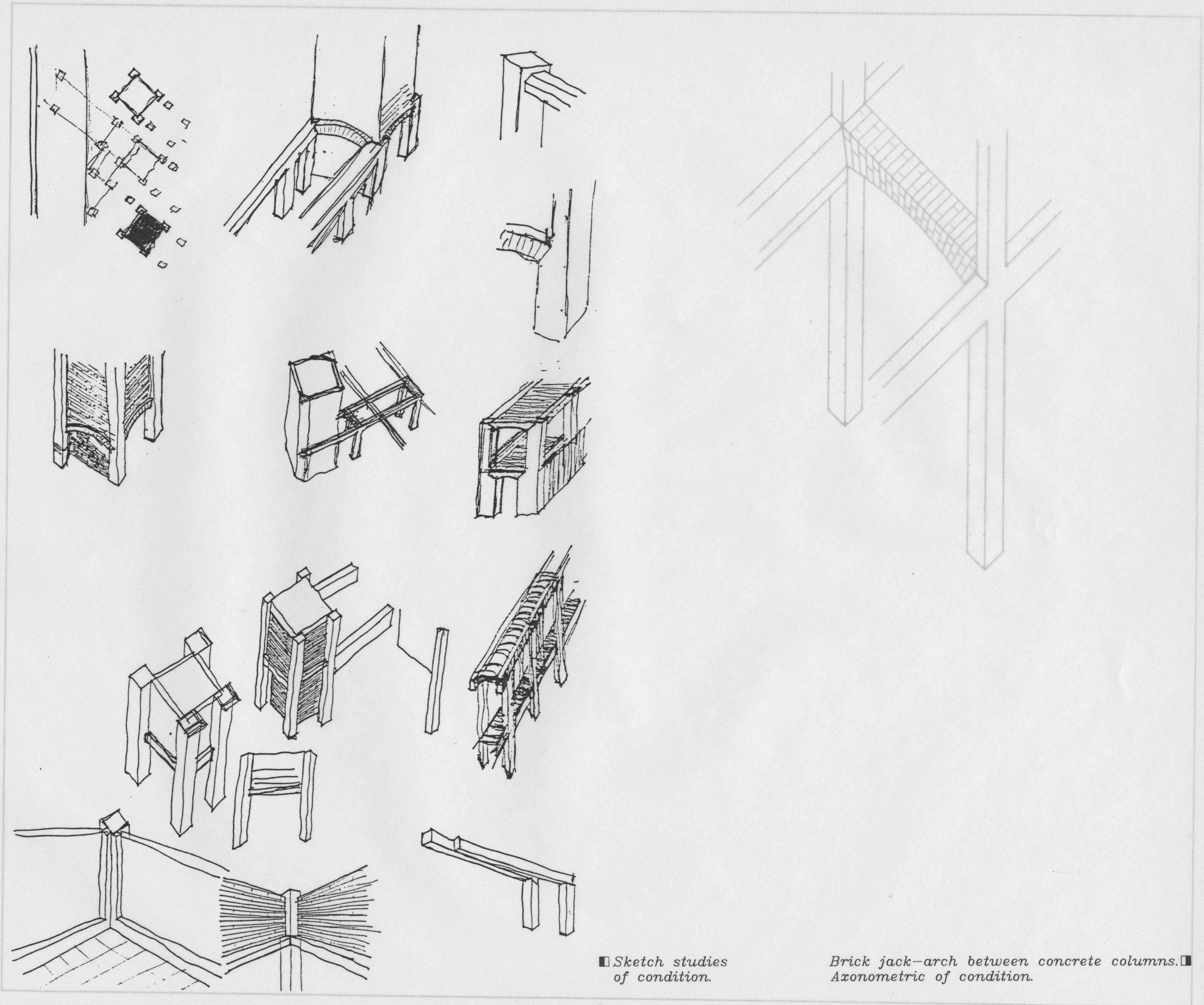
Exterior concrete wall and stair. ■
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■ Sketch studies of condition.

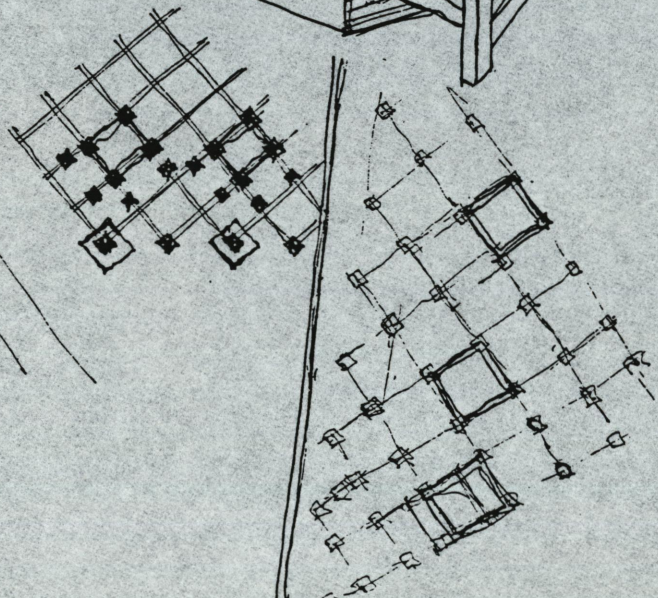
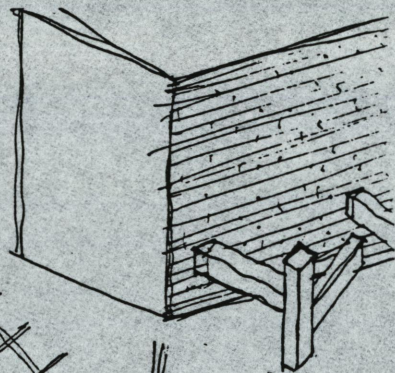
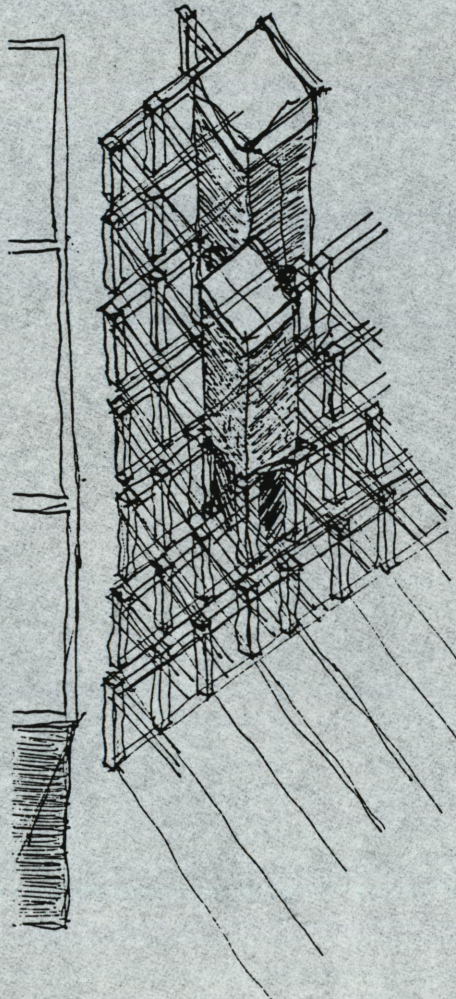
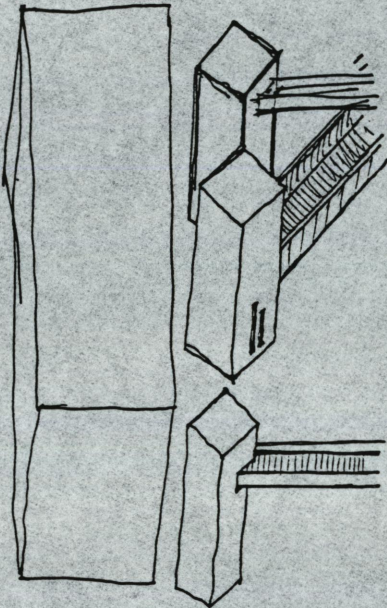
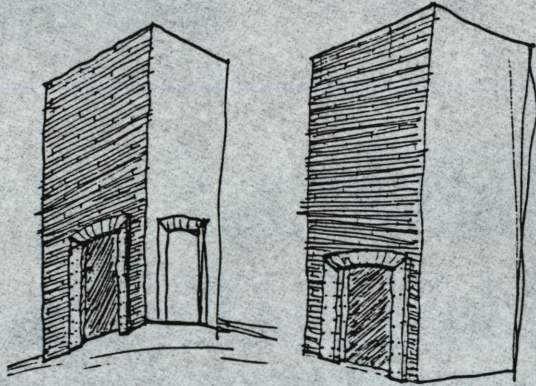
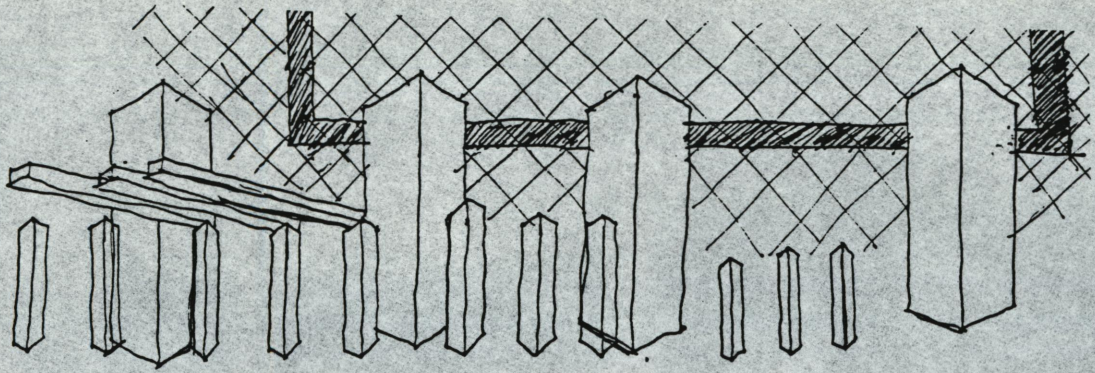
Brick jack-arch between concrete columns. ■ Axonometric of condition.





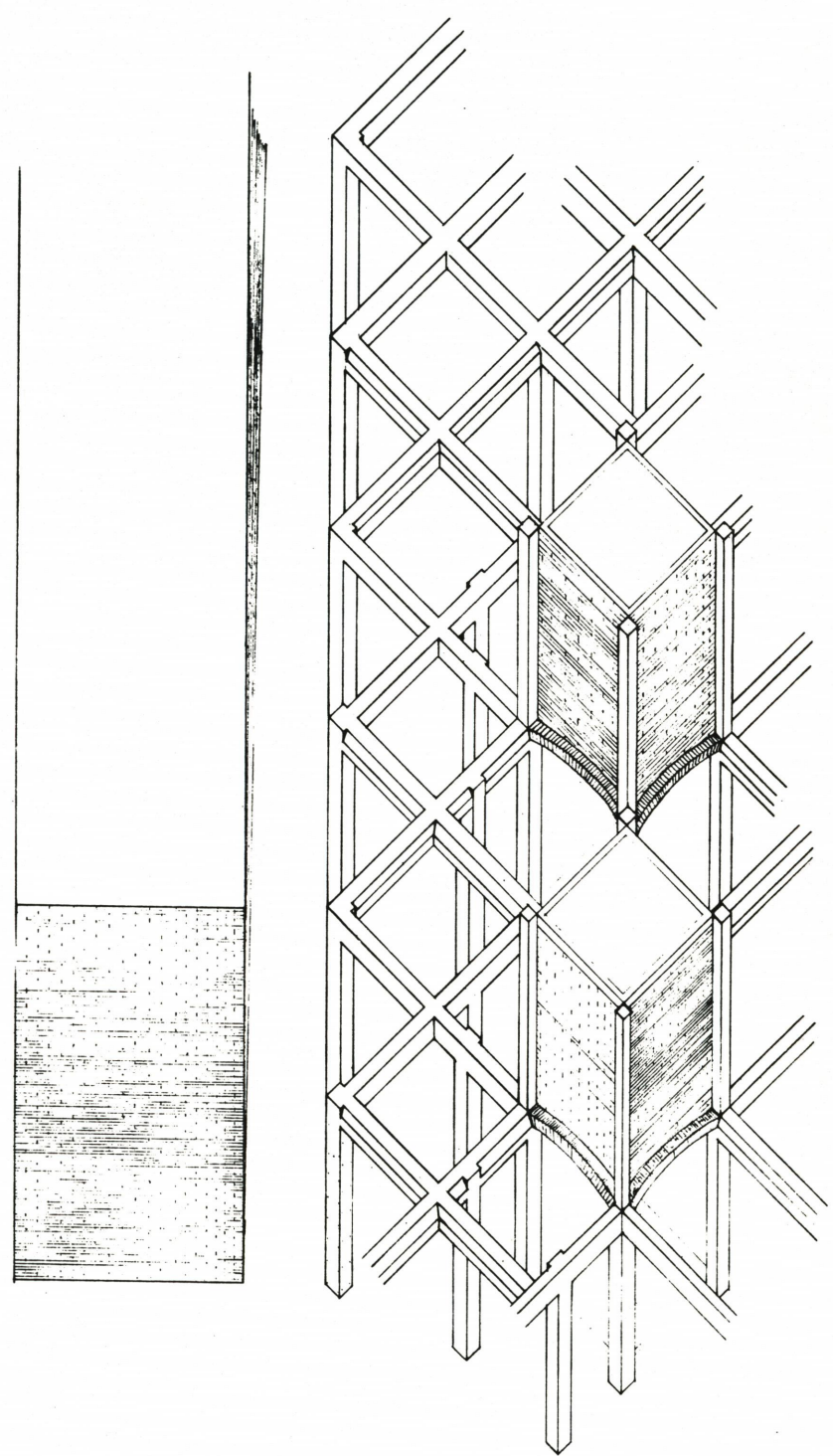
■ Sketch studies of condition.

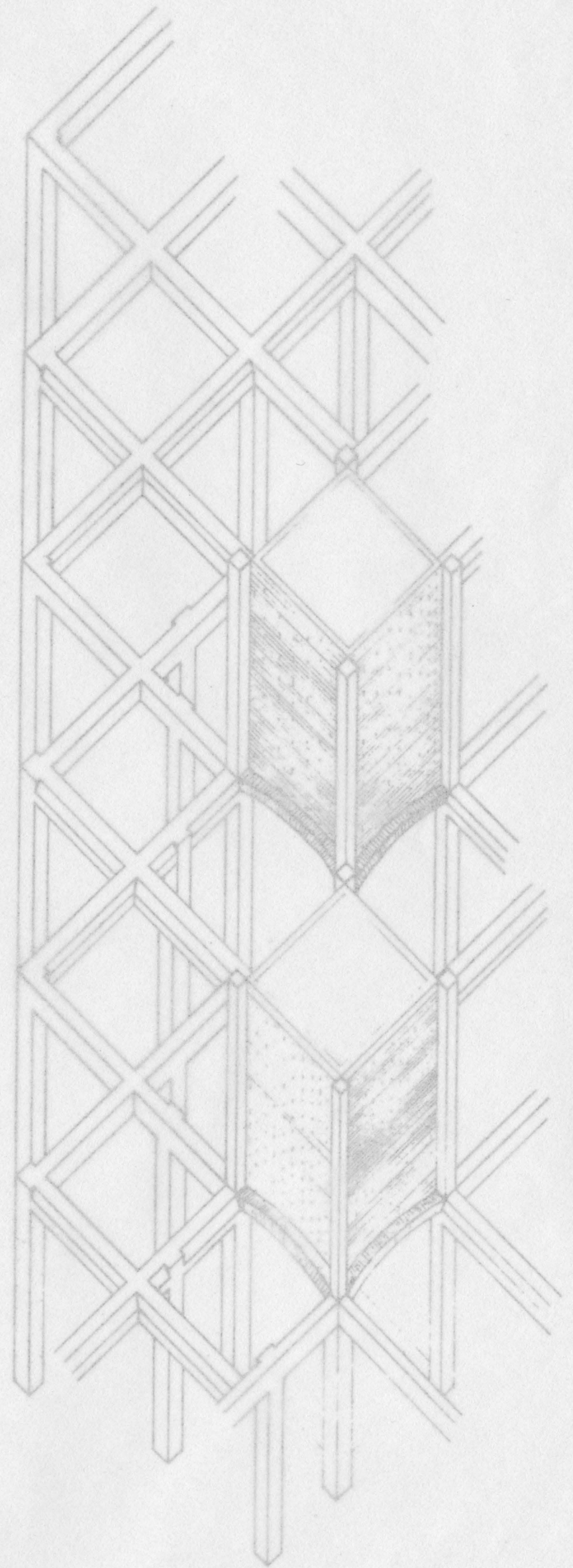
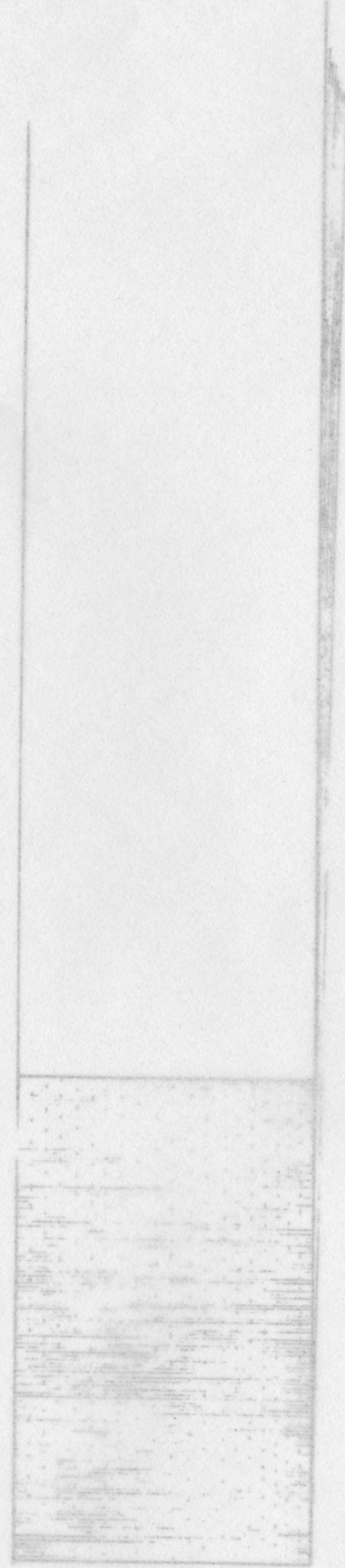
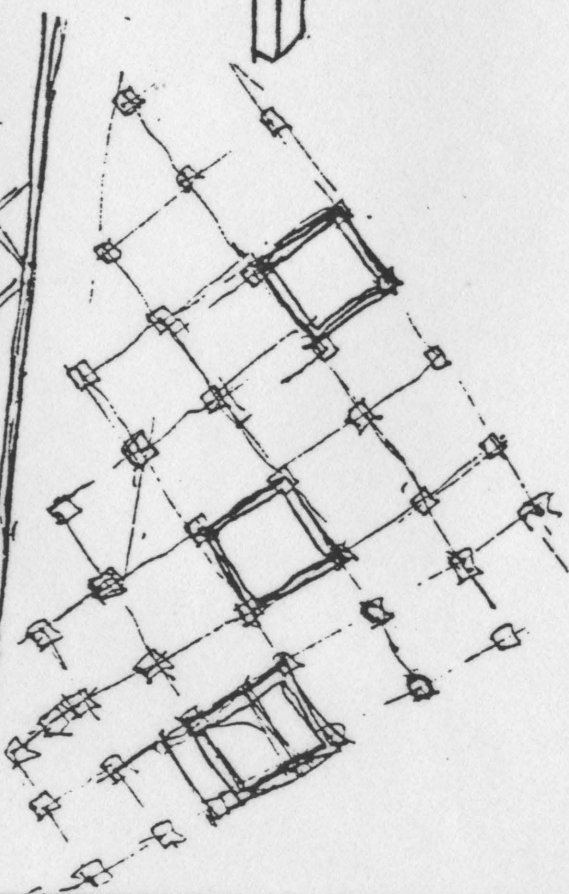
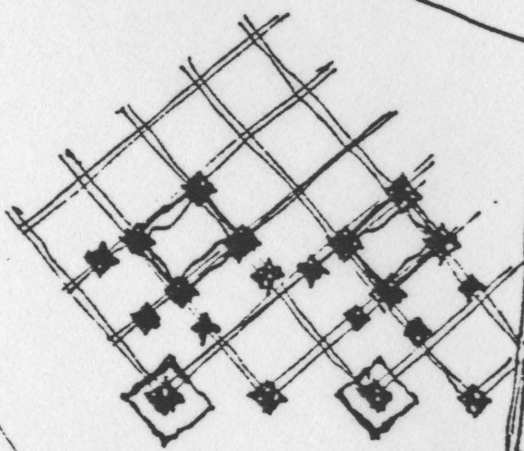
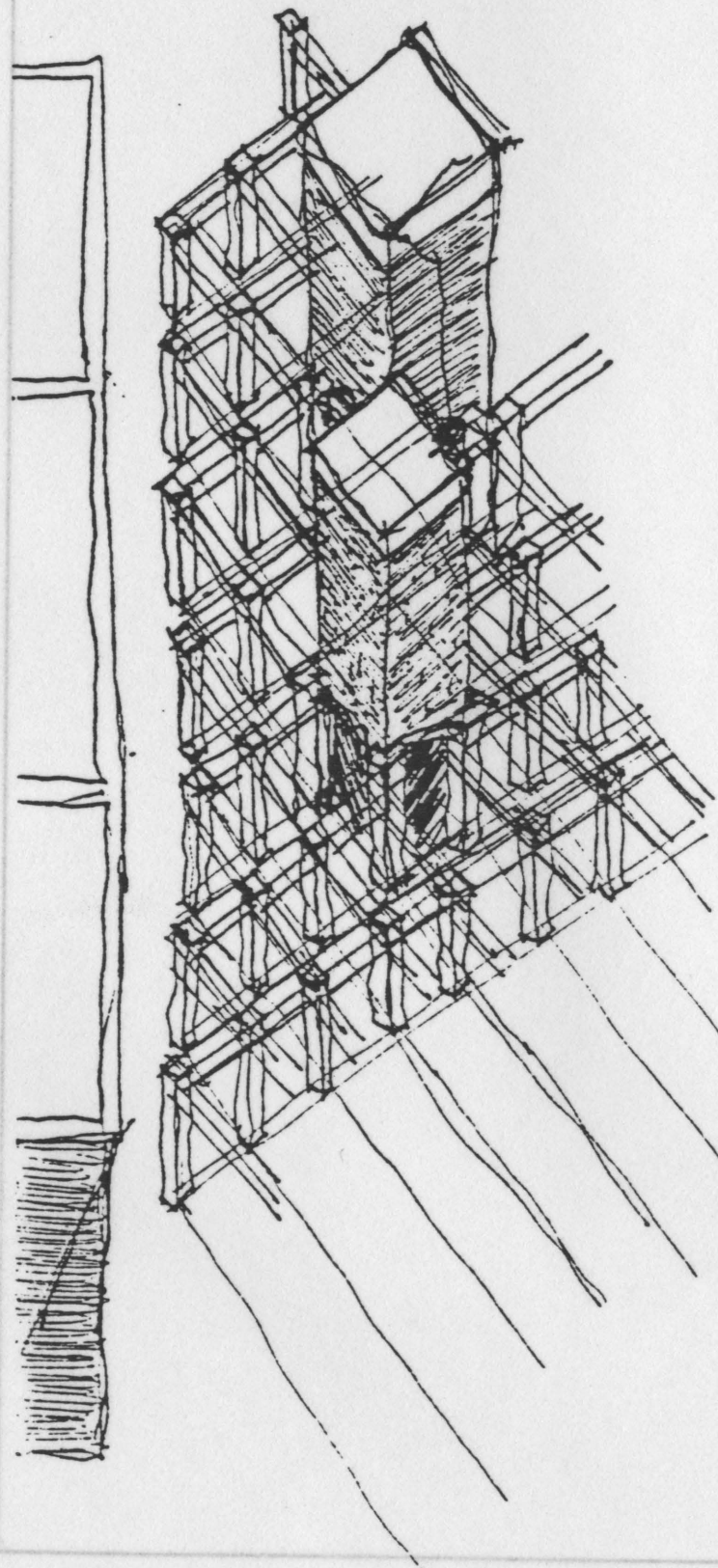
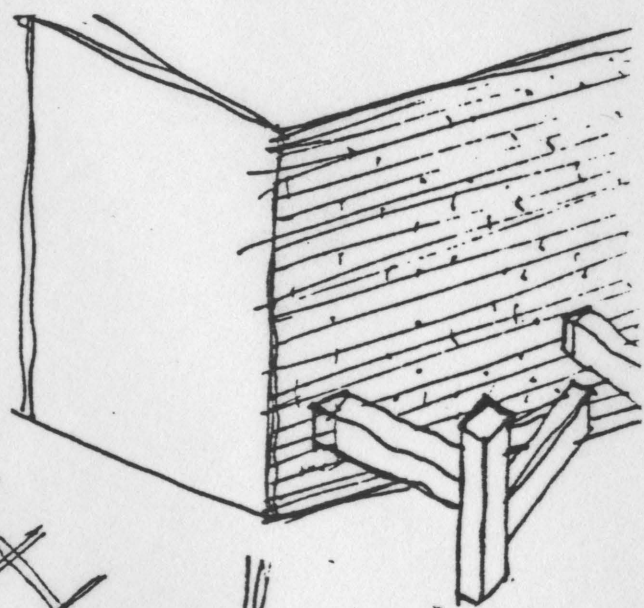
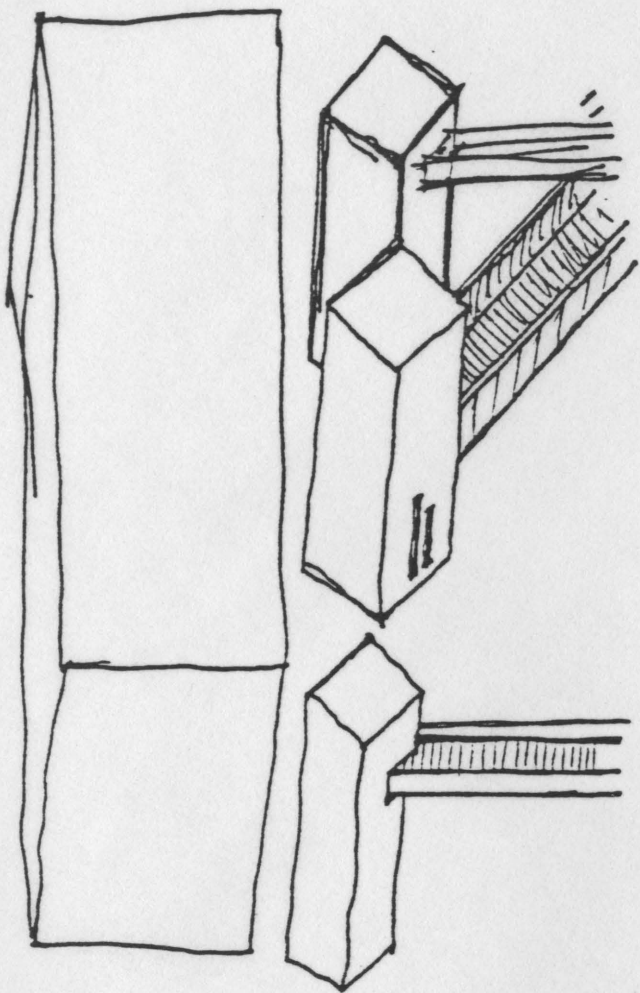
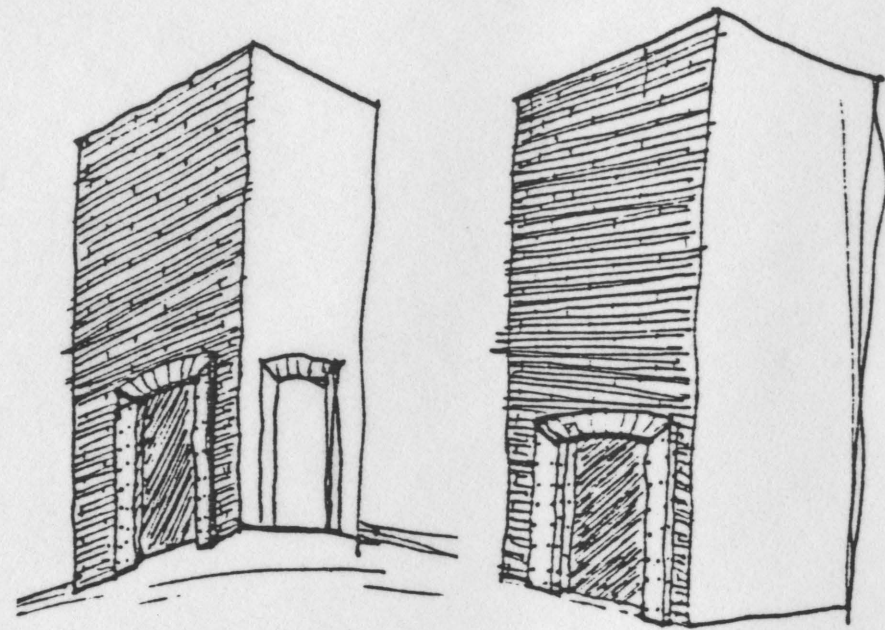
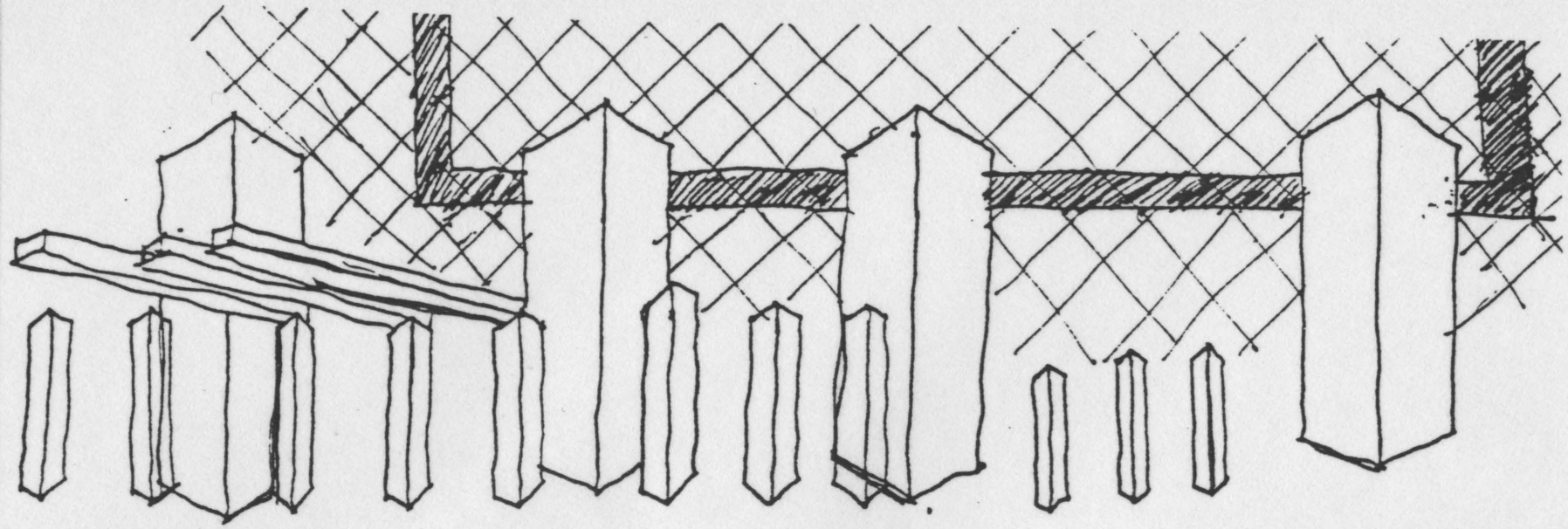
Brick jack-arch between concrete columns. ■ Axonometric of condition.



■ Sketch studies of condition.

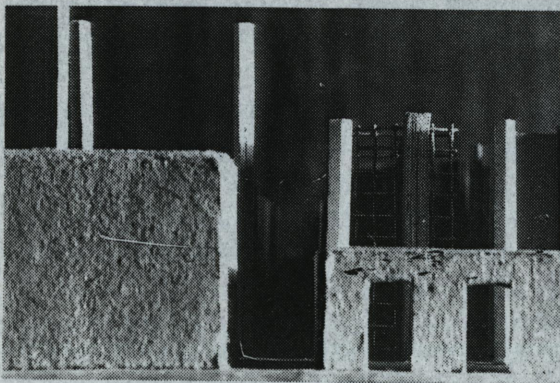
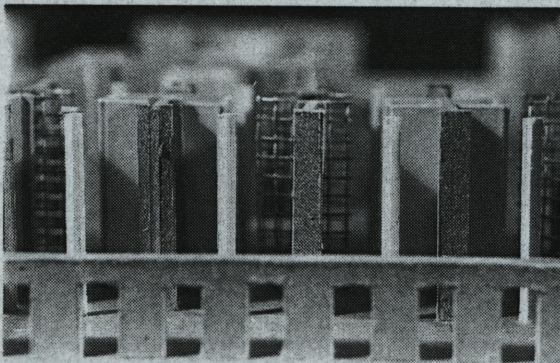
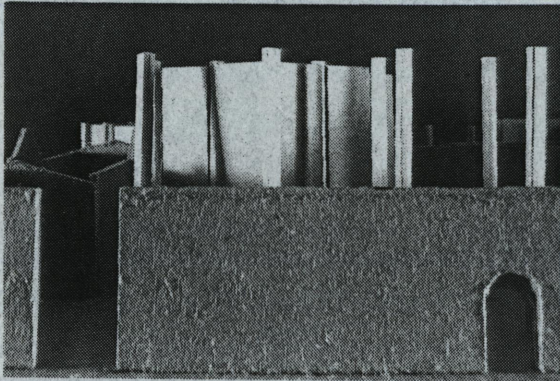
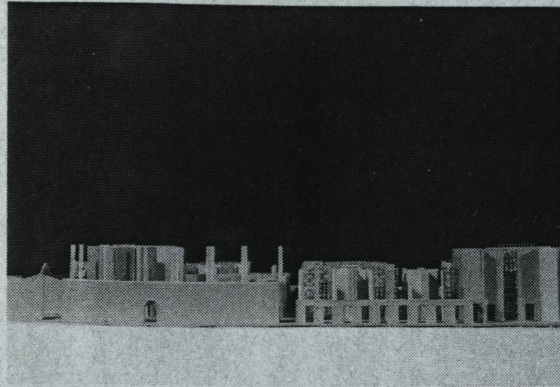
Concrete colonnade against brick building. ■ Plan projection of condition.





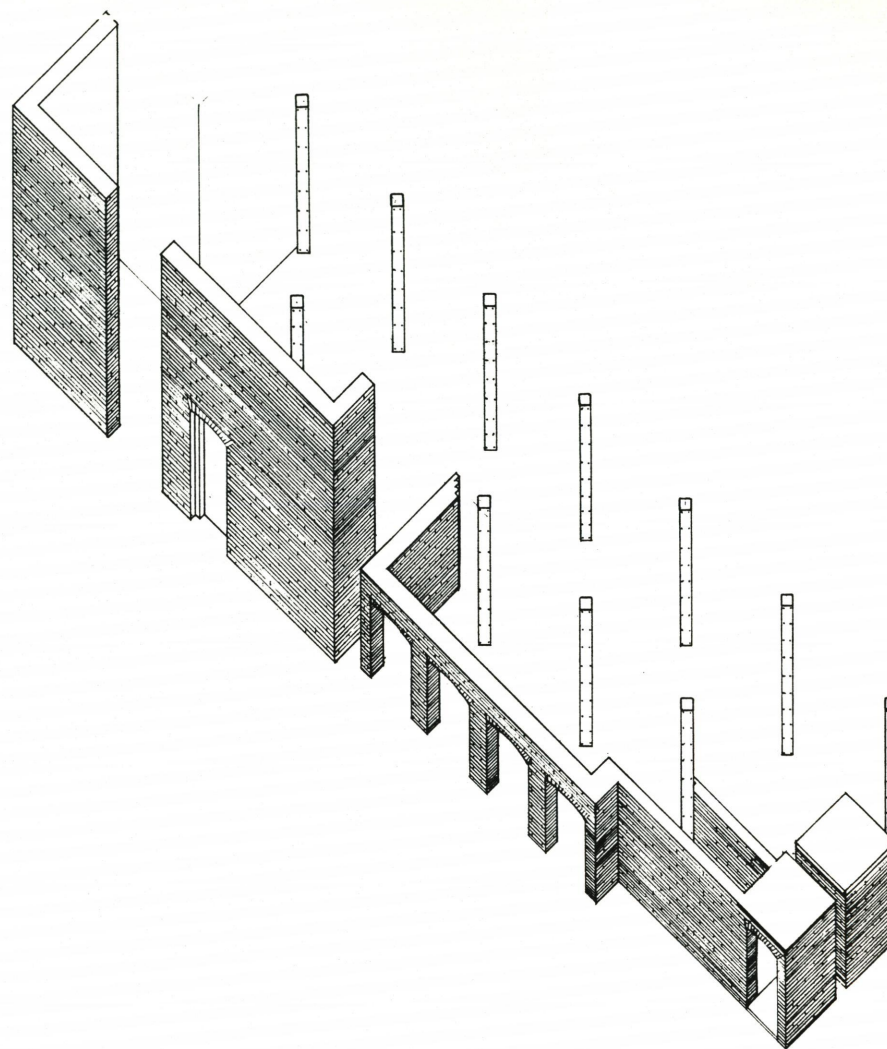
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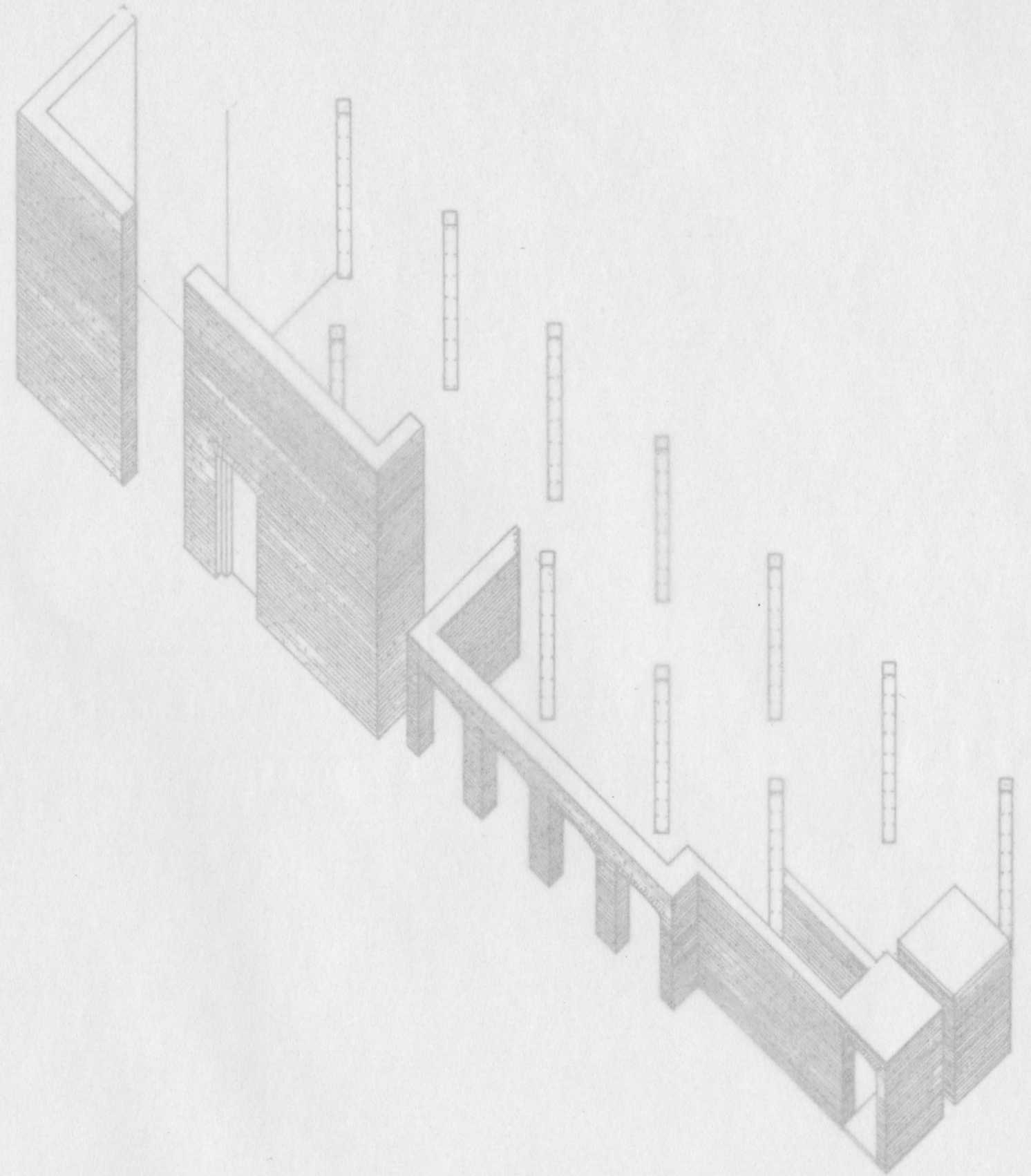
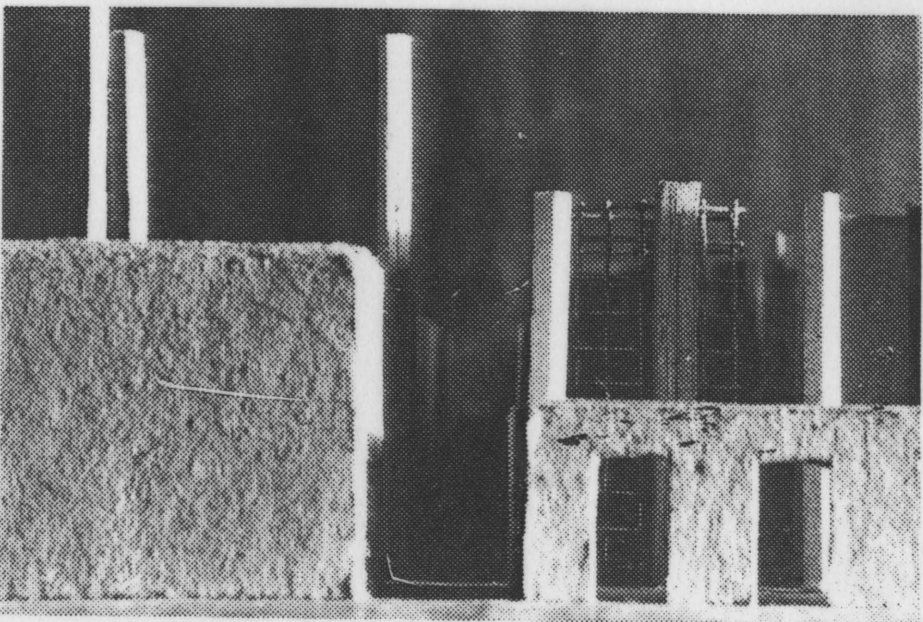
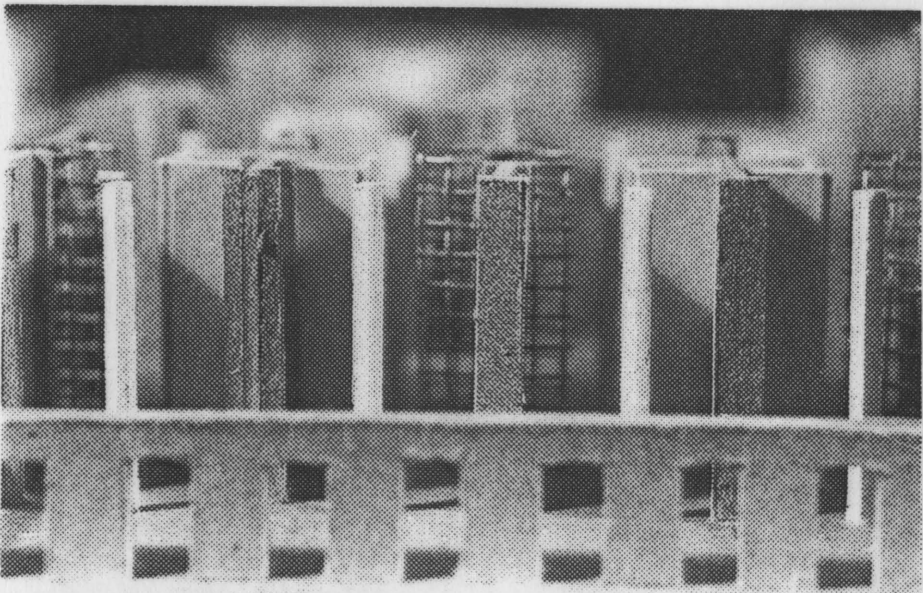
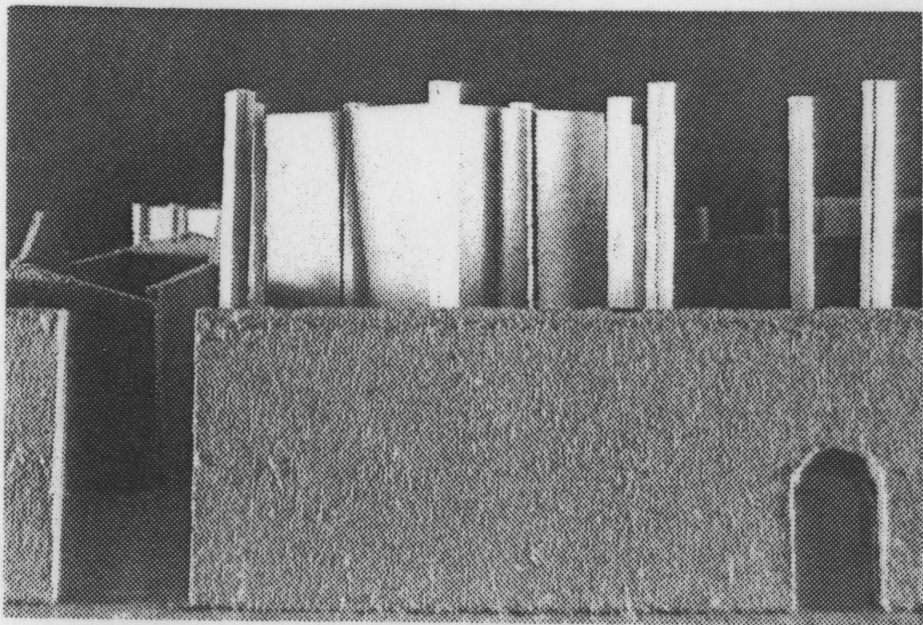
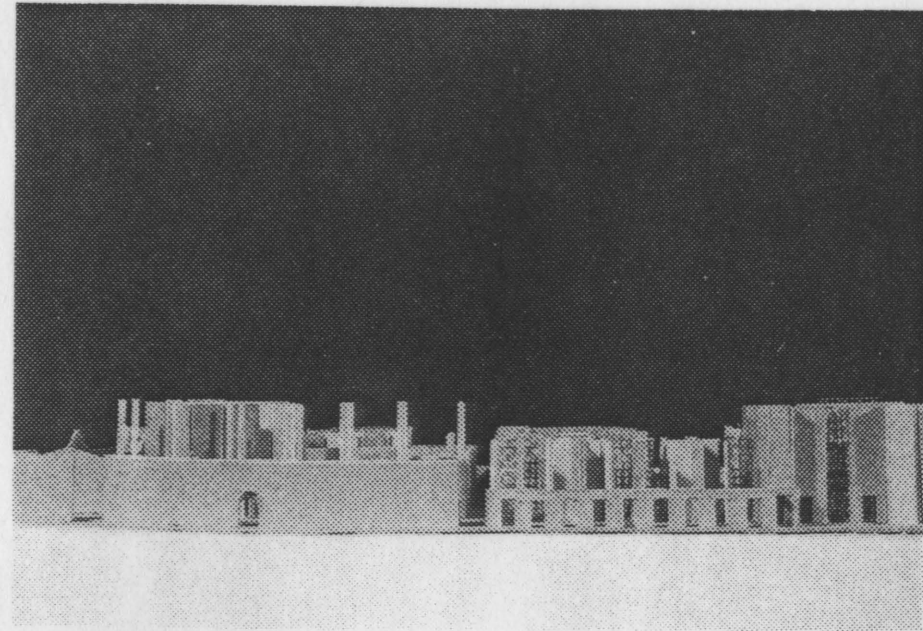
Concrete colonnade against brick building. ■ Plan projection of condition.



■ *Model studies of condition.*

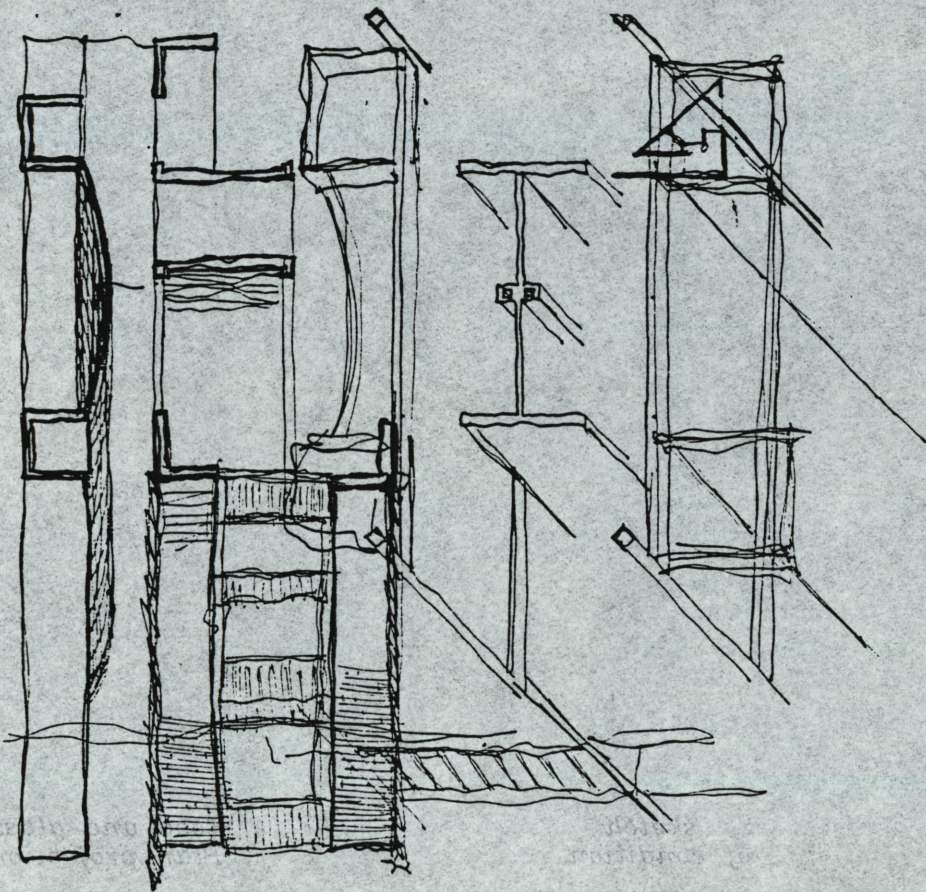
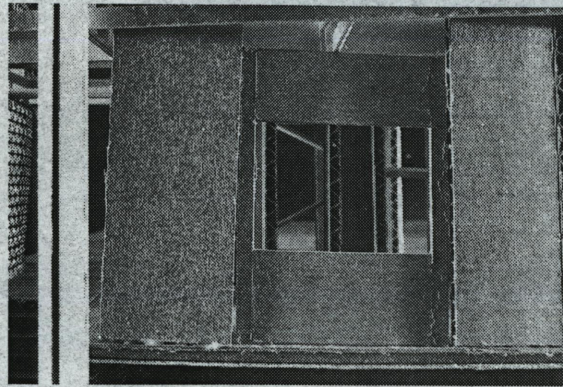
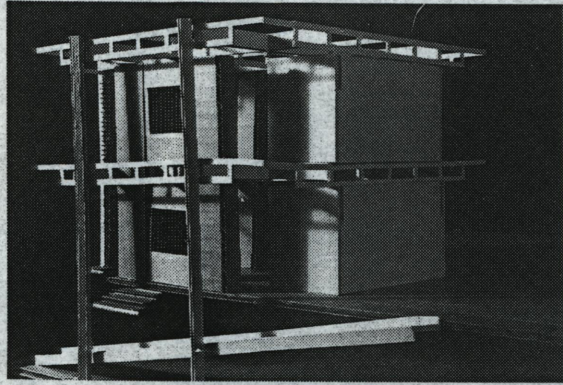
Brick wall against field of columns. ■
Axonometric of condition.





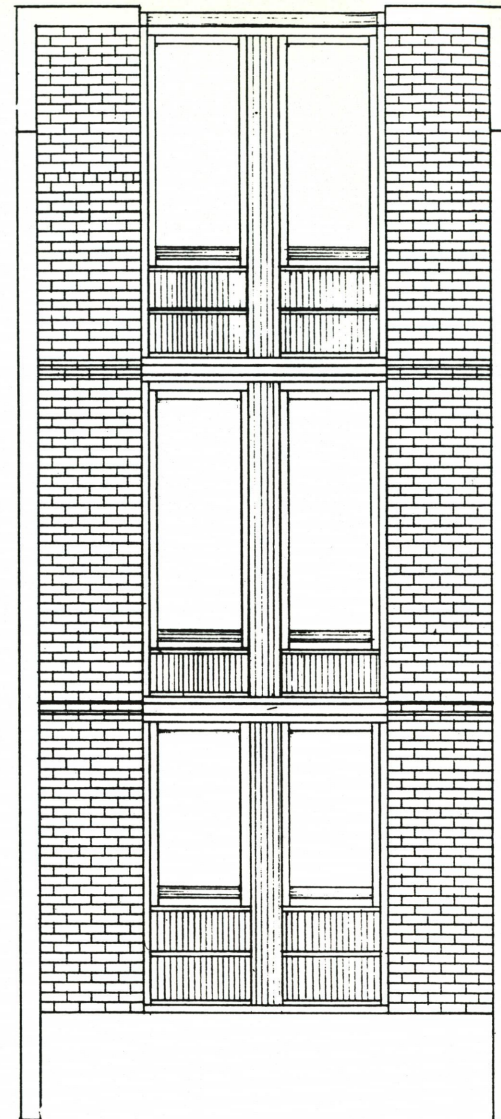
■ Model studies
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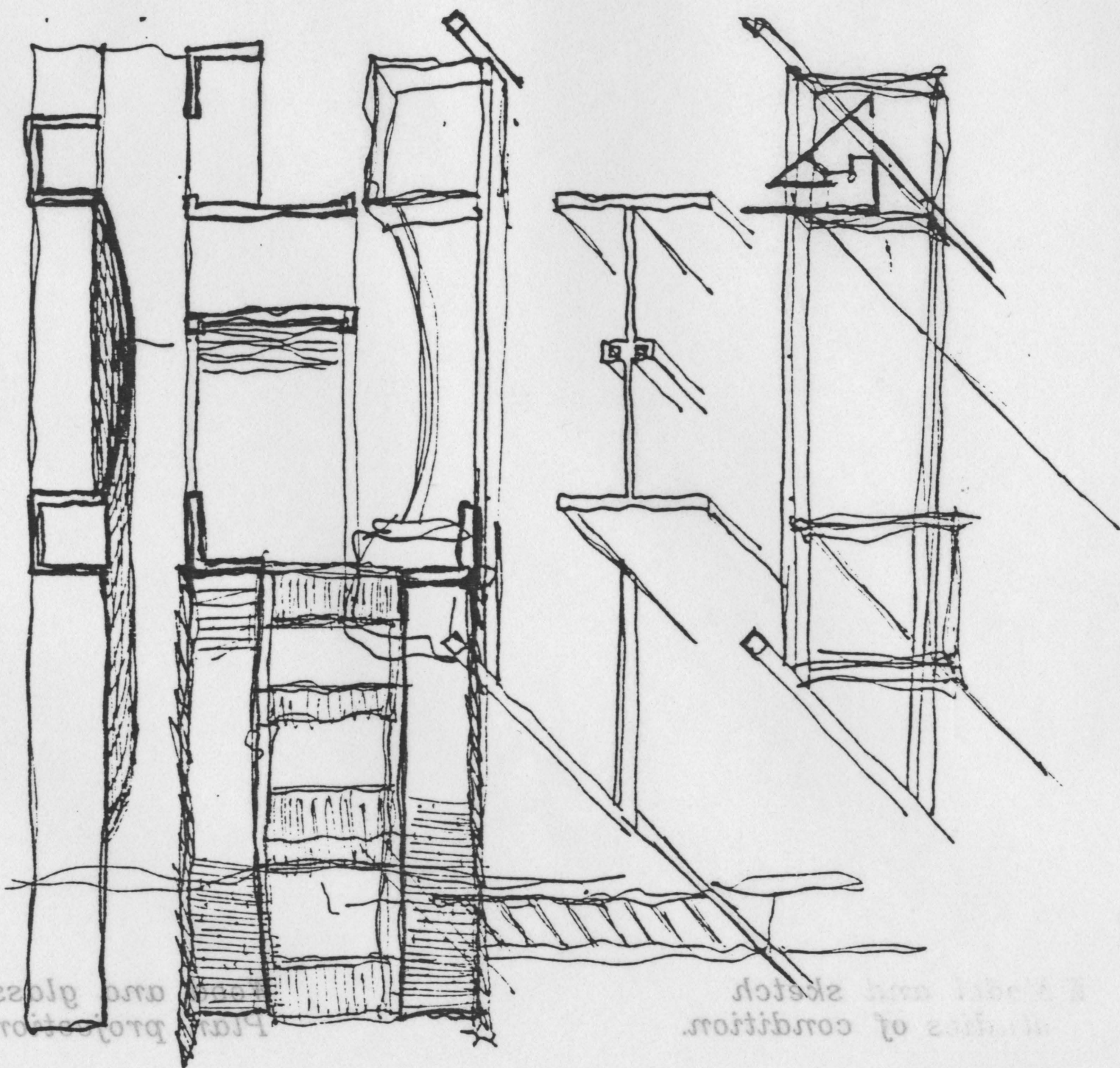
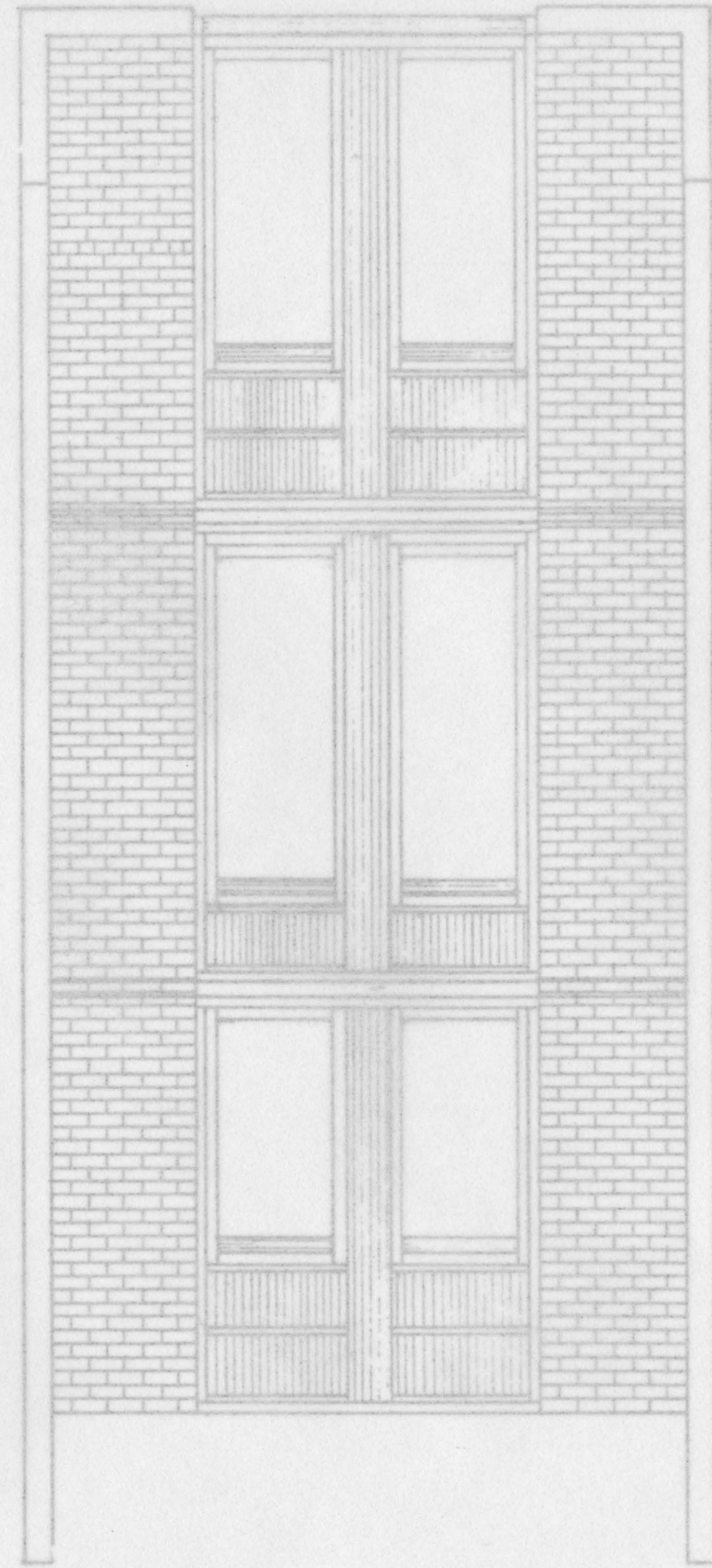
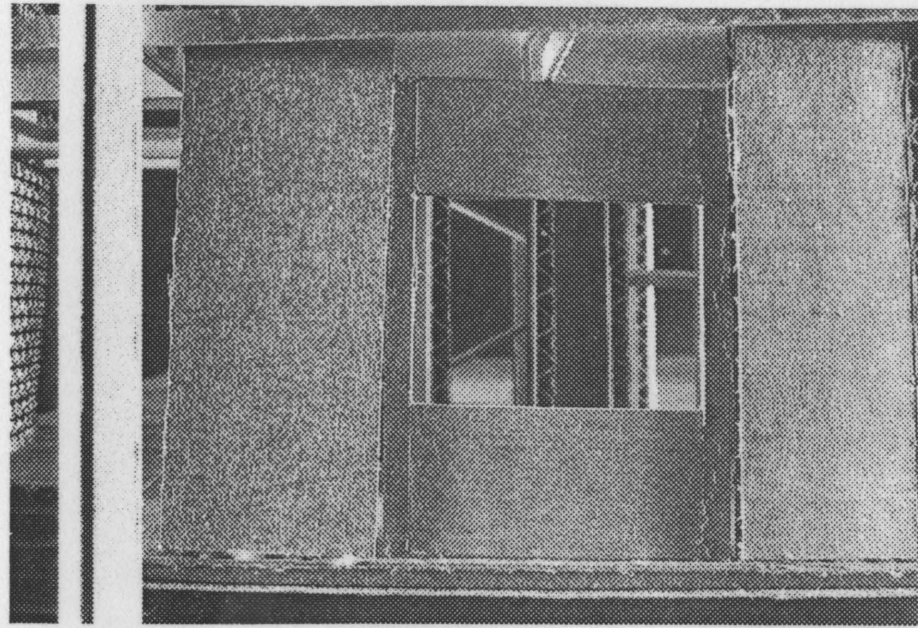
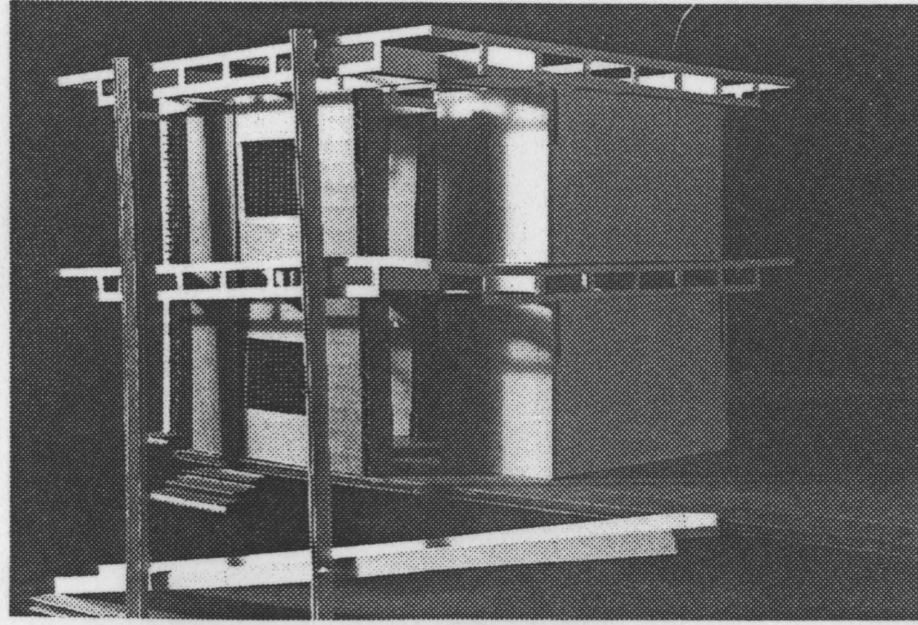
Brick wall against field of columns. ■
Axonometric of condition.



■ Model and sketch studies of condition.

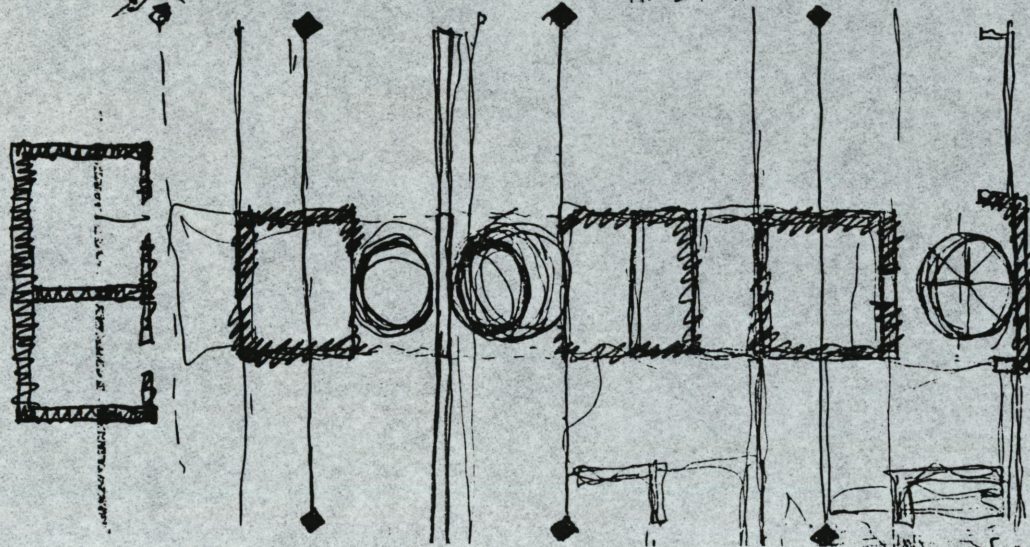
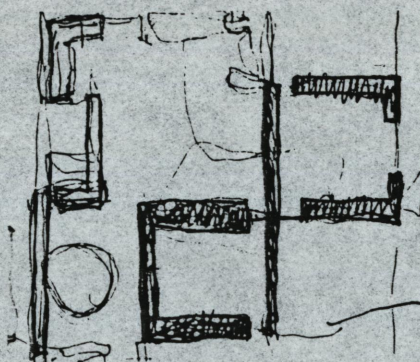
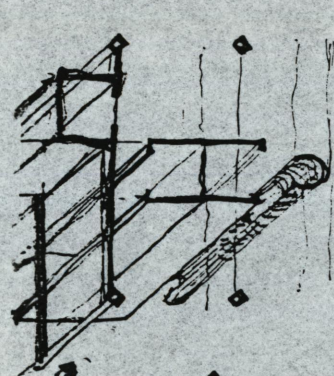
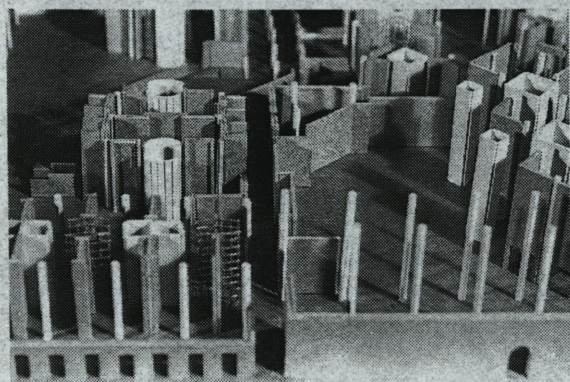
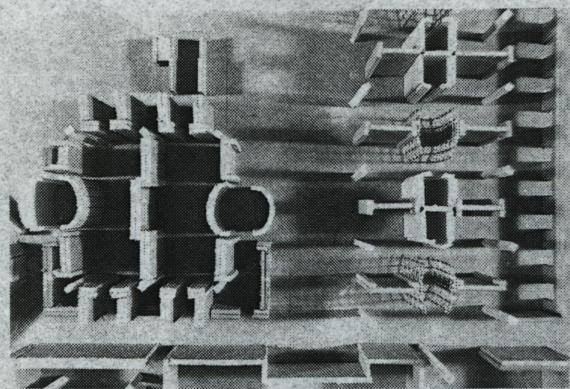
Wood and glass curtain wall. ■ Plan projection of condition.





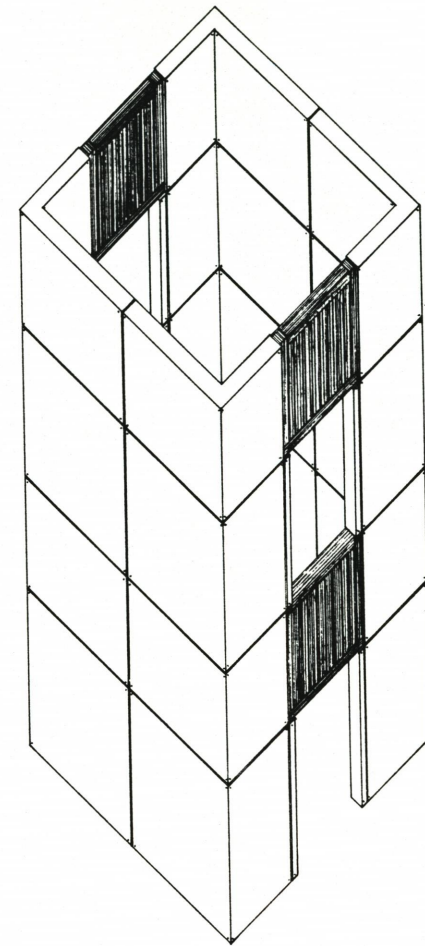
■ Model and sketch studies of condition.

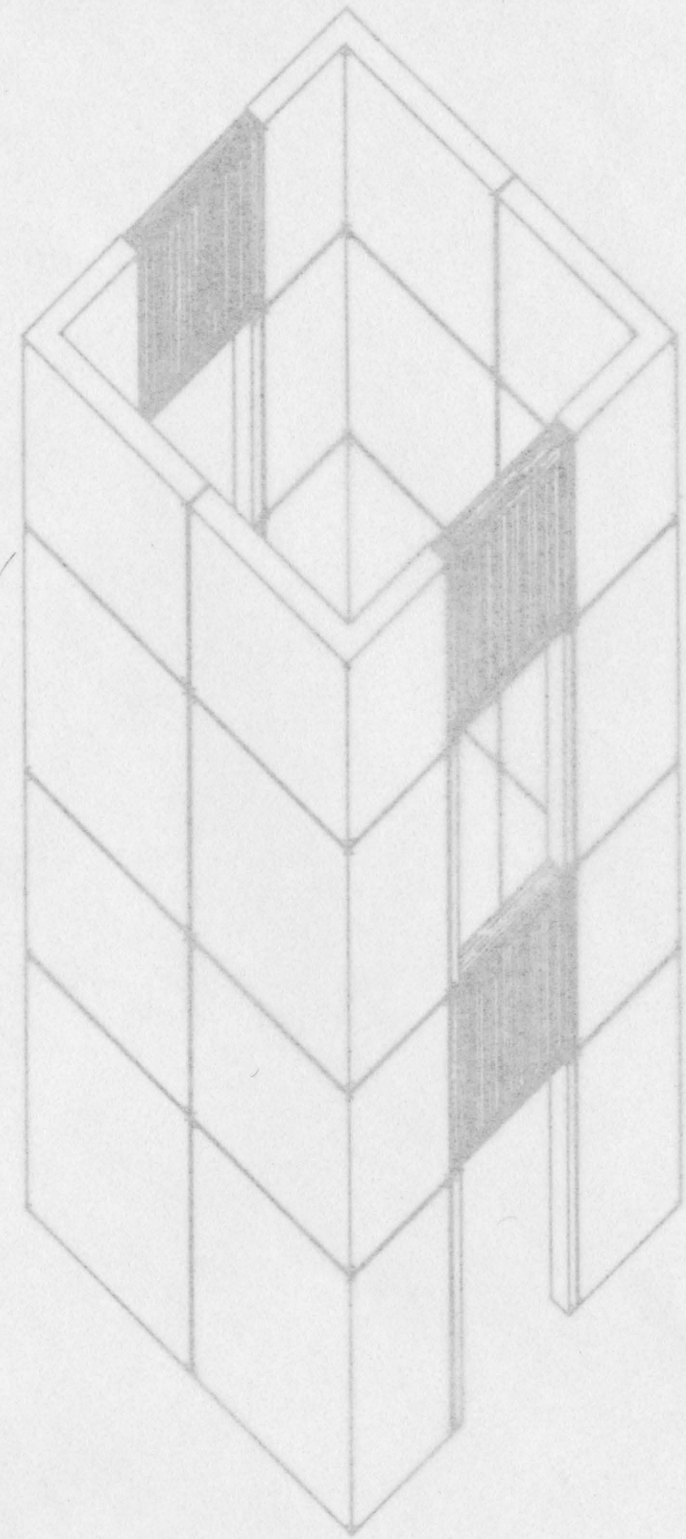
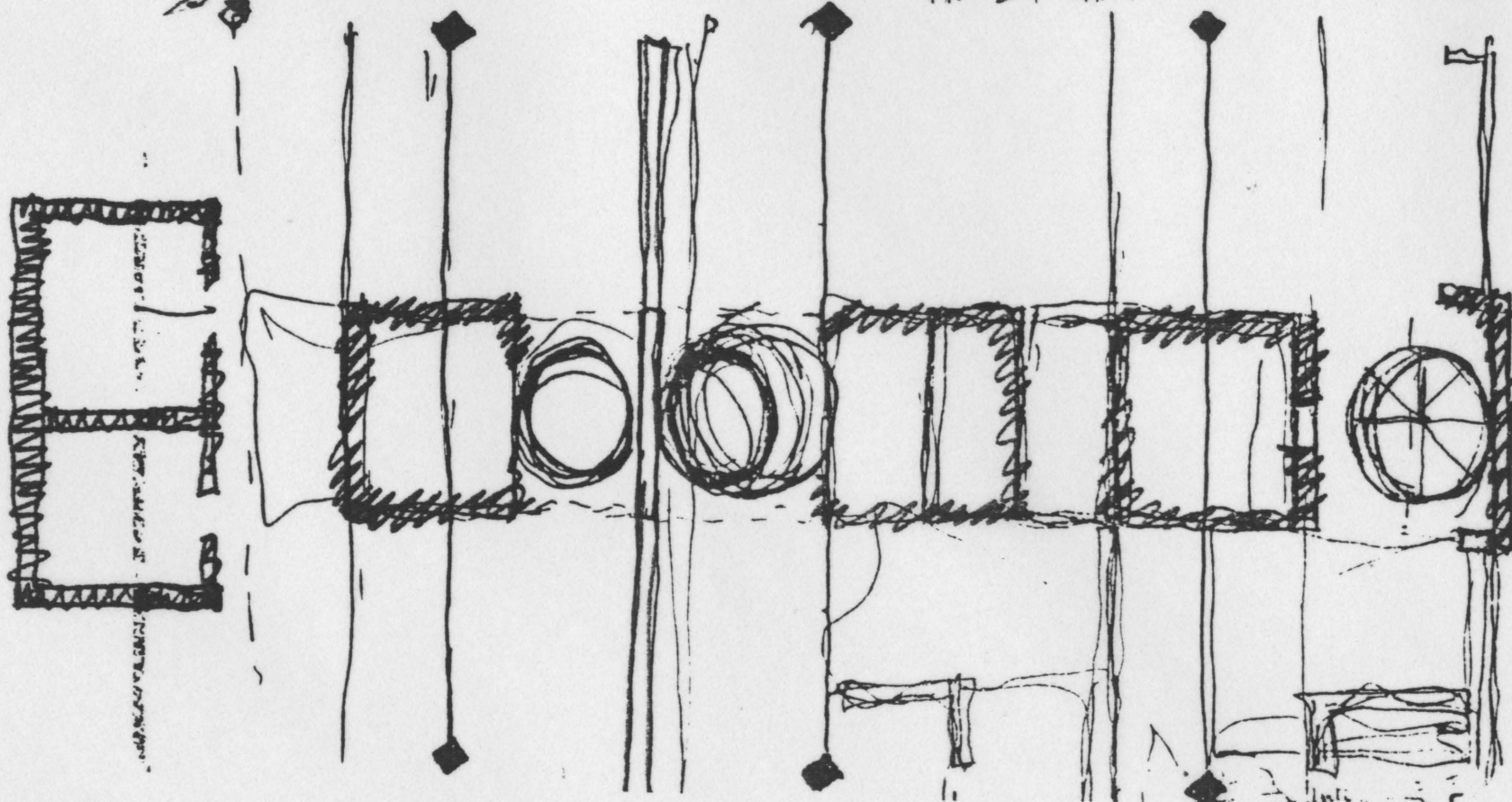
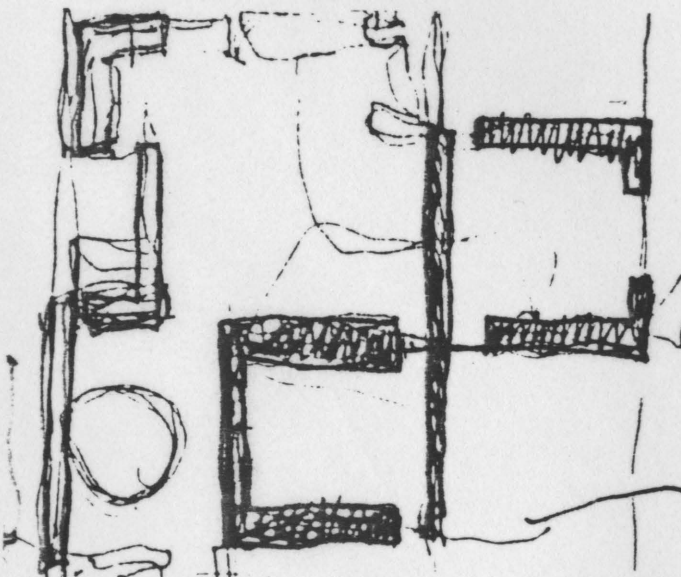
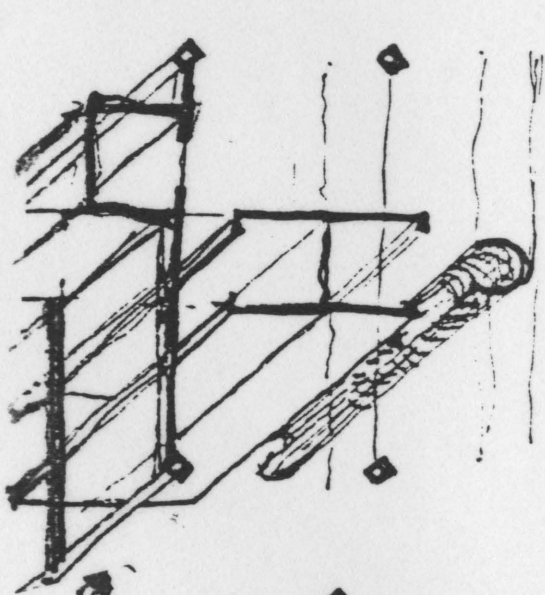
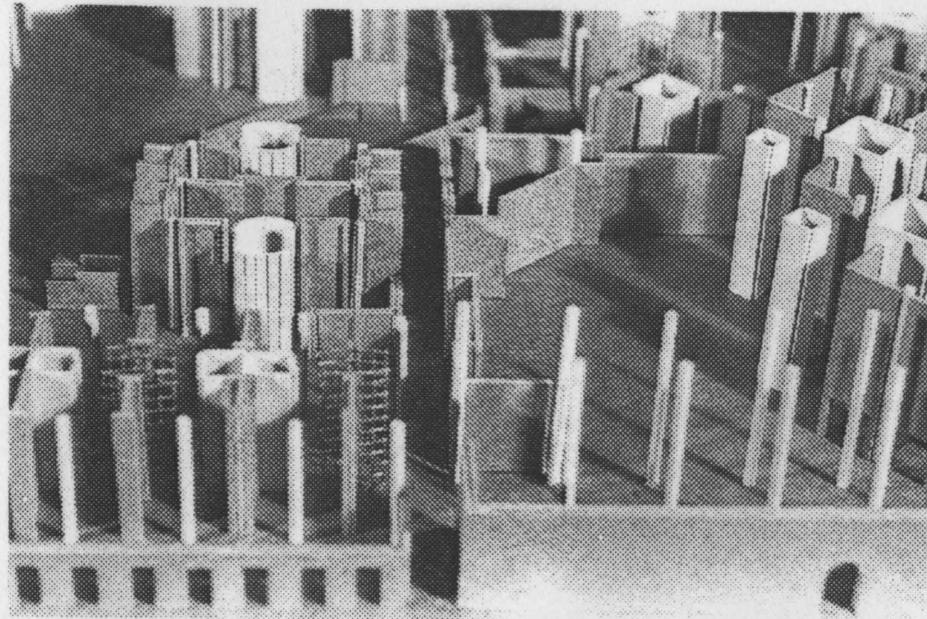
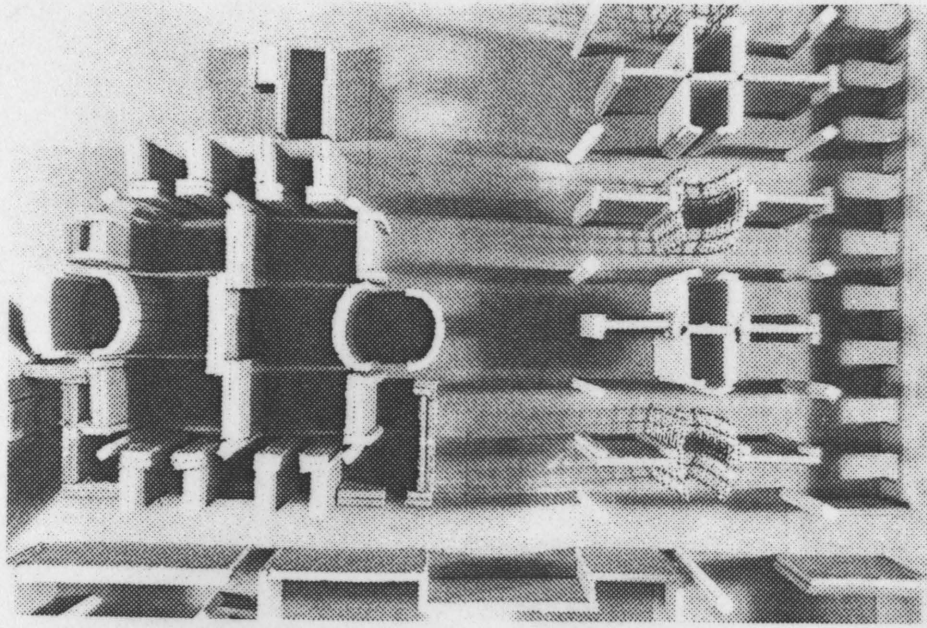
Wood and glass curtain wall. ■ Plan projection of condition.



■ Model and sketch studies of condition.

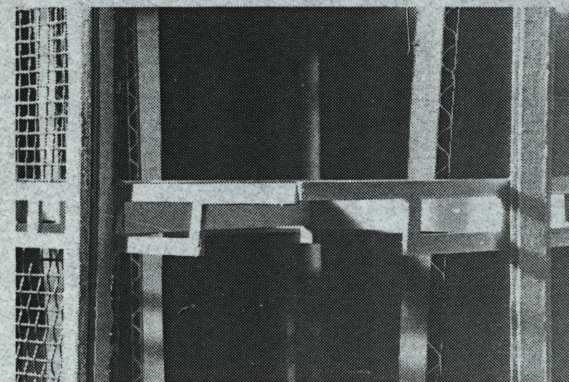
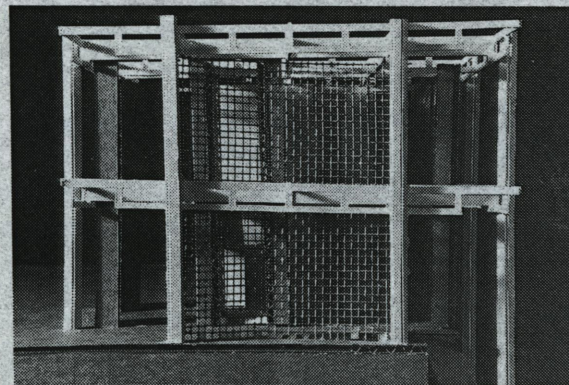
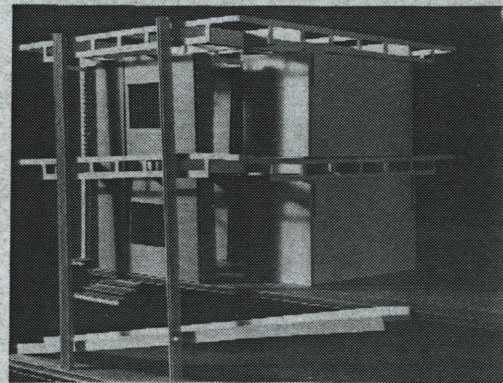
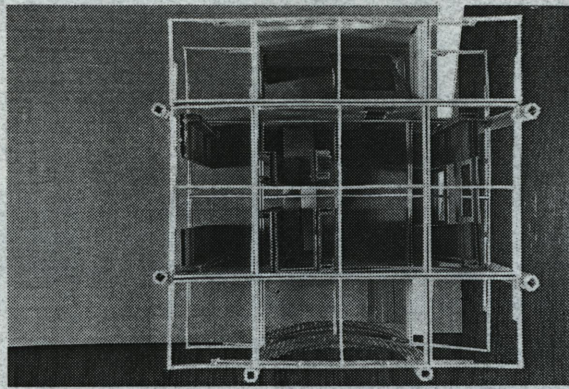
Opennings in concrete enclosure. ■ Axonometric of condition.





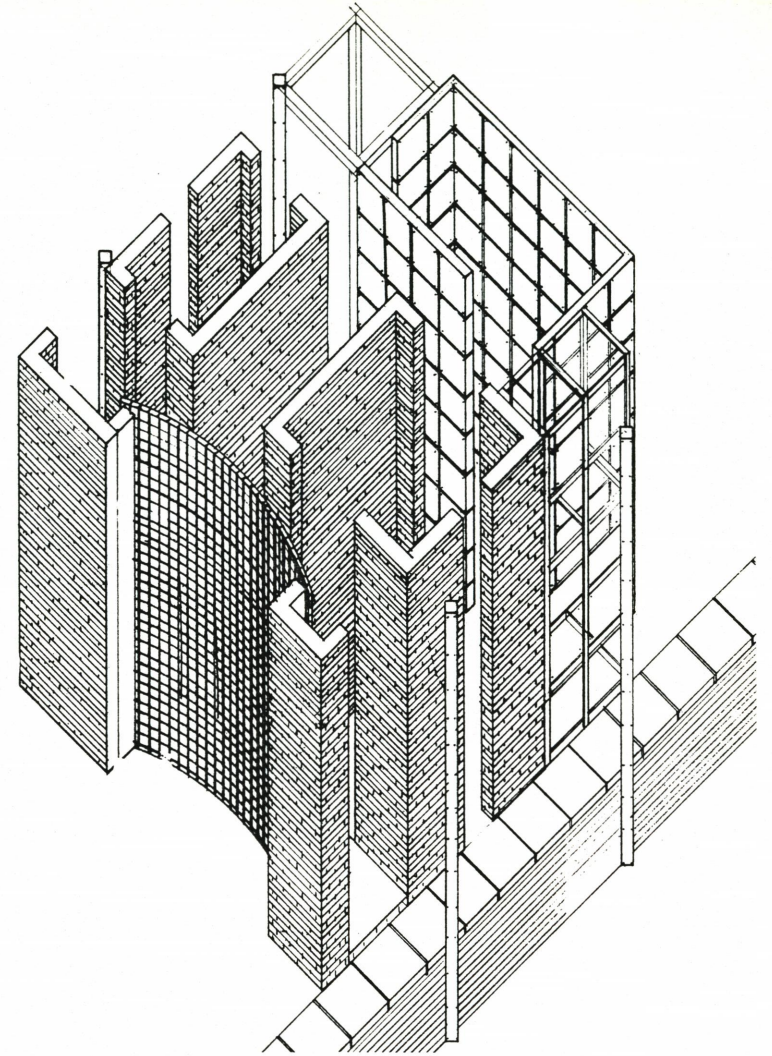
■ Model and sketch studies of condition.

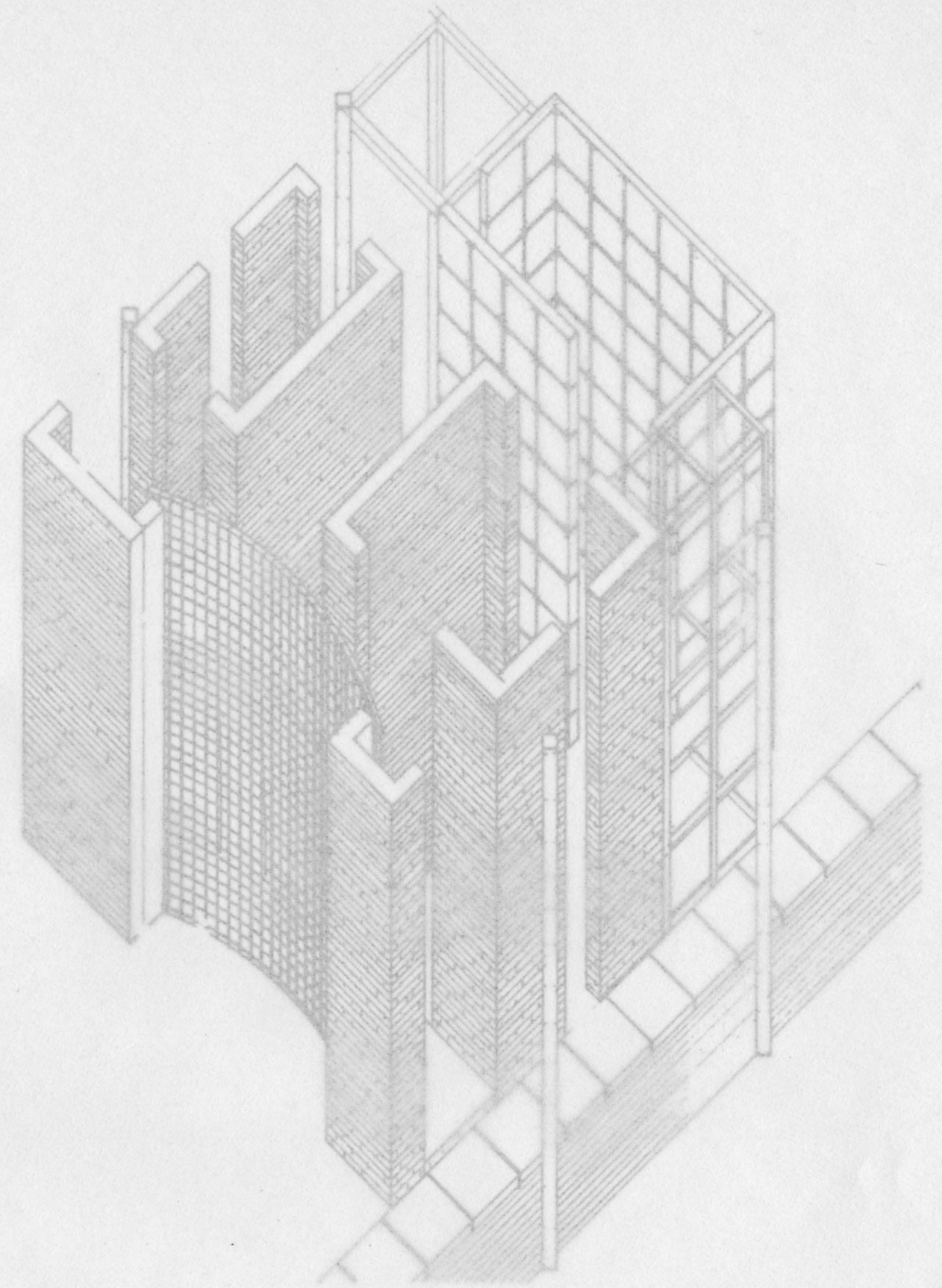
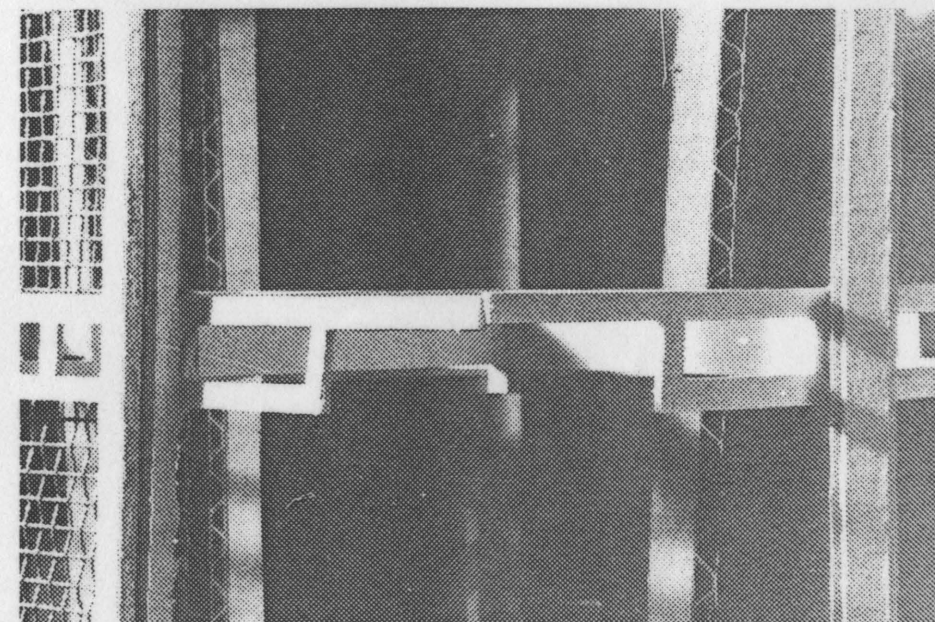
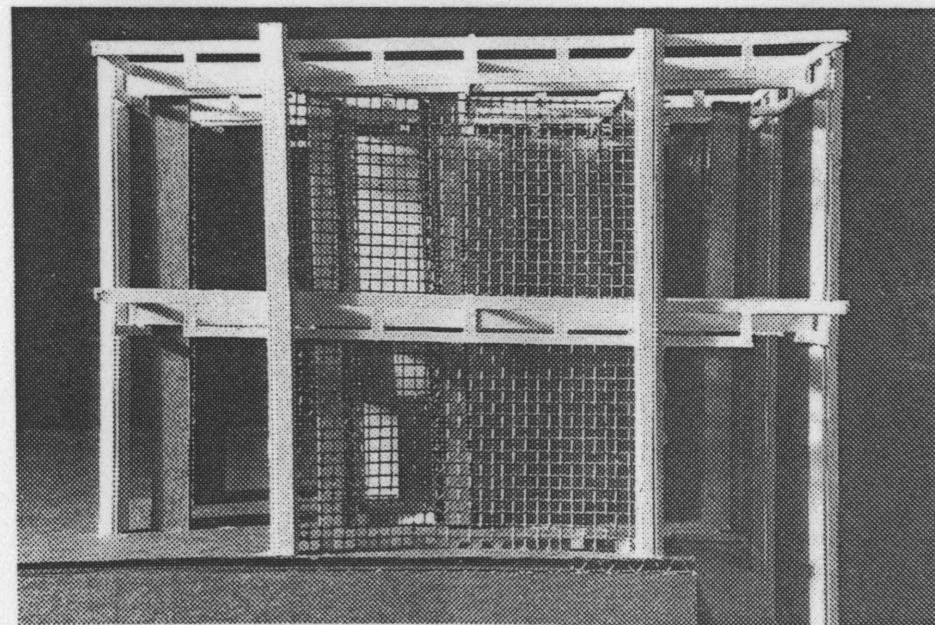
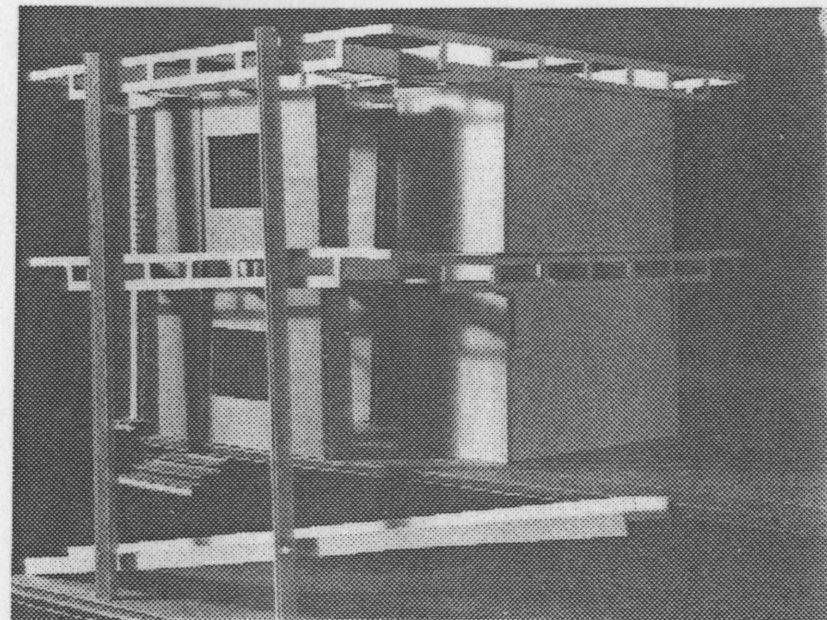
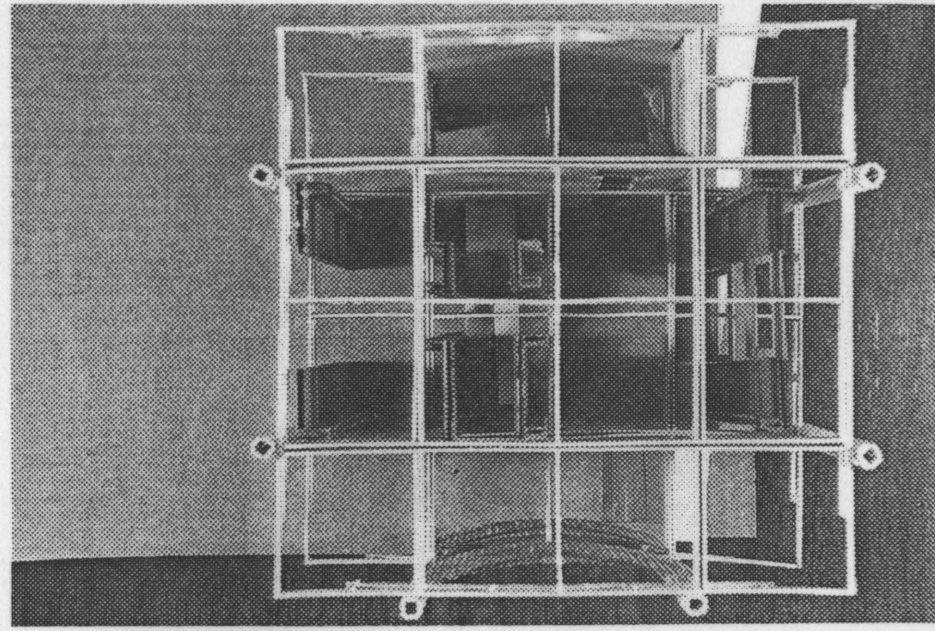
Opennings in concrete enclosure. ■ Axonometric of condition.



■ Model studies of condition.

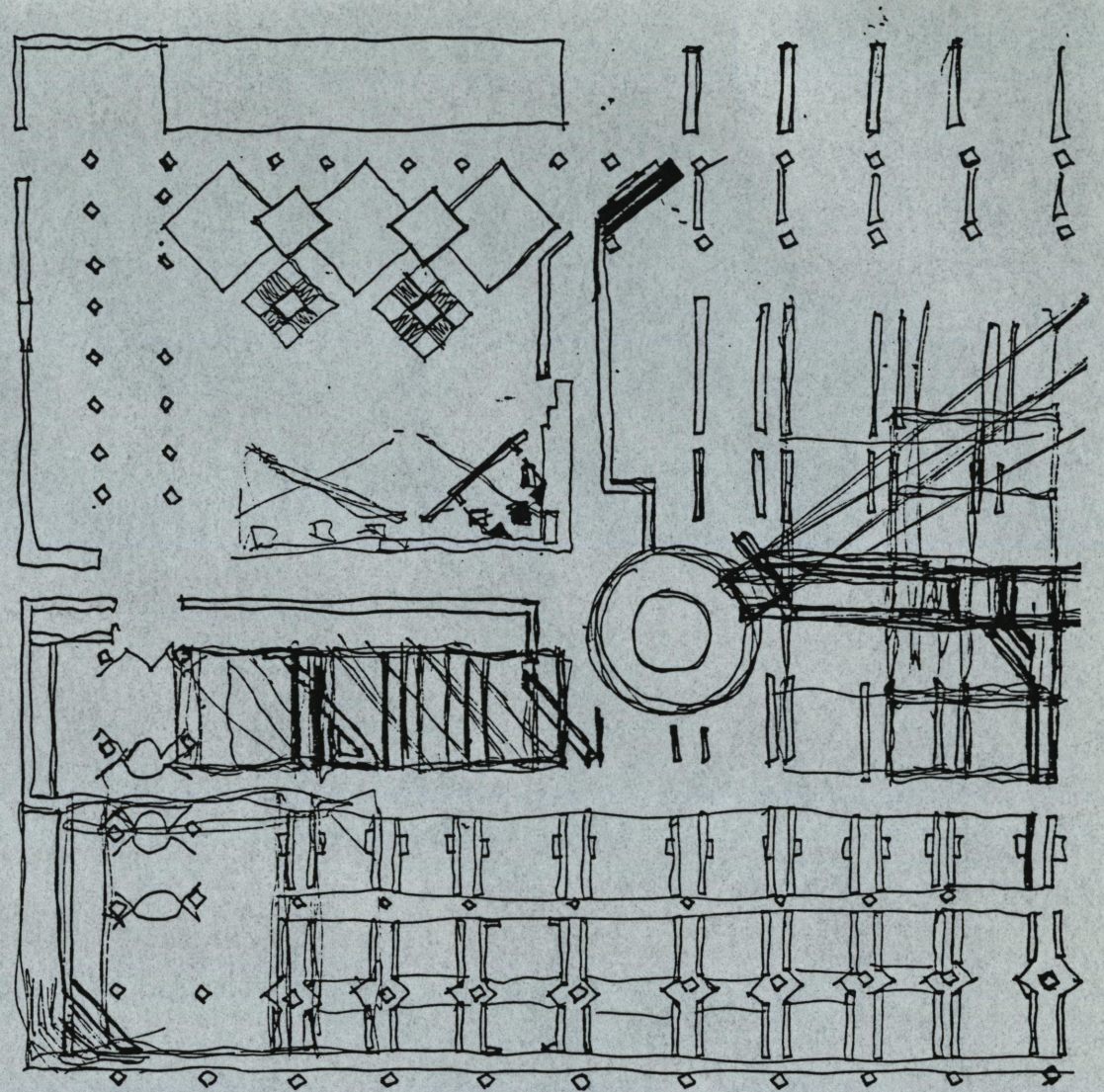
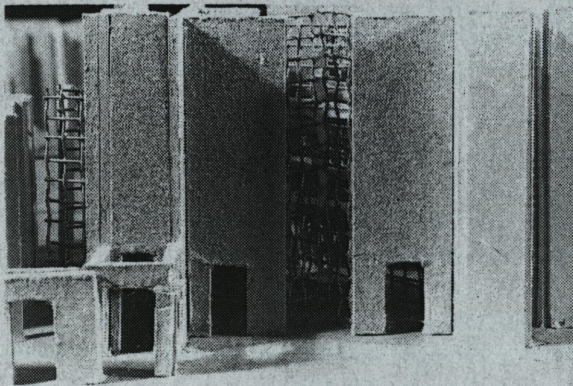
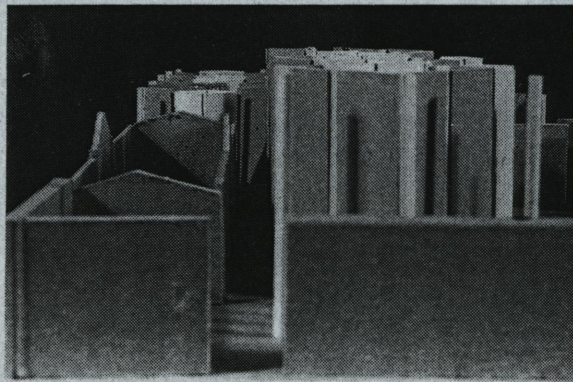
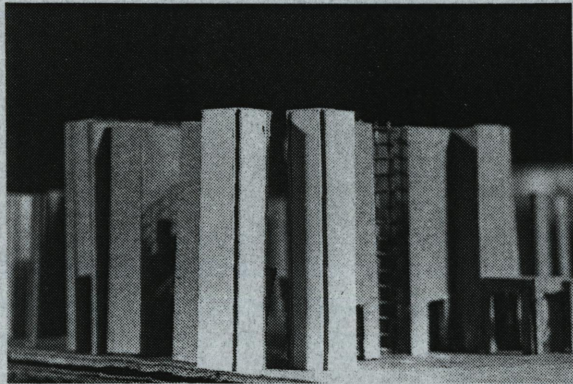
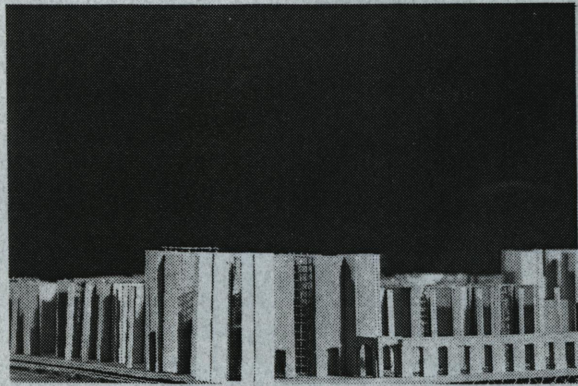
Assimilation of conditions to form dwelling unit. ■ Axonometric.





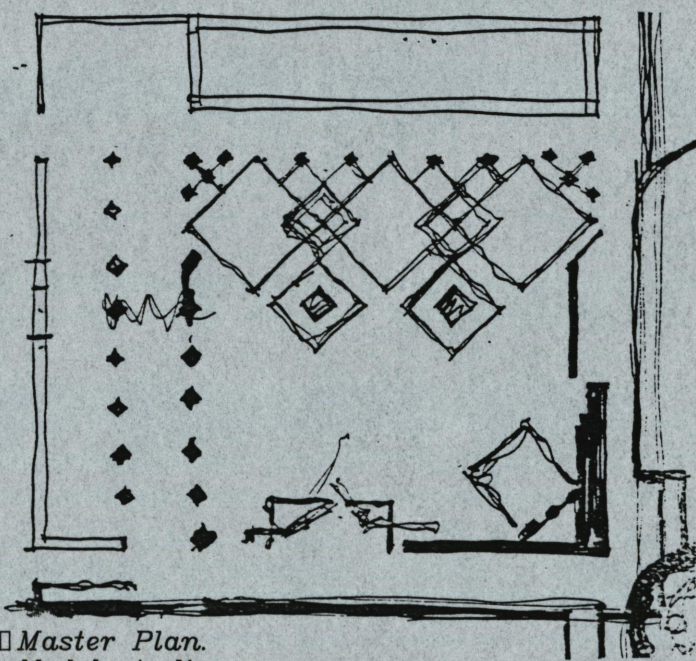
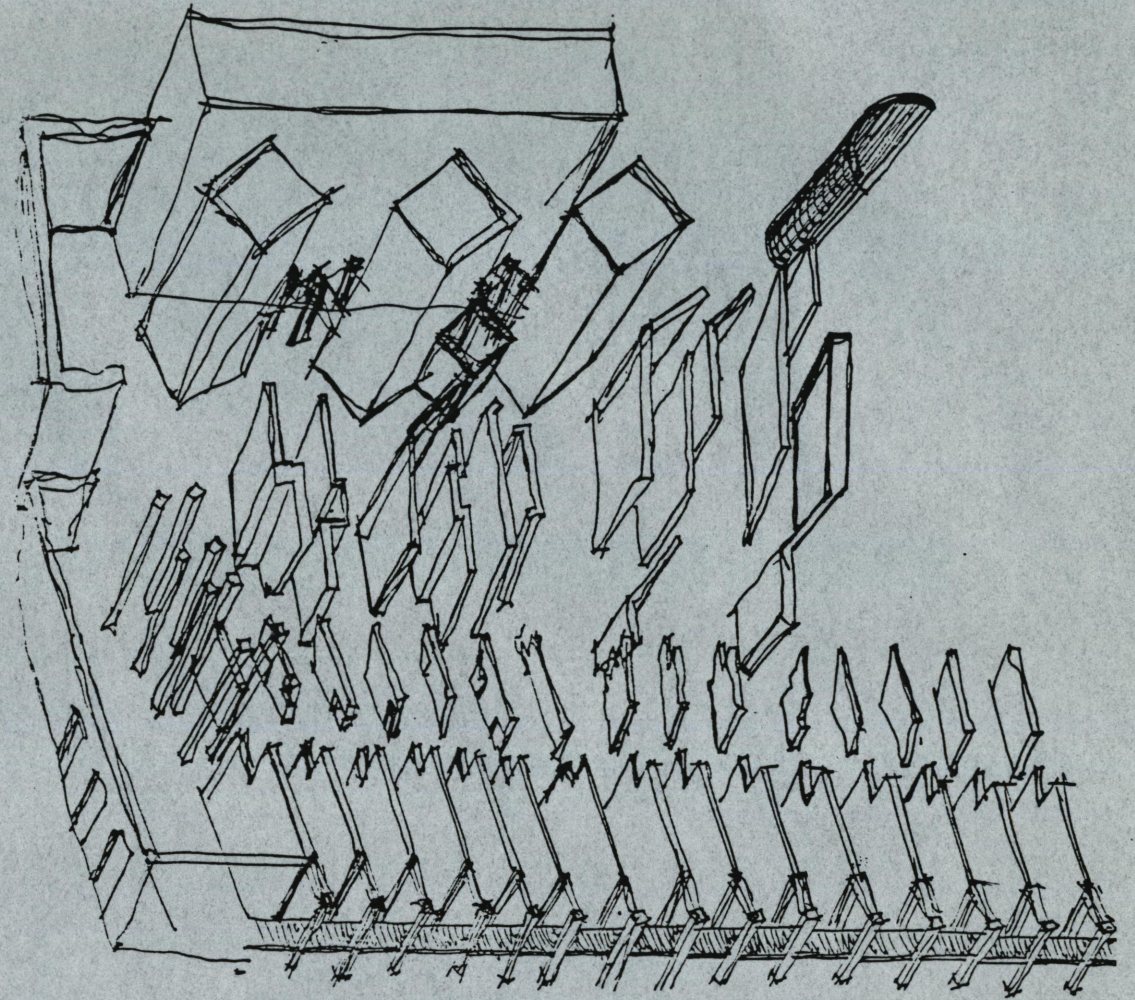
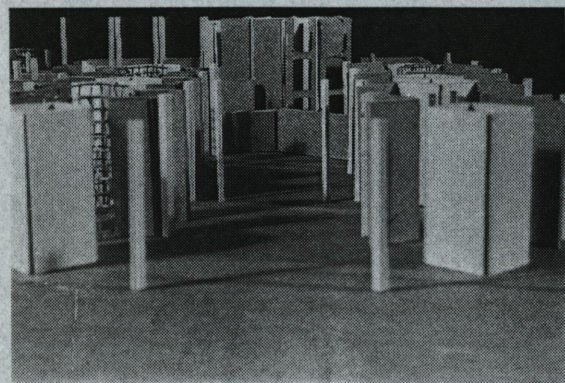
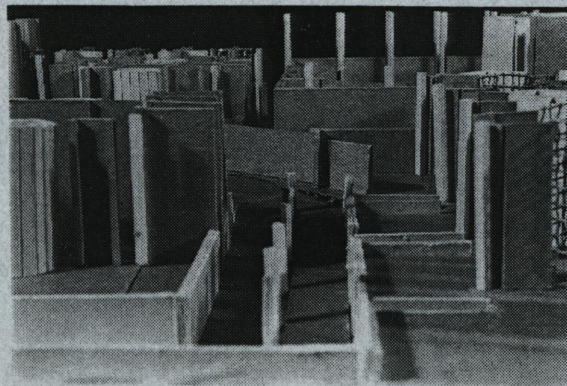
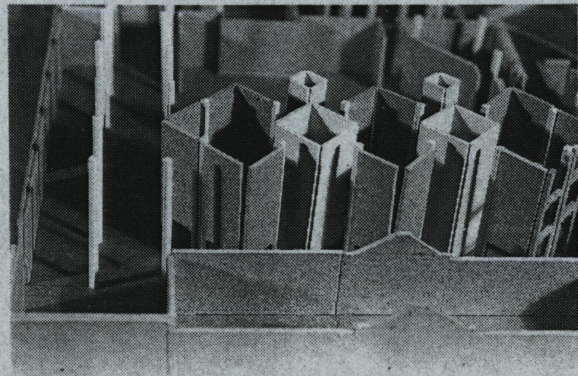
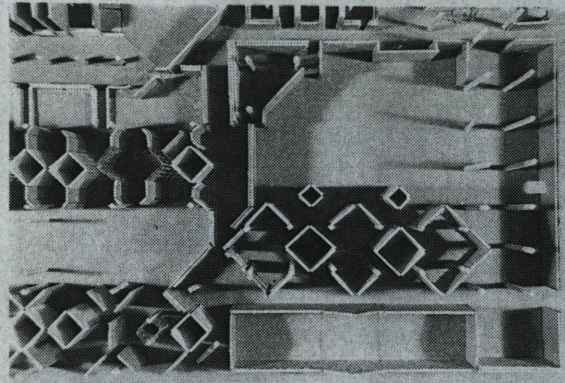
■ Model studies of condition.

Assimilation of conditions to form dwelling unit. ■ Axonometric.



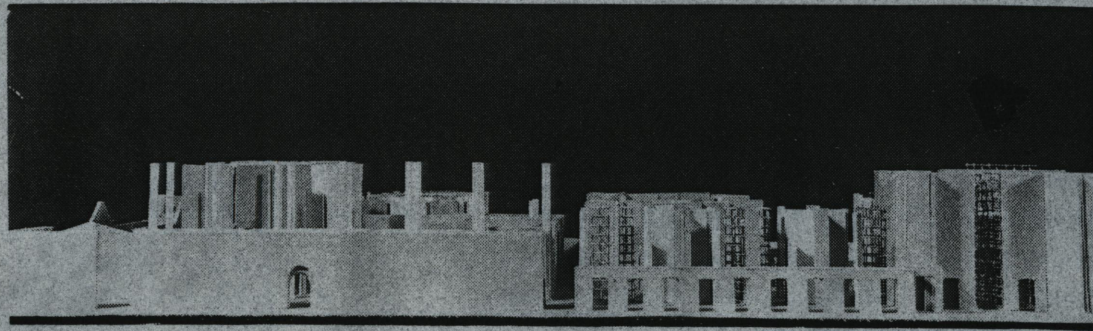
■ Master Plan.
Model studies.

Master Plan. ■
Sketch studies.

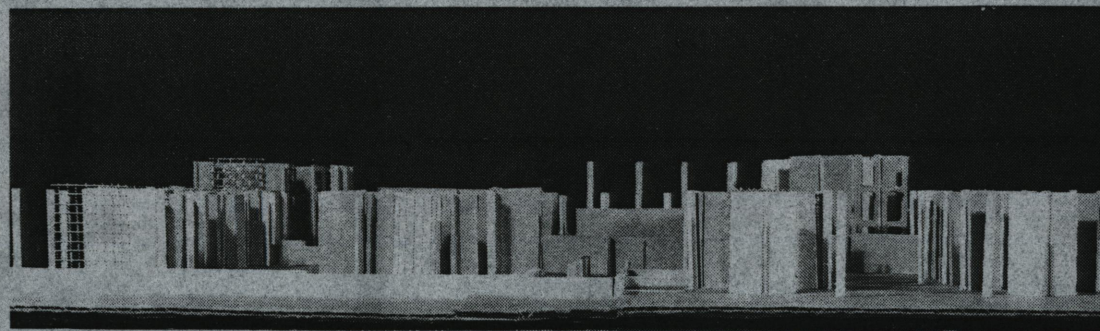


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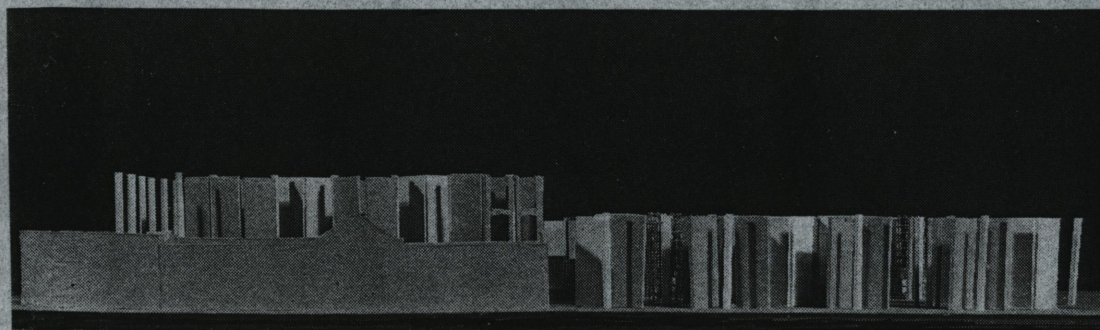
Master Plan. ■
Sketch studies.



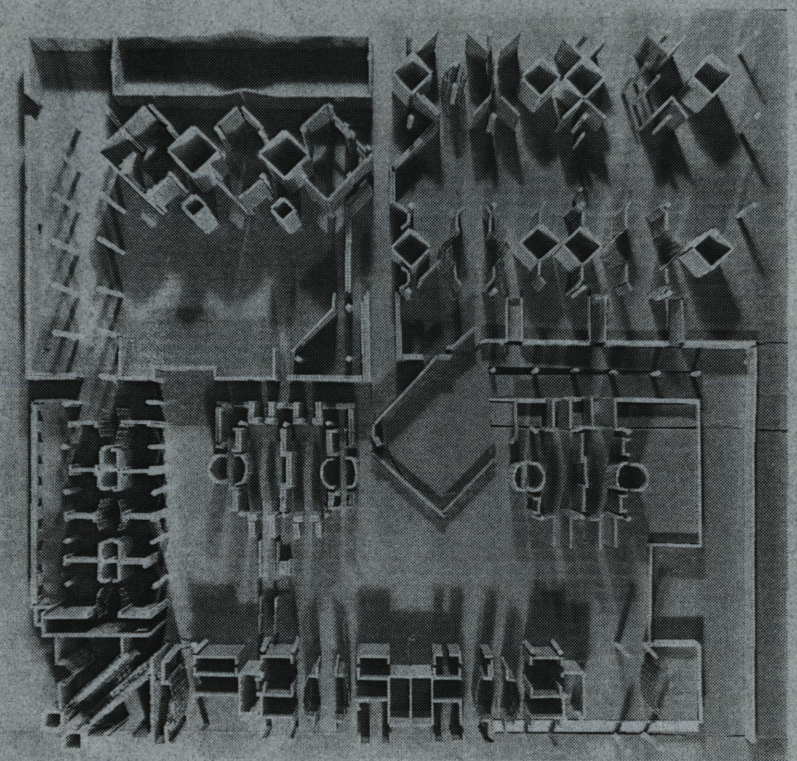
View from South.



View from North.

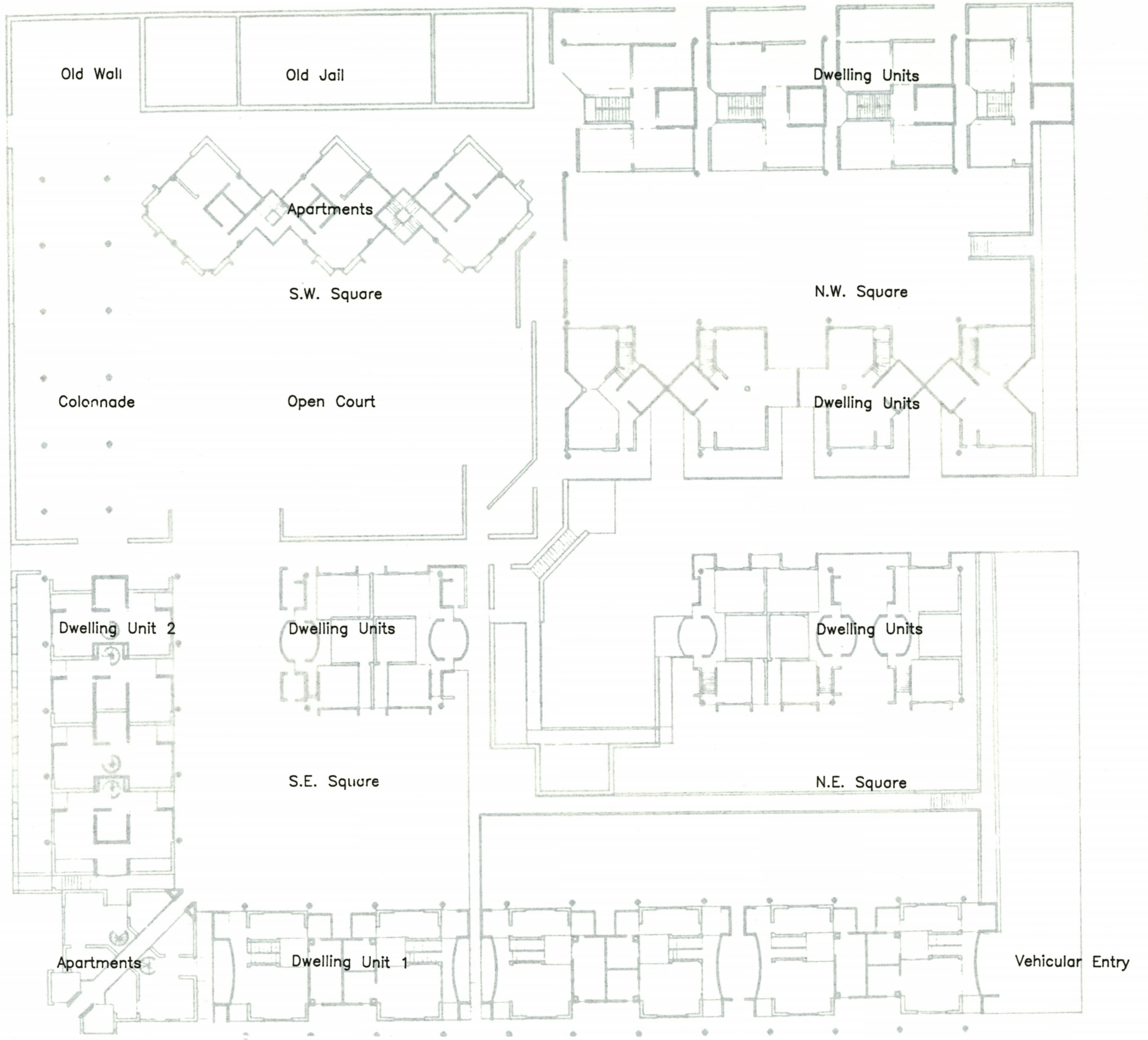


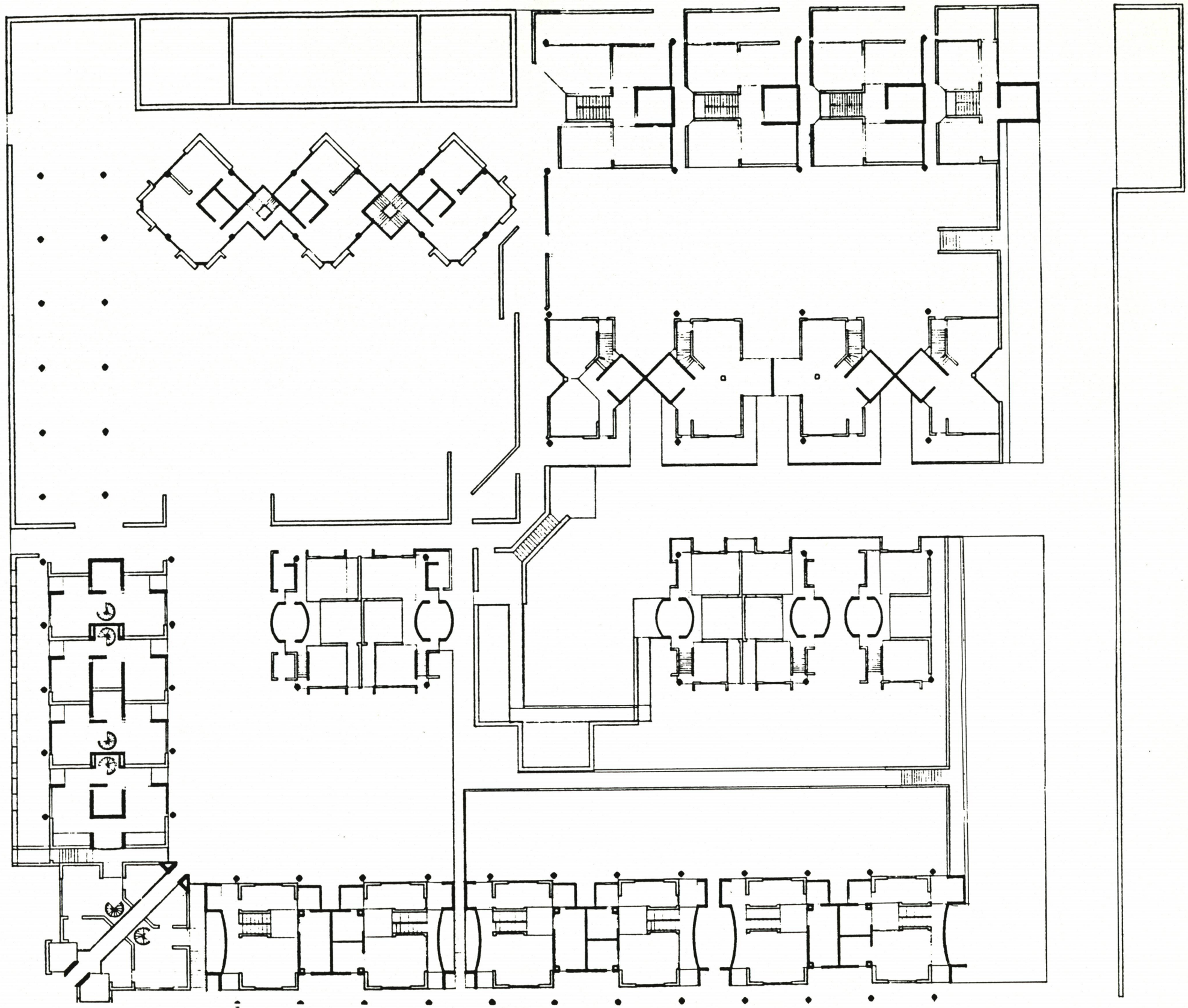
View from West.

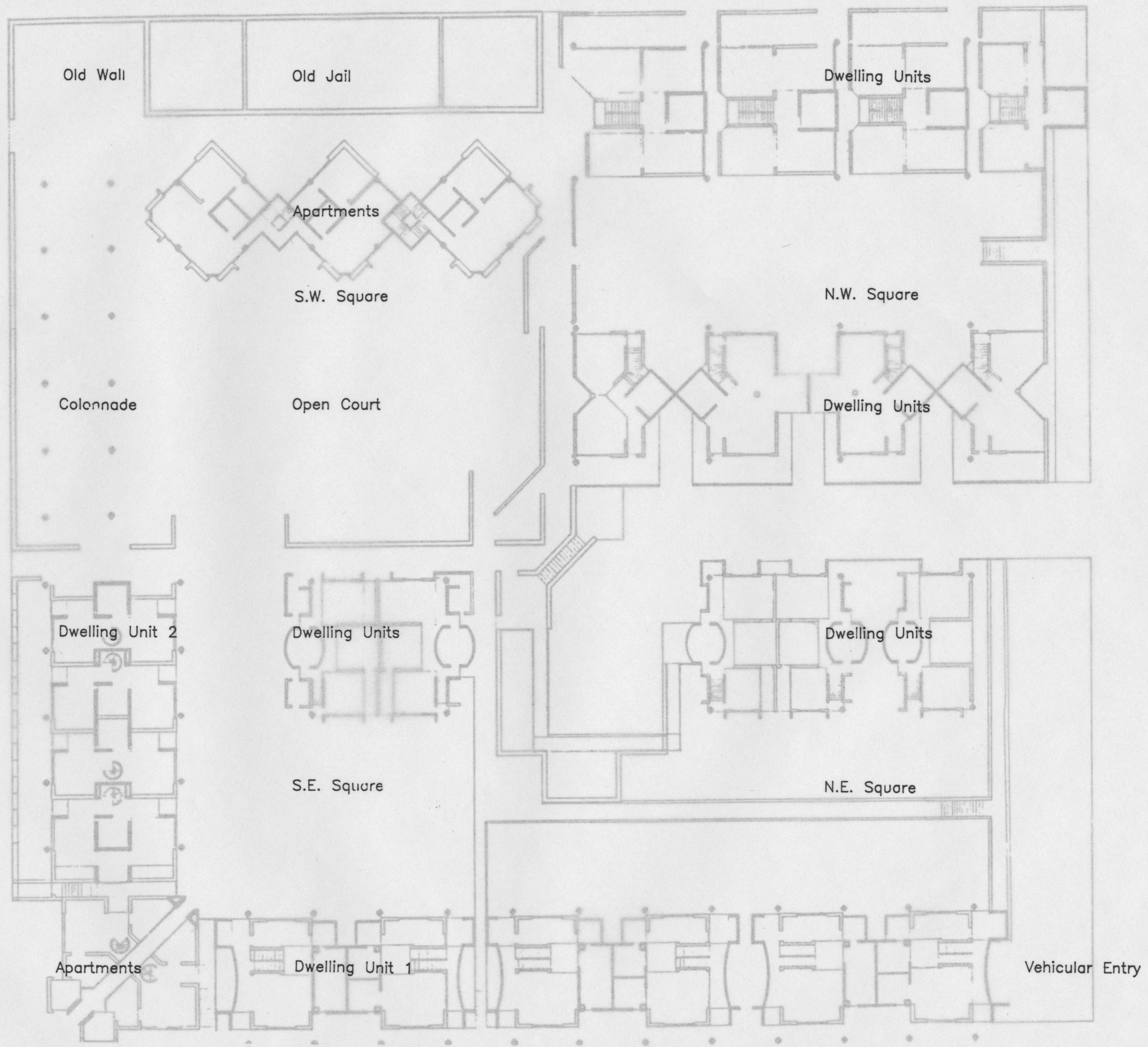


■ *Street Elevations.*
□ *Model studies.*

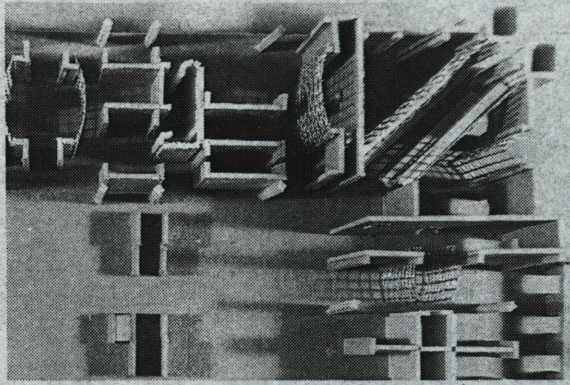
■ *Master Plan.*
□ *Model study.*



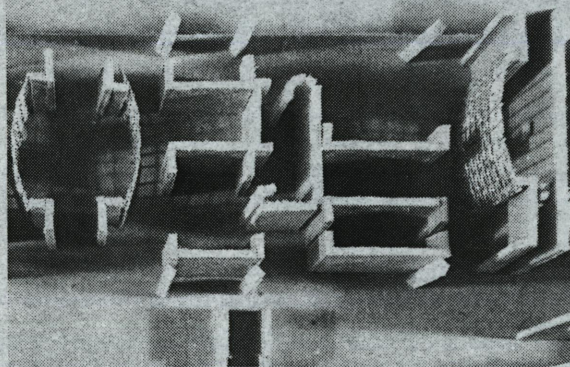




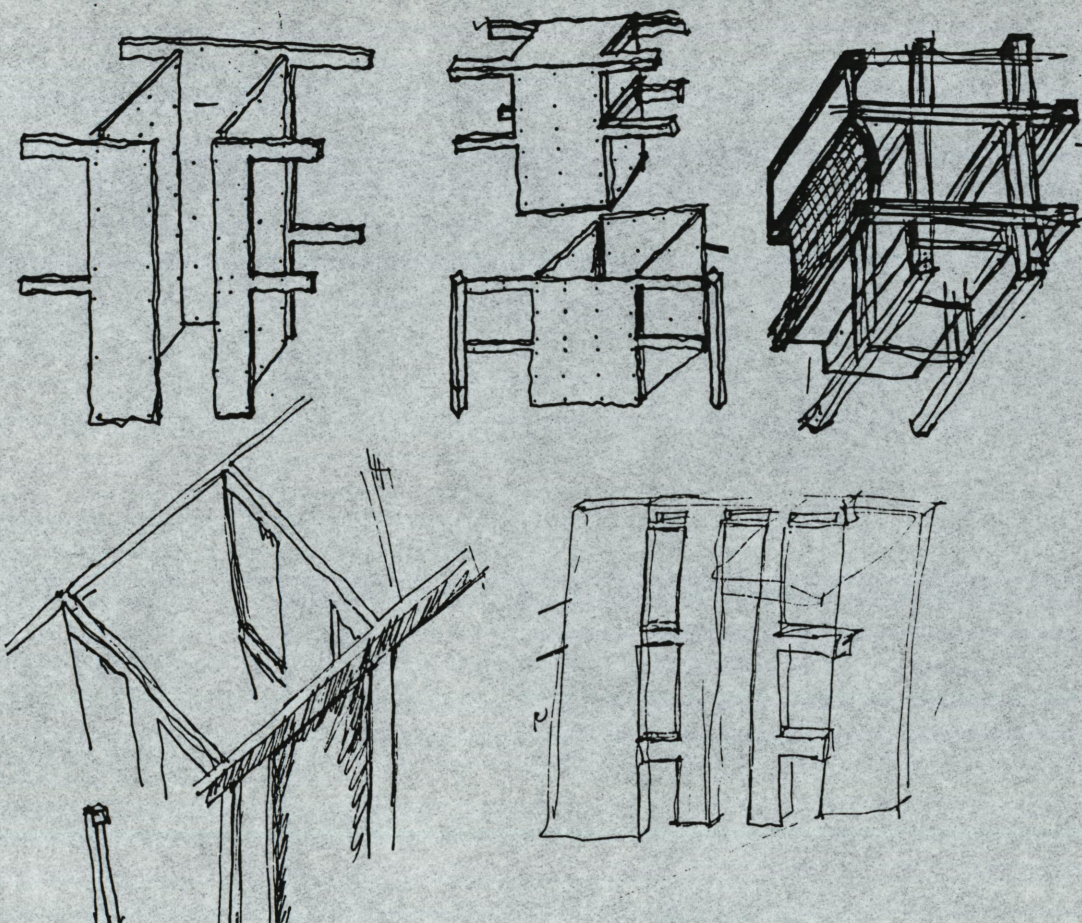
Master Plan. ■



Plan. Structural concrete members.

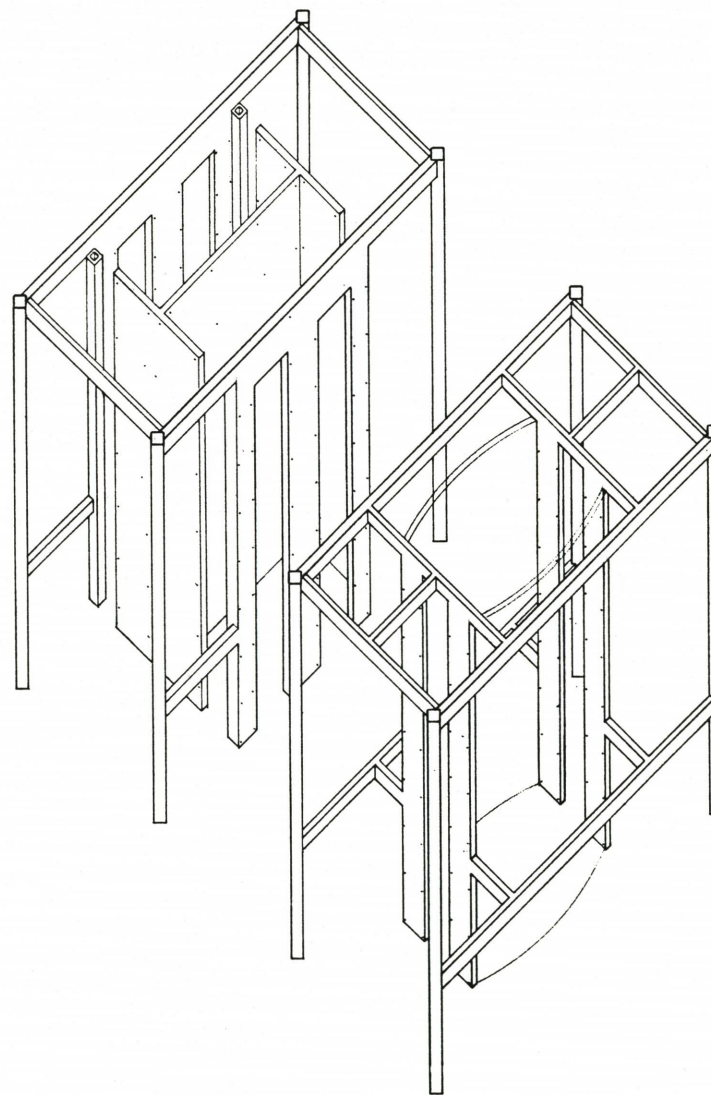


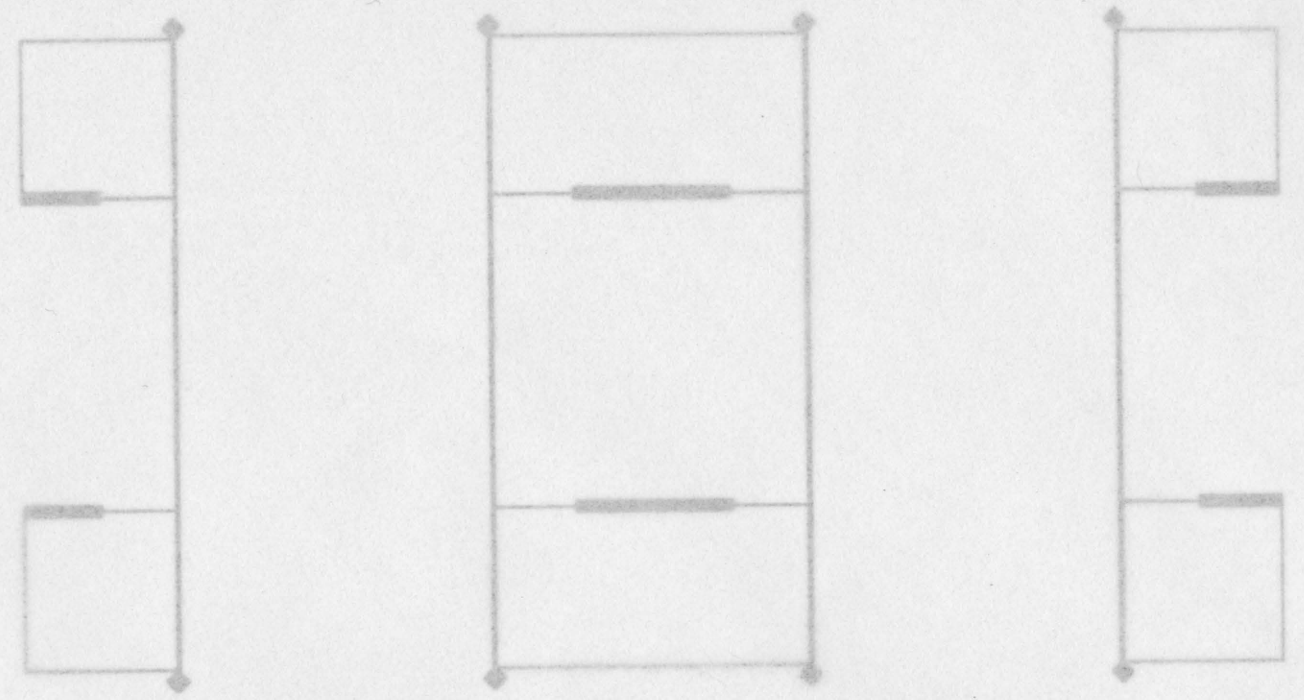
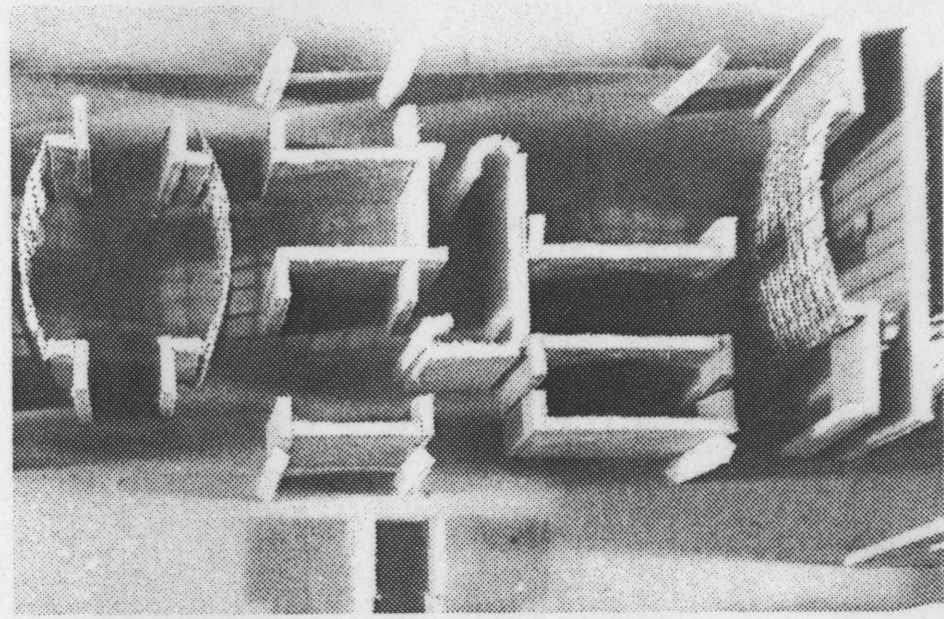
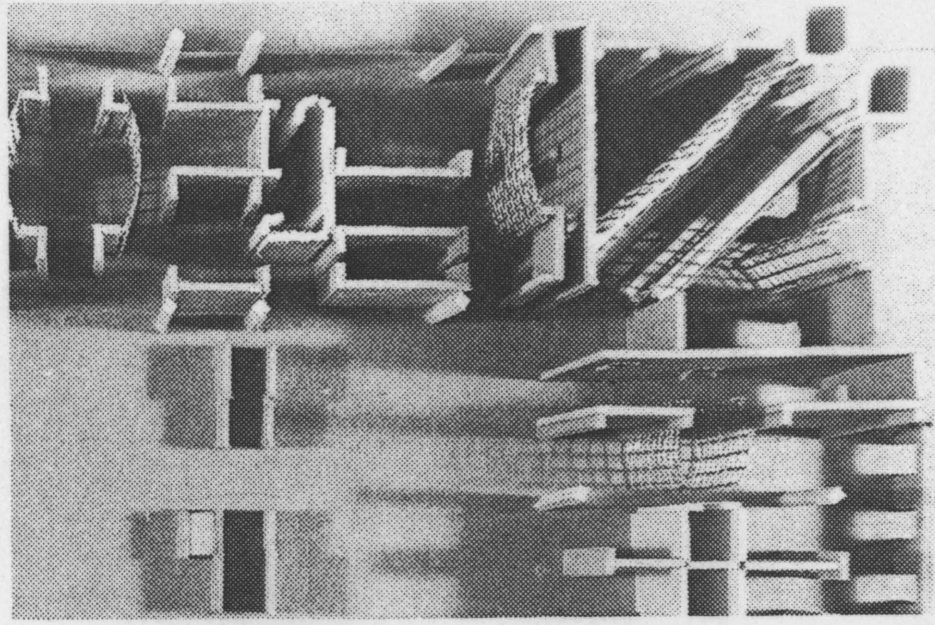
Axonometric. Structural concrete members.



■ *Structural concrete members.*
Model and sketch studies.

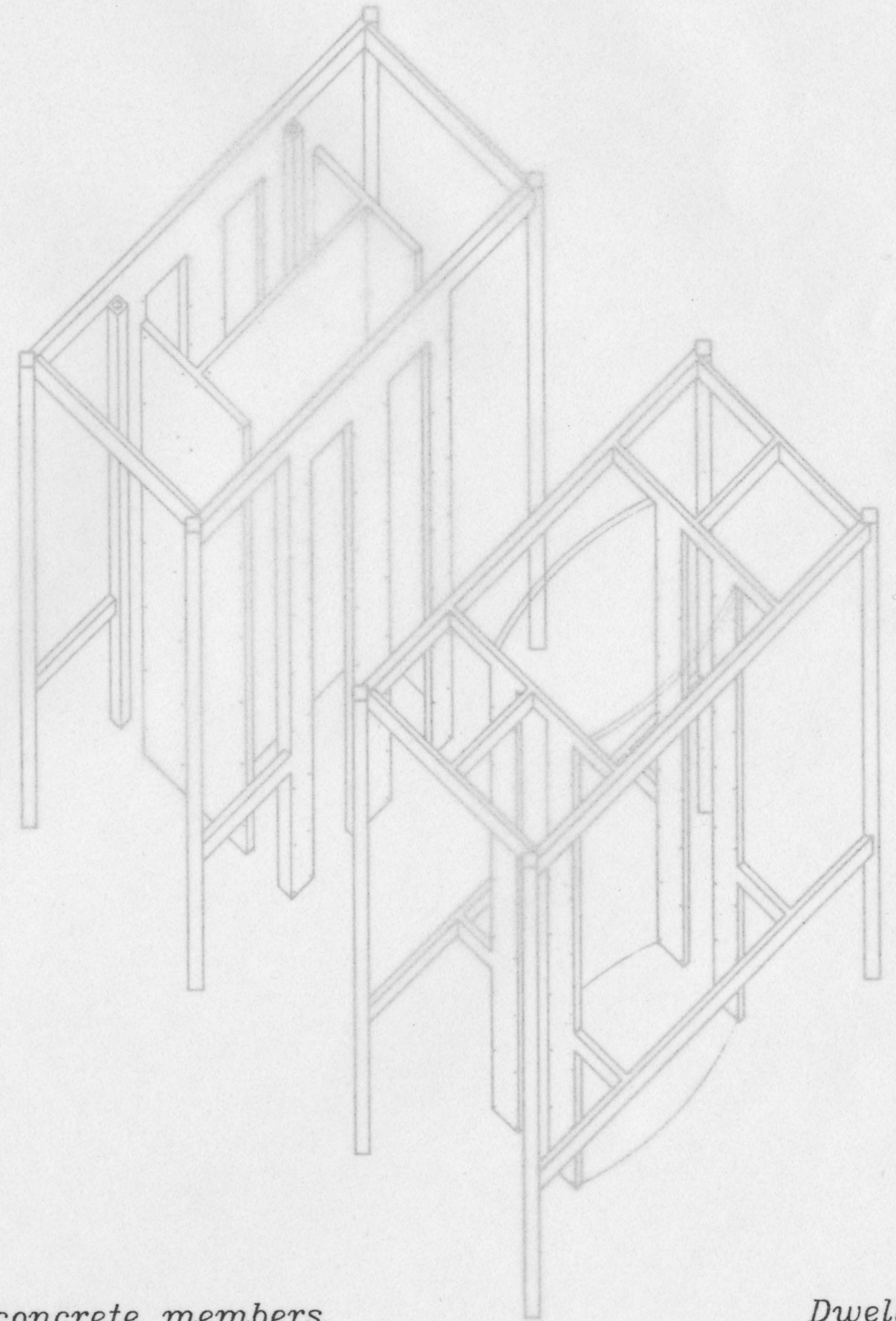
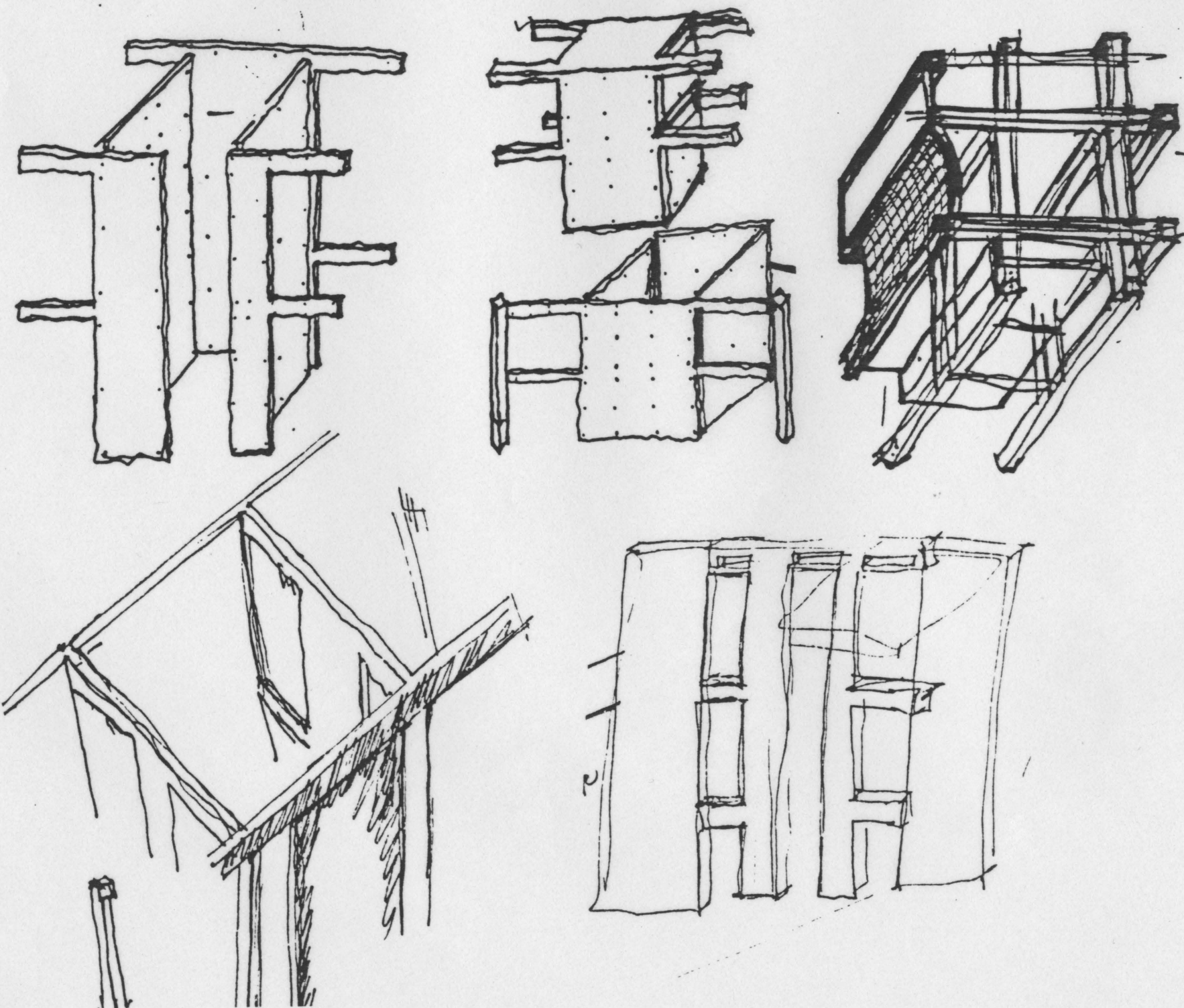
Dwelling Unit 1. ■





Plan. Structural concrete members.

Axonomic. Structural concrete members.



■ *Structural concrete members.*
Model and sketch studies.

Dwelling Unit 1. ■

entr.

l.r.

b.r.

kit. bath

d.r.

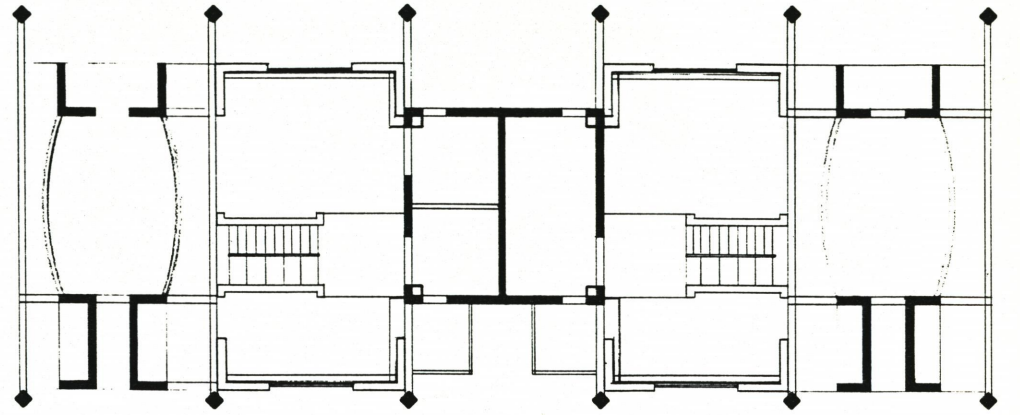
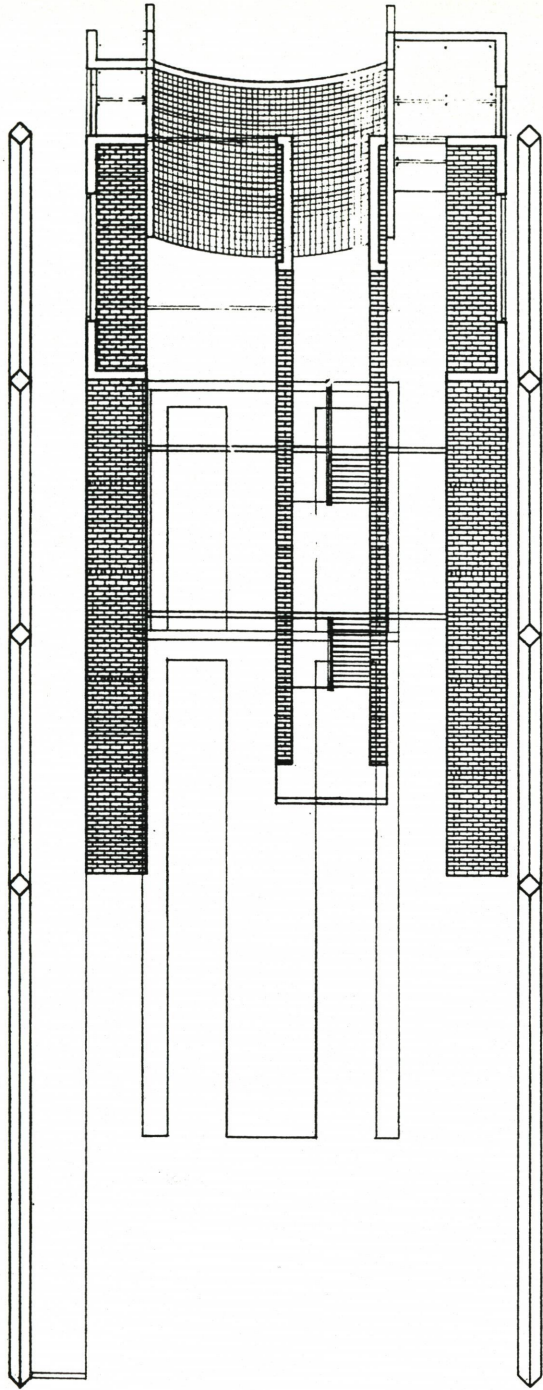
b.r.

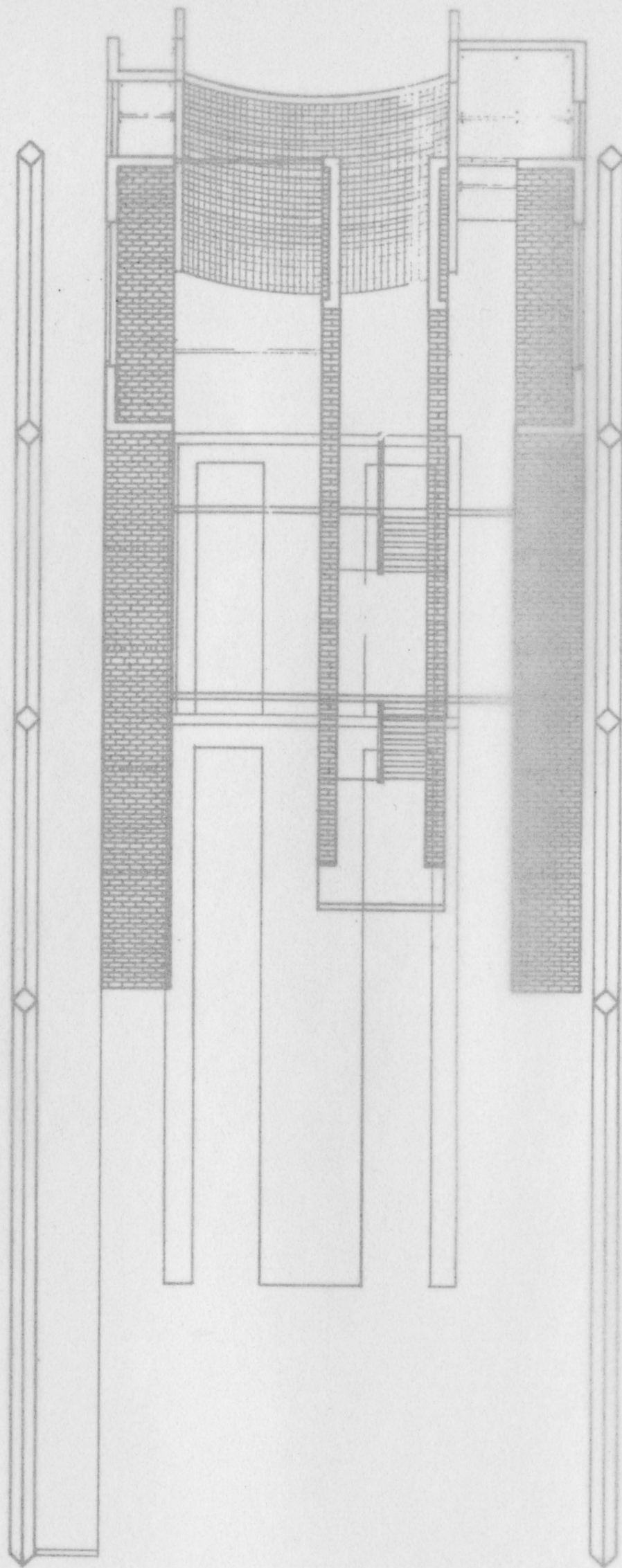
Plan at lower level

Plan at upper level

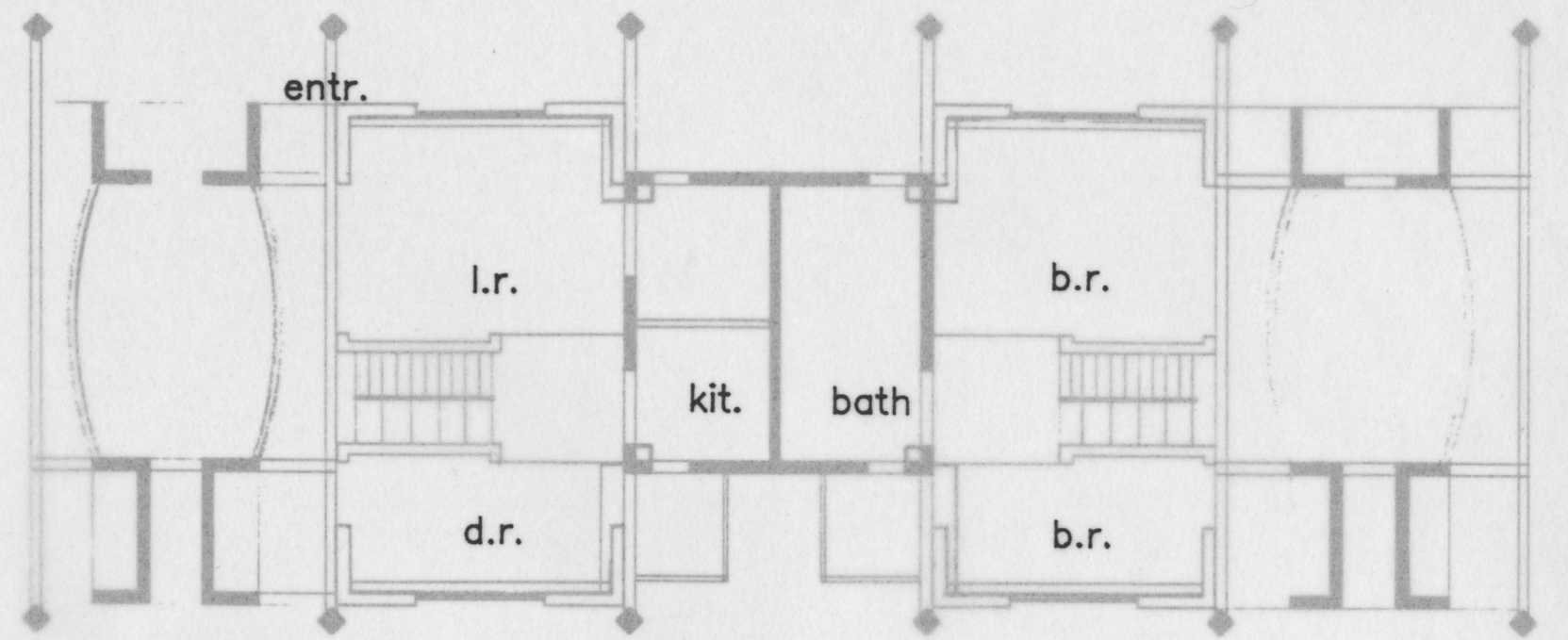
Plan projection.

Dwelling Unit 1 ■





Plan projection.



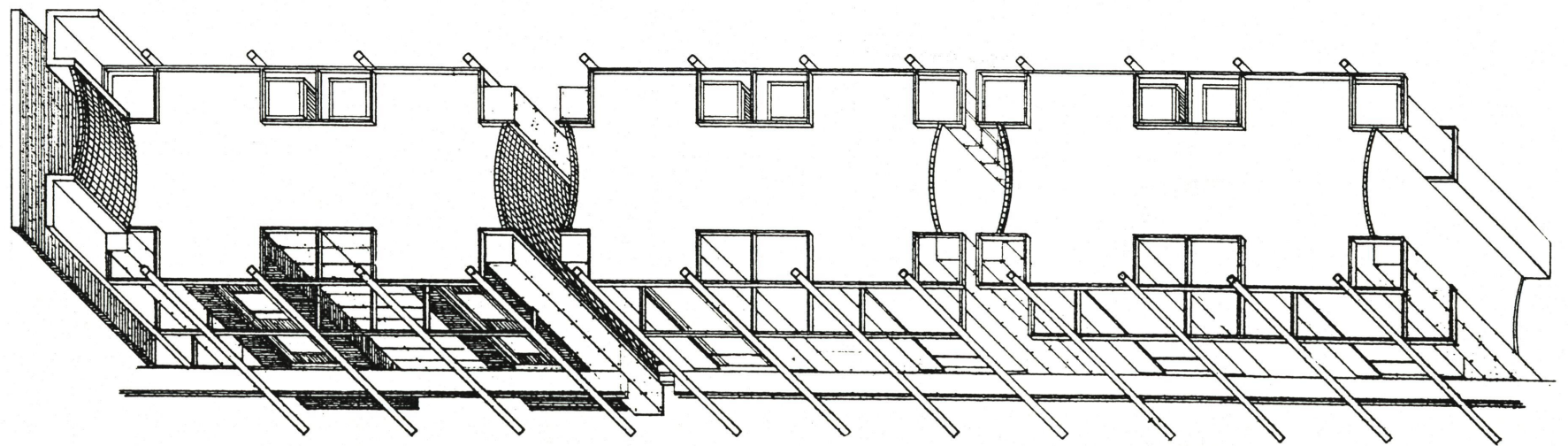
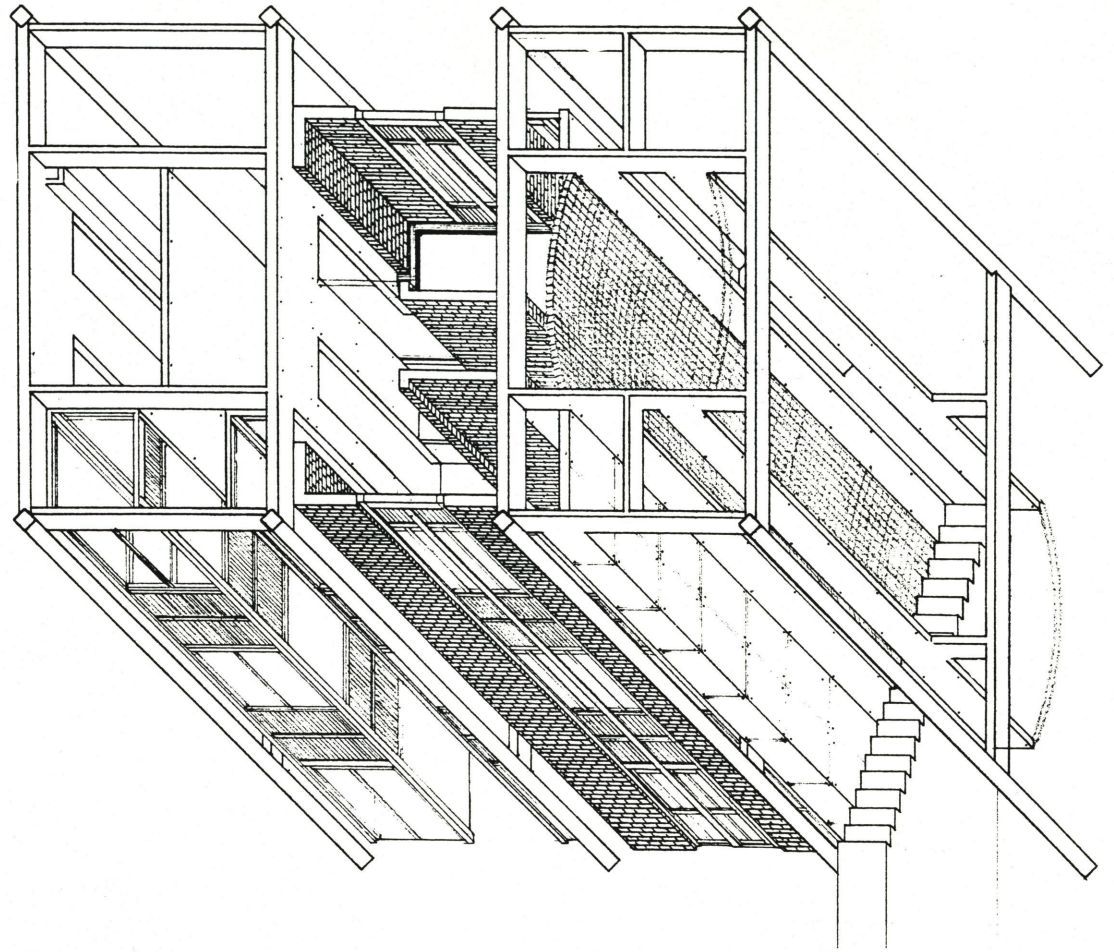
Plan at lower level

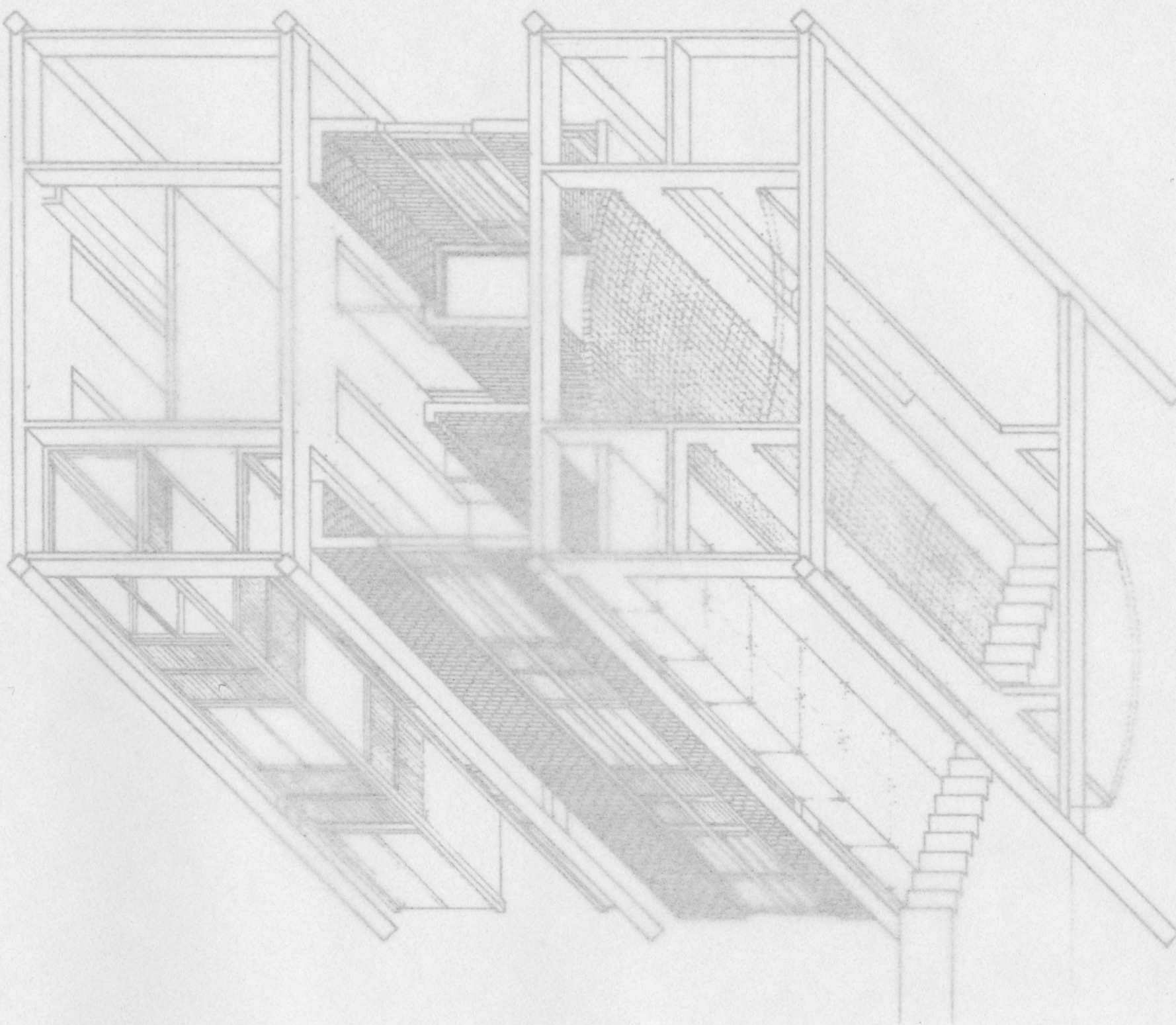
Plan at upper level

ТРИПРАДГ СЕАИЪИИ

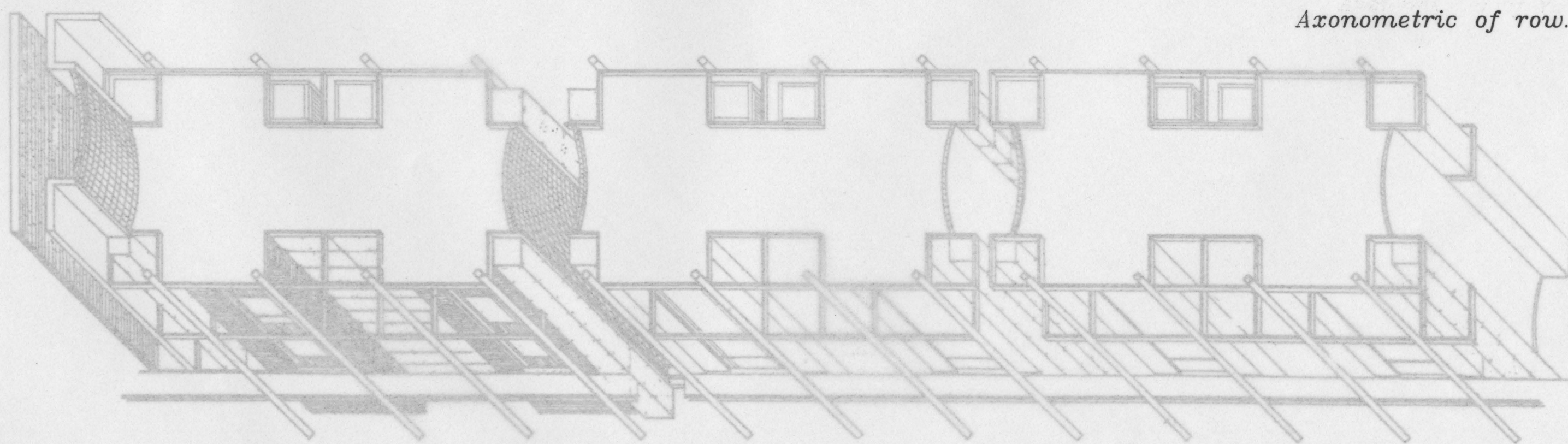
Axonometric at roof level.

Axonometric of row.



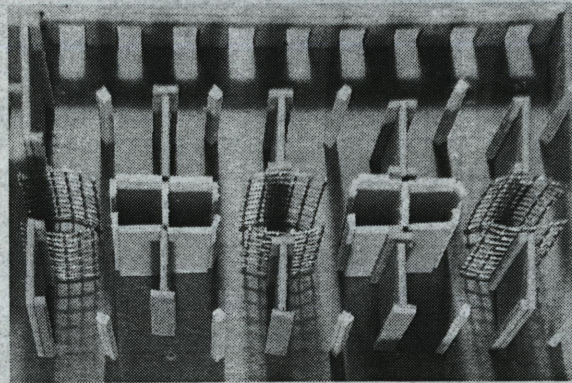
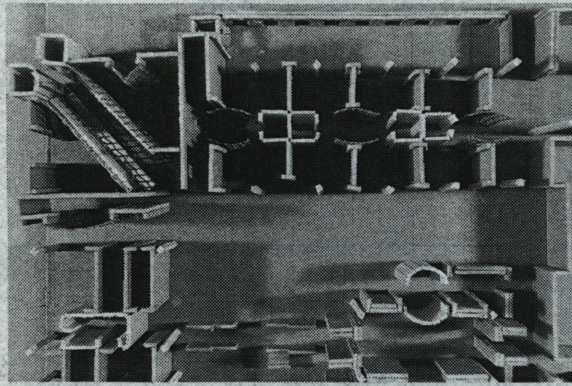


Axonometric at roof level.

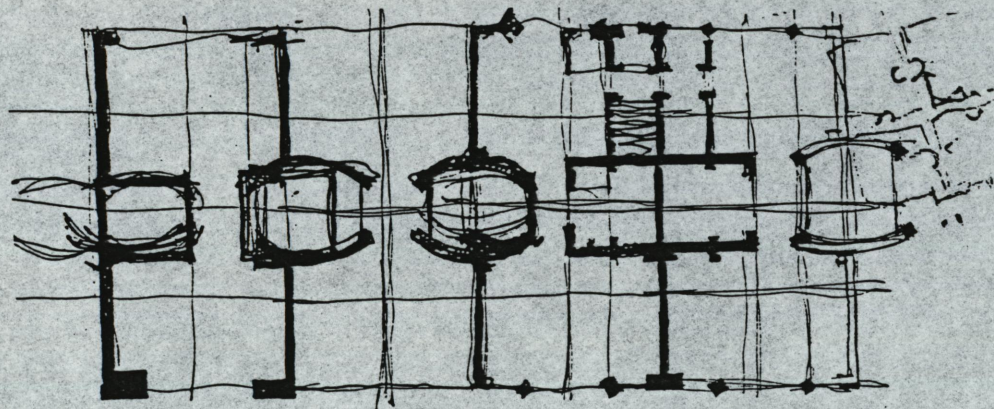
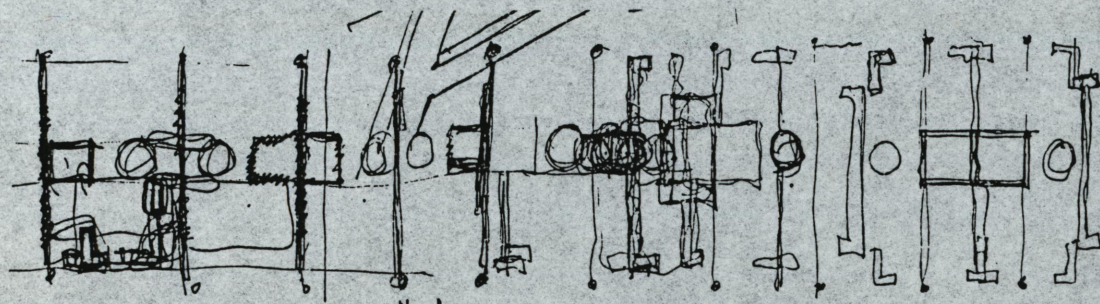


Axonometric of row.

Dwelling Unit 1. ■

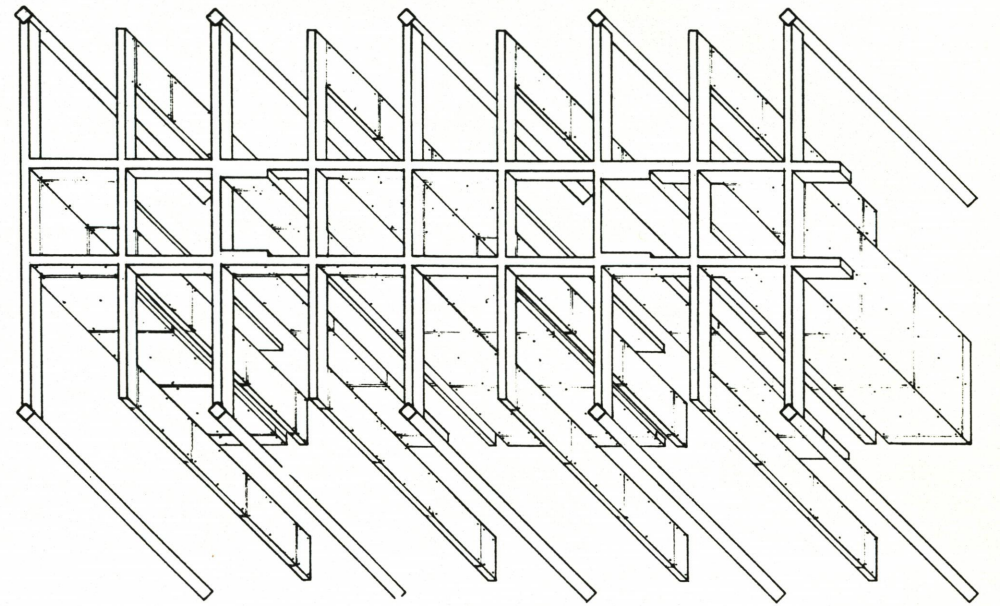


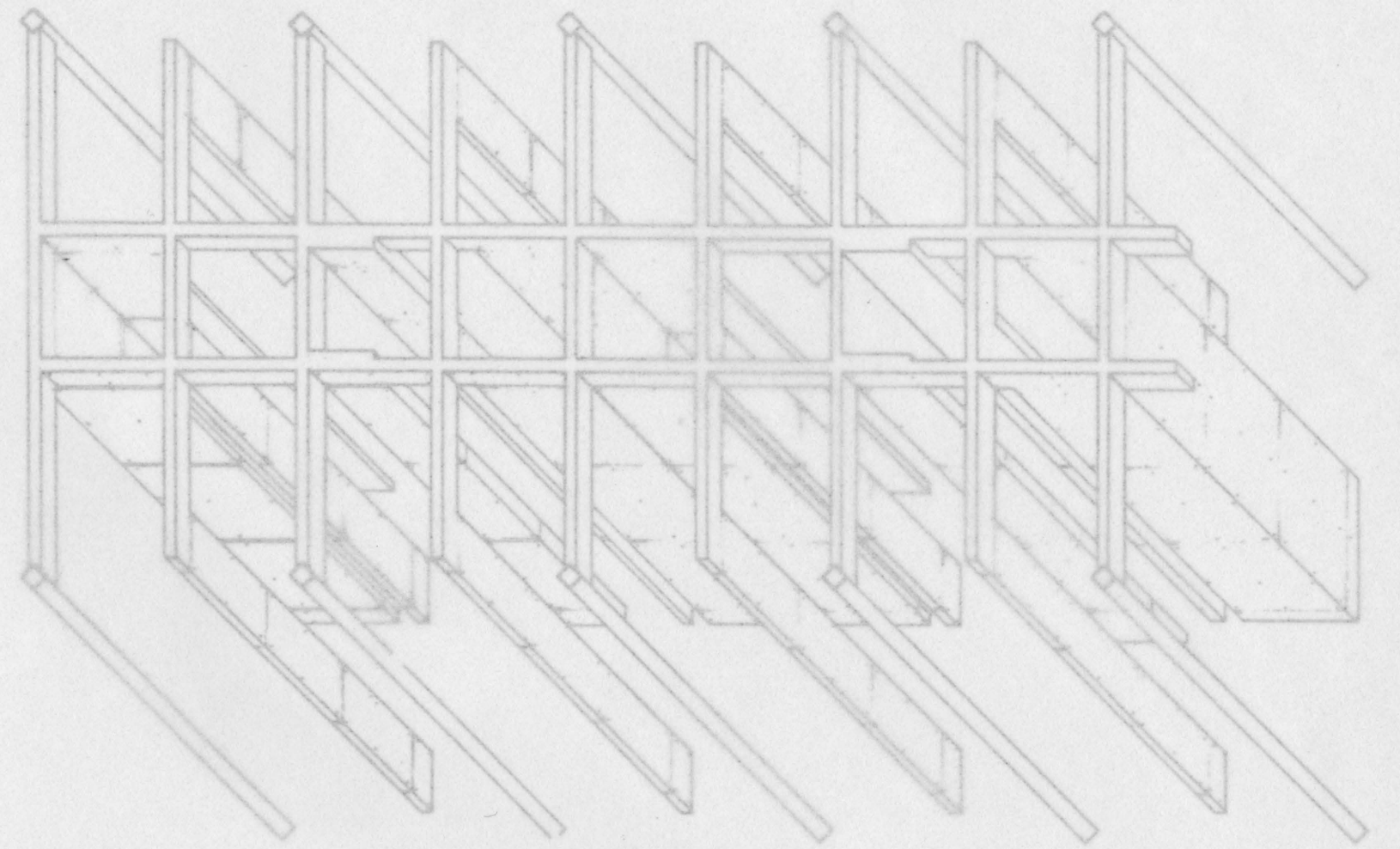
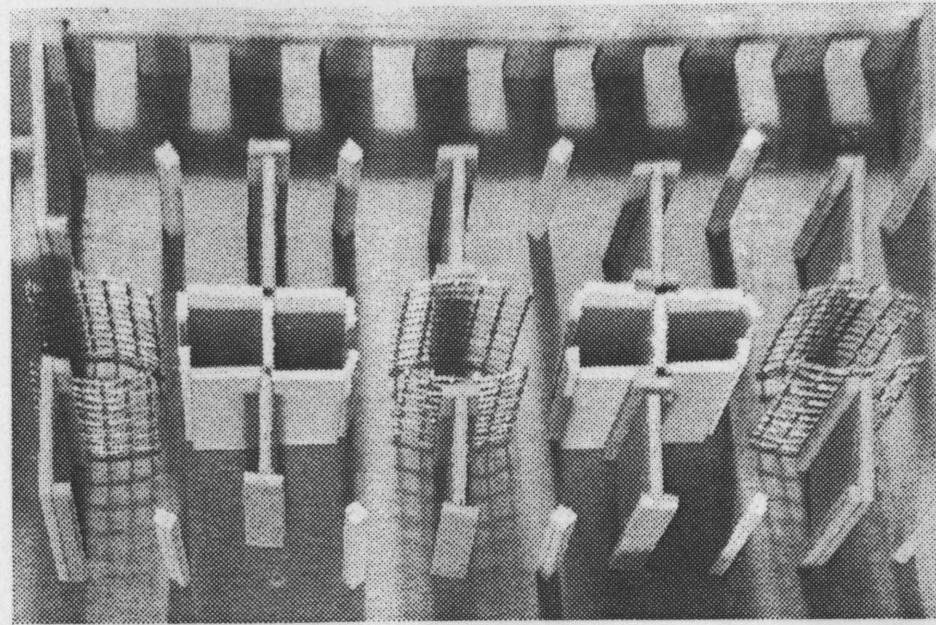
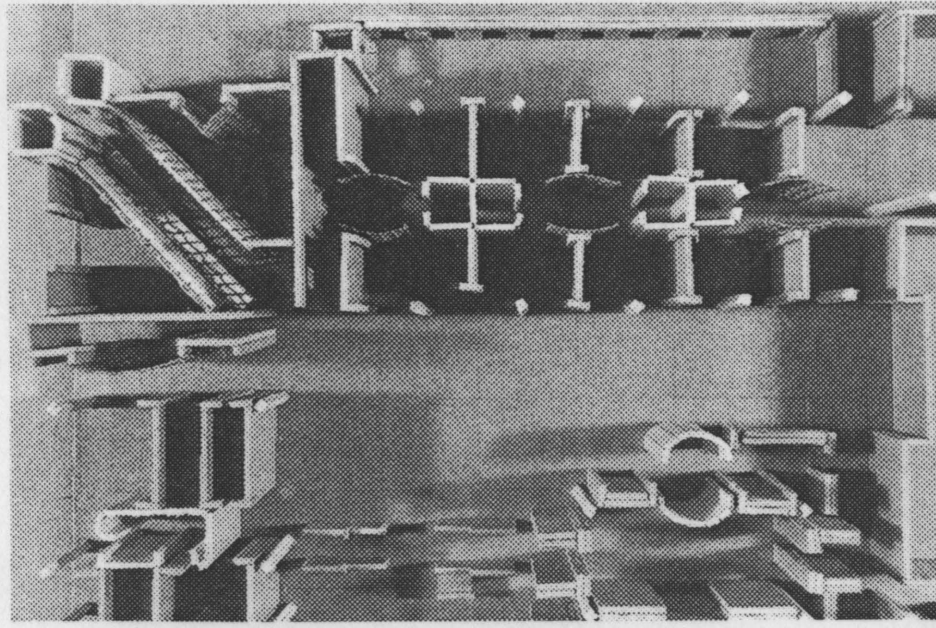
Axonometric. Structural concrete members.



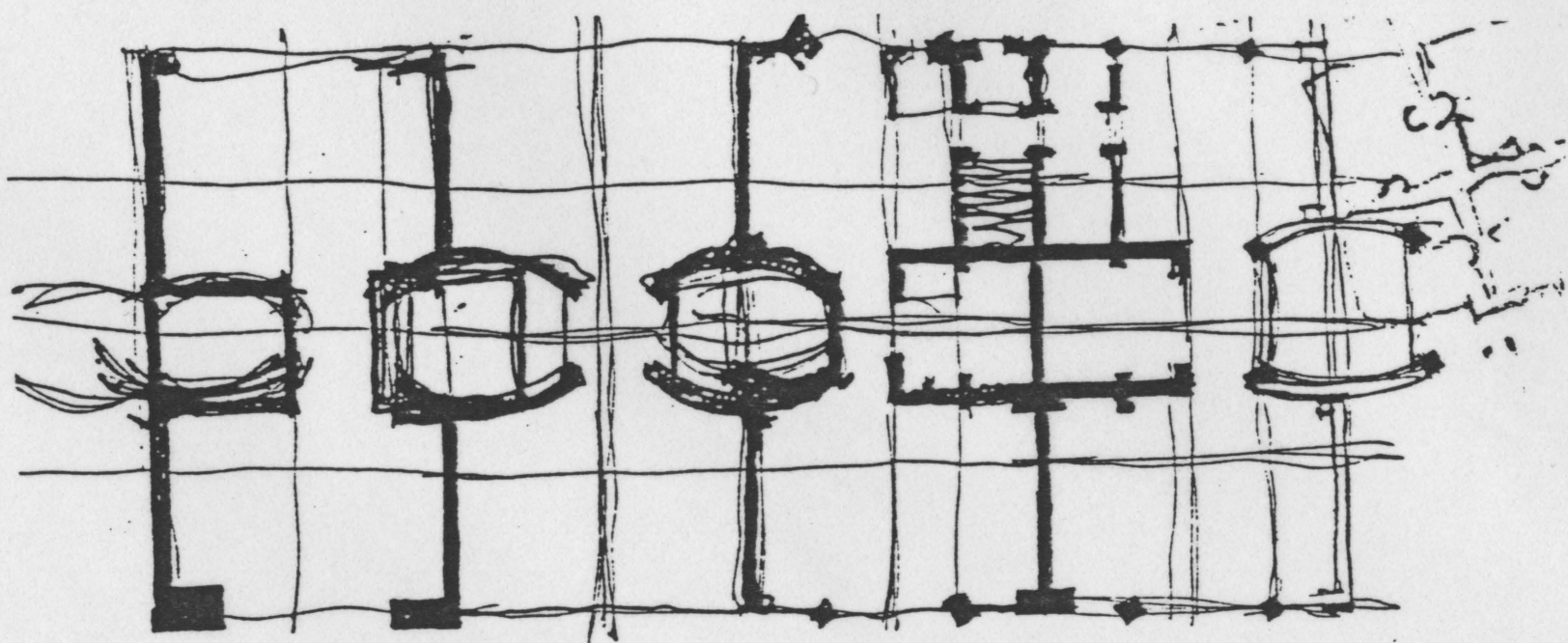
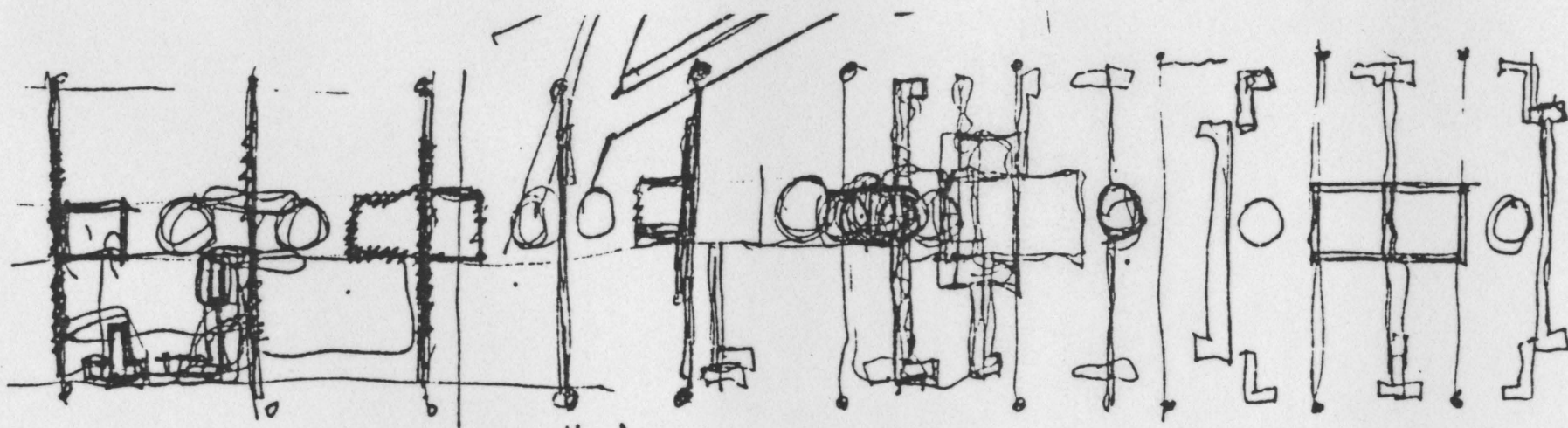
■ *Structural concrete members.*
Model and sketch studies.

Dwelling Unit 2. ■





Axonometric. Structural concrete members.



■ Structural concrete members.
Model and sketch studies.

Dwelling Unit 2. ■

d.r.

b.r.

kit.

bath

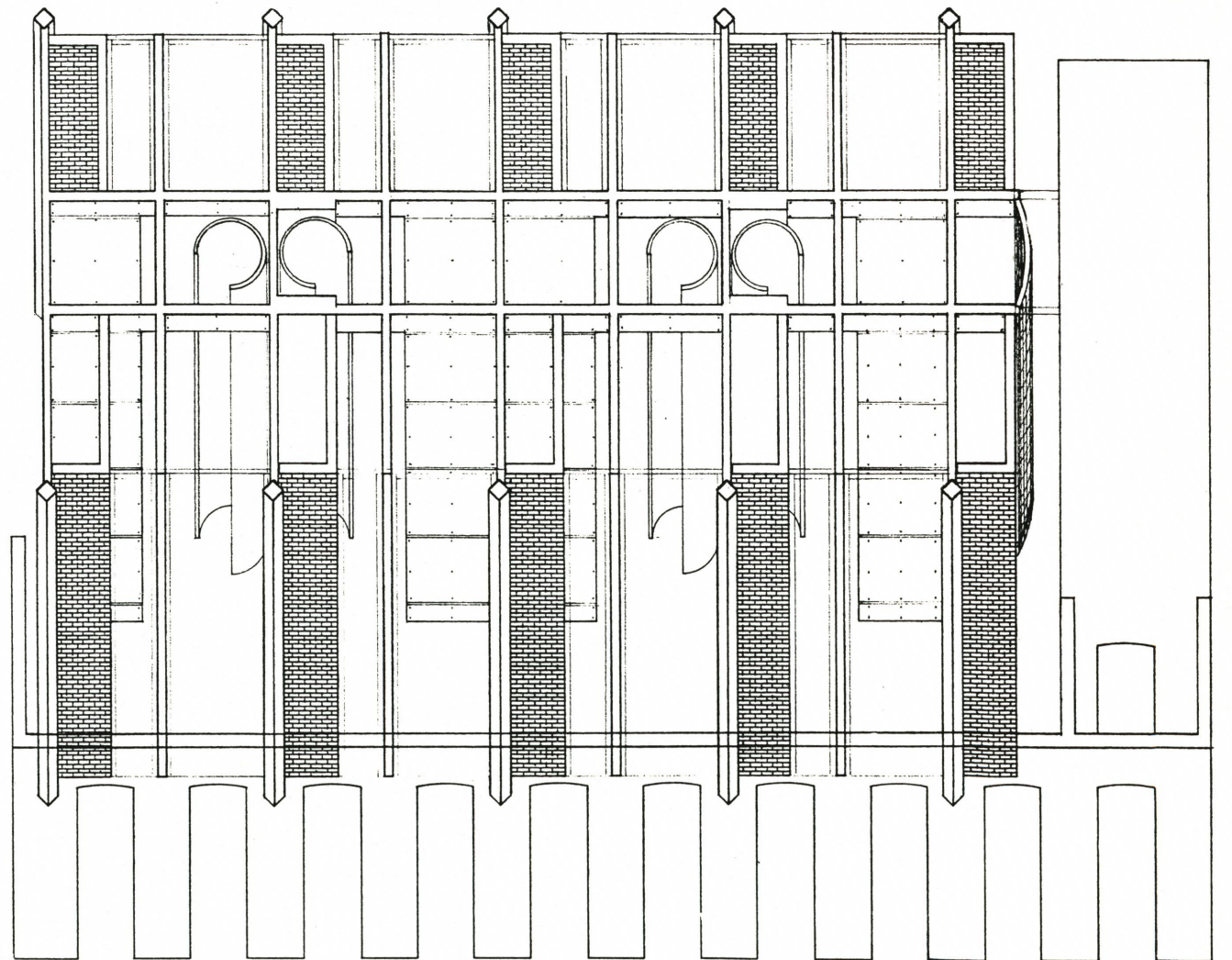
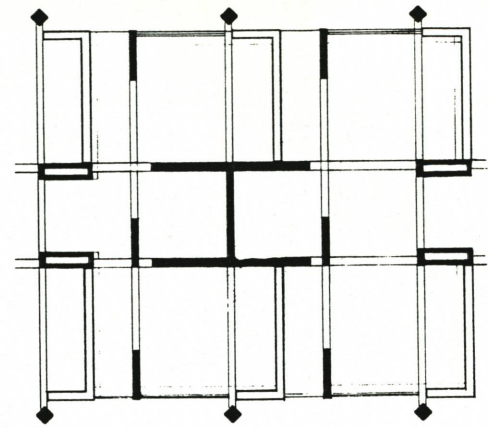
l.r.

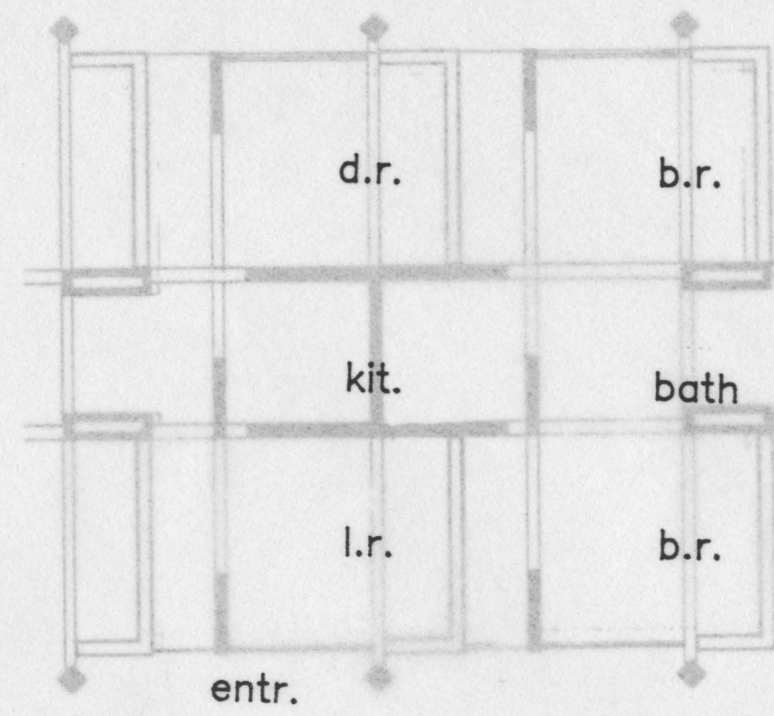
b.r.

entr.

Plan *Plan*
at lower level. *at upper level.*

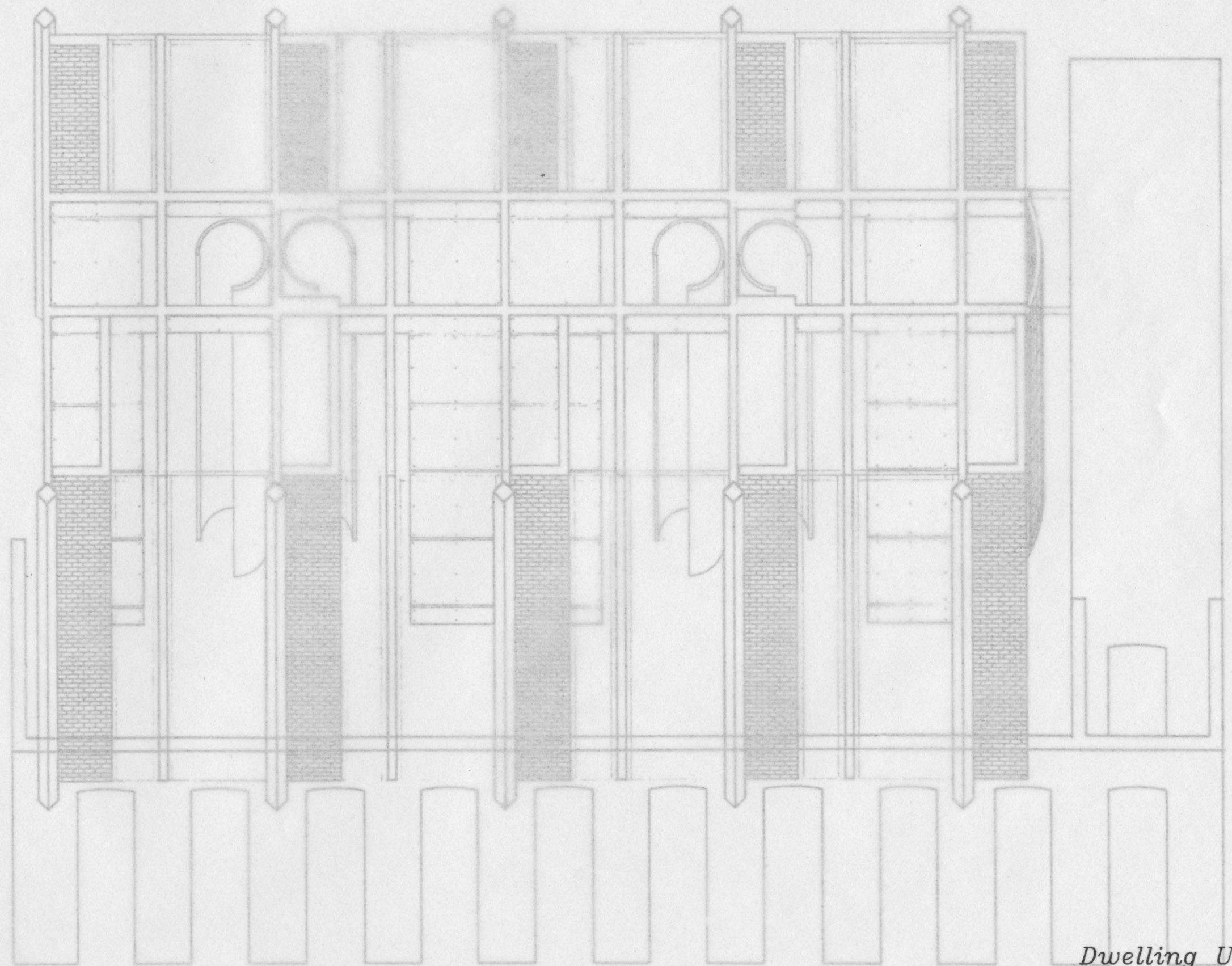
Plan projection of row.





Plan at lower level. Plan at upper level.

Plan projection of row.



Dwelling Unit 2. ■

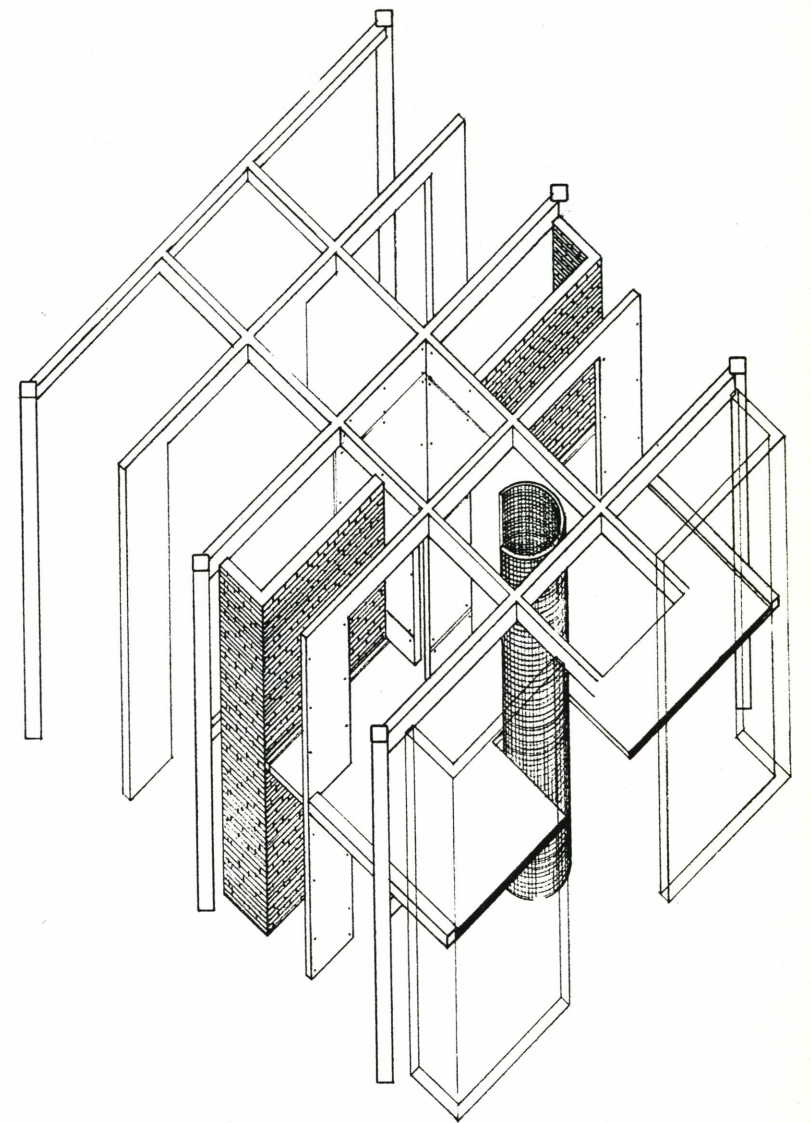
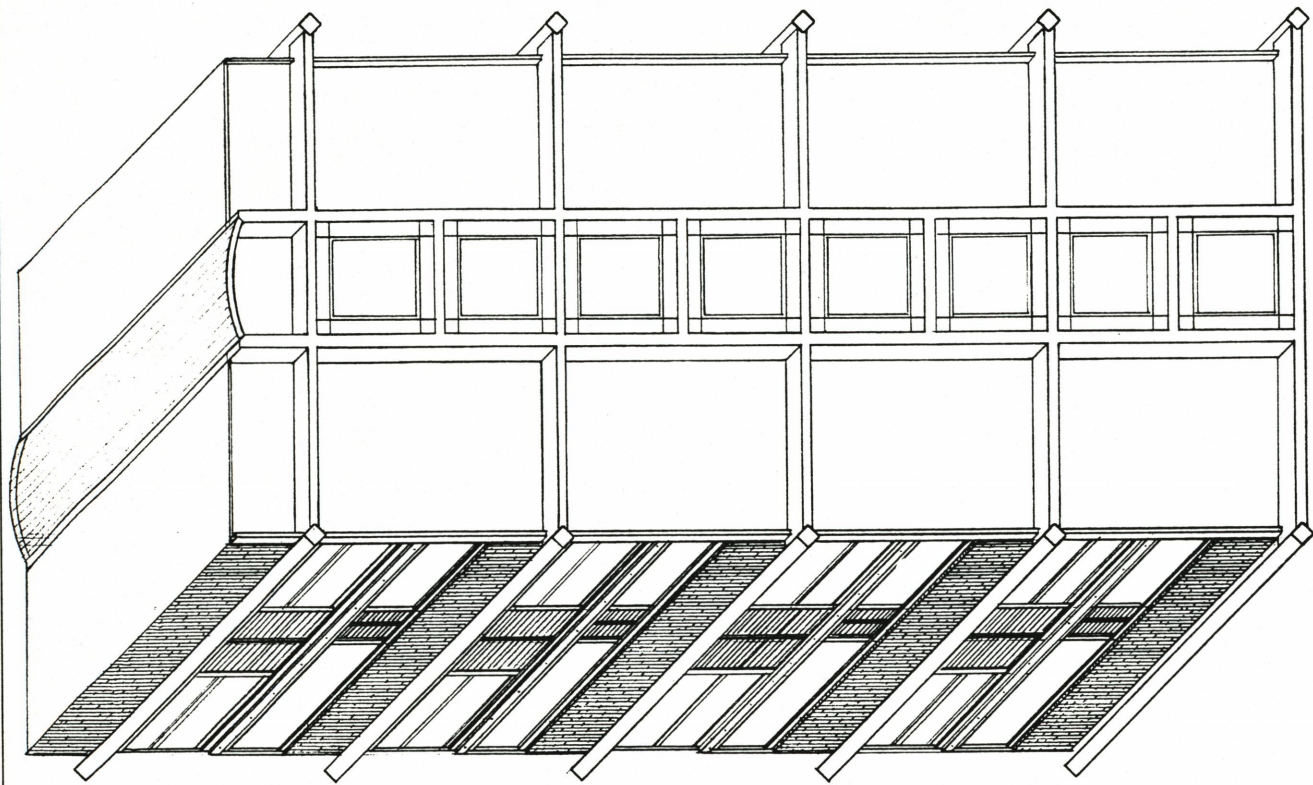
ИО ЮЮОН

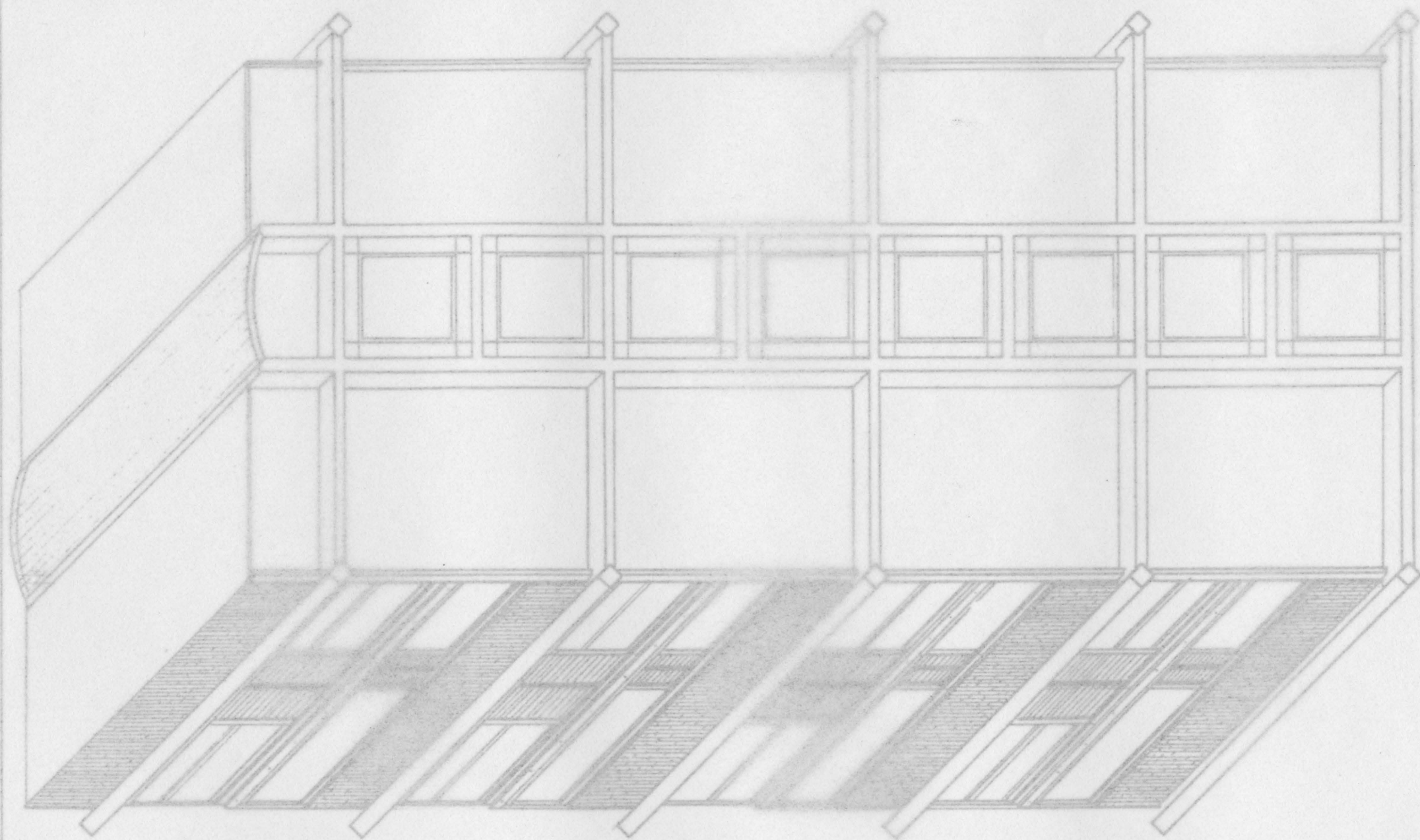
СТЕУЪНЪИМ

Axonometric at roof level.

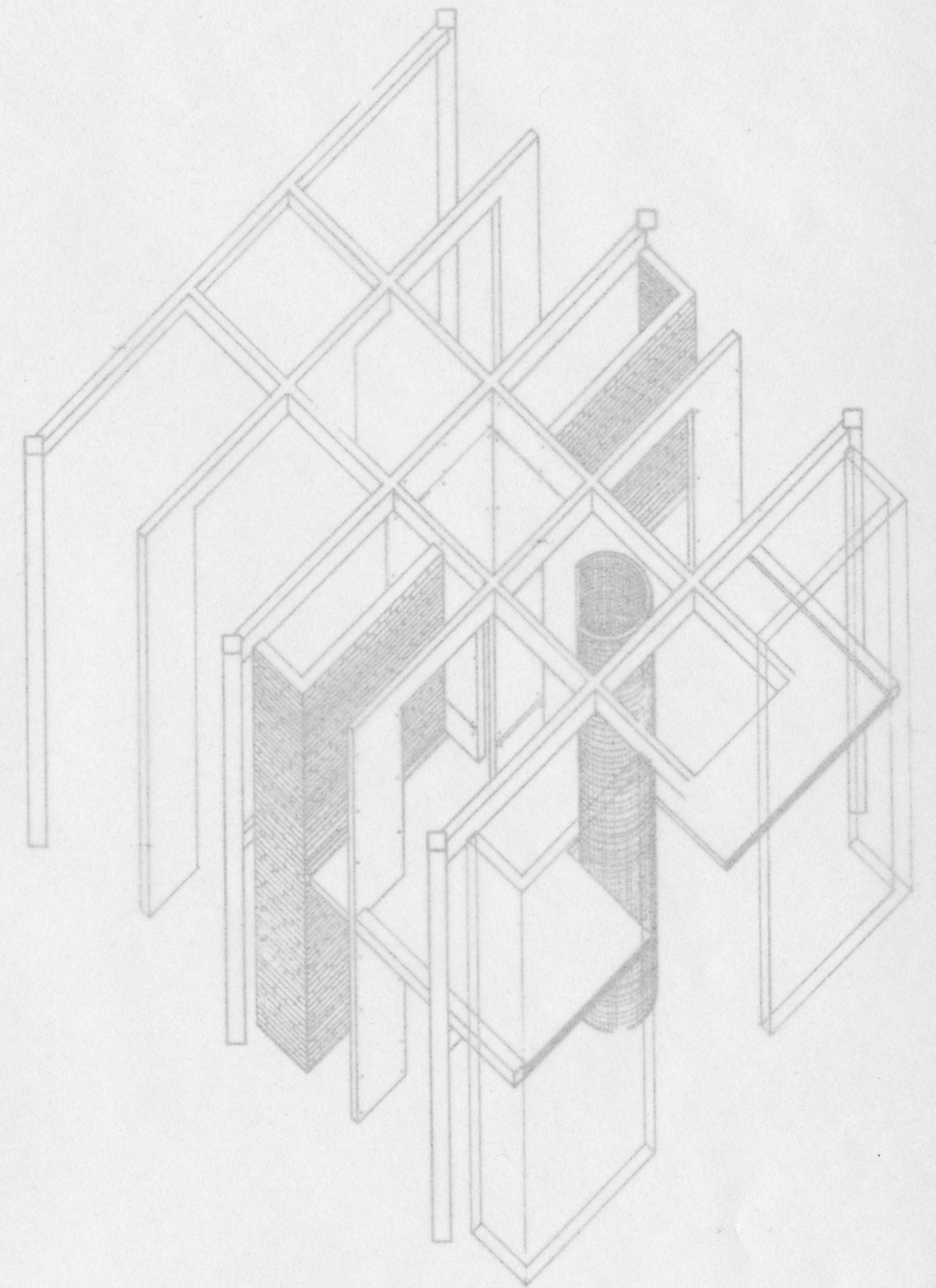
Sectional Axonometric

Dwelling Unit 2 ■





Axonometric at roof level.



Sectional Axonometric

Notes

There is a moment in the poem the "Mortal Limit" when the the hawk in it's journey, as it strives to fly higher and higher, reaches a point where it can no longer climb.

Here, just for a moment, it hovers. It is a moment of great realisation. The hawk comes to understand that it is answerable, that it's desire to fly higher is limited by something bigger, something primal, something that touches the very nature of it's existence. It is at a similar moment that architecture occurs. The realisation that architecture is intrinsically answerable to a higher premise. That is the nature of architecture.

In his "Ascent of Man" series, Jacob Bronowski describes two ways of working in Science. The nature of the pursuit in Scientific Inquiry being an attempt to formulise algorithms. To describe laws that are absolute, in the form of scientific constructs.

"Let me tell you what Isaac Newton actually did on the day that he conceived $G=Kmm'/r$. He said to himself,

"If I throw a ball it will fall to the ground, if throw it harder, it will fall a little farther off. I must be able to throw it just so hard that it falls exactly as far as the horizon and then it will go all the way around the world."

Beautiful. Full of assumptions about the world being round and how the ball would behave and so on, but nevertheless a gorgeous, highly imaginative conception - a wonderful piece of visualization. Newton saw it all.

-Jacob Bronowski

Dr. Bronowski also relates the experiences of Dmitri Ivanovich Mendeleef, who studied the densities and atomic structure of the known elements of his time.

Mendeleef was then able to organise those elements and establish a formal structure and hierarchy based on their peculiar physical properties and organize them in the form of what is now known as the Periodic Table of Elements.

Mendeleef was in fact able to identify missing elements from the Periodic Table. Elements that would be discovered later, describe their properties and assign them their respective positions on the table. Mendeleef's understanding of the nature of his struggles came from an assimilation of the pieces that were to comprise it. Elements that make up the earth and their inherent properties. The existence of the elements and their inter-relationships are presented formally by the Periodic Table

In contrast, Isaac Newton's postulation on the Earth's gravitational field was postulated on a conceptual idea. This idea further generated the algorithym $G=Kmm'/r^2$. The formal structure of this algorithym was used to describe events.

While employing two clearly different ways of working, Mendeleef and Newton both pursue the establishment and recognition of an order, a set of rules to work within and explain events by.

Architecture, too, must be predicated on such a construct. This must help decide all architectural events such as Material, Light, Position, Proportion, and so on.

*"Being (sein) is that which achieves a limit for itself. That which places itself in its limit, completing itself and so stands, has form, morphe."
-Martin Heidegger*

Analogically, in generating architecture the conceptual idea may dictate a set of relationships. In a project, architectural decisions must be made within the structure of the idea. One may alternately start with the recognition of architectural conditions, a concern at the level of the elements of architecture and their syntactical ordering.

Implicit in these conditions are their inherent properties and the tension between the various materials. A formal structure is realised wherein the thoughtful positioning of these conditions is decided by an obligation to the bigger whole.

*"Man will not accept that which is not part of eternity."
-Louis Kahn*

It is the responsibility of architecture to explore the elements that constitute it. In making Townhouses in Old Town Alexandria the architectural struggle has been a syntactic one; a thoughtful composition of architectural elements.

*"Palladio was a great man, both in his conceptions and in his power of execution. His major problem was that which confronts all modern architects, namely how to make proper use of columns in domestic architecture since a combination of columns and walls must always be a contradiction."
-Goethe*

At the level of material, the concern has been to be true to the material's intrinsic properties. Reinforced concrete is chosen for its structural strength. The site is covered with a field of columns ordered by an orthogonal grid. The columns are related to concrete load-bearing wall enclosures structurally and compositionally. All concrete elements are responsible for carrying floor slabs and the roof structure. The concrete wall enclosures further afford themselves to be used as servant spaces, such as kitchen and bathroom areas. The columns order the site as in music, all notes must be played relative to the beat. Free-standing turned walls made of brick are positioned relative to the columns. The brick walls have their rhythm, but there is great tension in being placed next to concrete columns. The architectural tension of two different elements and two different materials. The condition now offers possibilities for habitation as the brick walls can form the enclosure curtain walls for the dwelling units. An assemblage of solid wood members, laminated, with clear glass windows form a vision curtain wall. This wall is held between brick walls and extends to the underside of the roof structure. Free-standing glass block elements, curved for stability provide a constant source of diffused light, and of enclosure. Again tension between different elements that make up a wall are thoughtfully placed in the composition. A cast-in-place concrete stair allows vertical circulation.

Charles Bulfinch's organisation of the site, itself almost a square, led him to inscribe a square within it. The lengths of the square decided by the shorter of the lengths of the site. The site was further divided into quadrants. The Old Jail occupied the south-west quadrant as defined by the quarters and the compound wall.

It was decided to honor this organisation wherein the area within the large square was dedicated to dwelling areas and the remainder for vehicular movement.

Further, Charles Bulfinch, worked with a 16 foot module and the squares were found to be divisible by 16.

In working with Bulfinch's squares, it was decided to mark them with walls. Between the walls are the pedestrian entrances to the larger square that is the site. The street is presented with a wall. The wall recognizes and delineates the street on this face. Its other face is charged with making a courtyard in the interior of the site.

The interstitial spaces are made by the great tension between the two faces. These spaces offer possibilities for dwelling.

The architectural elements that make up these walls have great responsibilities. They must exist as parts of each dwelling as well as contribute to the bigger whole that orders the site.

It is with this taking on of bigger responsibilities, of existing in more realms and different scales that architecture may be realised.

The nature of spaces then allows possibilities for ritual. Ritual of procession, where travelling from the street to the environs of the site; from outside to inside of a dwelling; and from room to room; becomes meaningful by the change of scale, materials, and scale.

"If around you there are buildings which you do not wish to honor then it's a natural tendency to establish yourself clear and simple as being the one which you hope is honored."

-Louis Kahn

In making an object in a place at a certain time, it is to decided what forces will shape the process that determines the finished object. In responding to a place that has a prevailing order, we can not assume, as for instance the architects of the early Renaissance did, that a certain manner of expression is true for all time. Nor can we merely pay homage to the formal aspects of an order, as the architects of the Post-modern movement have elected to do. When questions are asked of a certain time and of place, the architectural situation is necessarily different. But the departing from a prevailing order must be the product of a way of thinking and not a mere desire to break rules. The resolution of the project must then be within this newly established order of building.

The work in this presentation reflects a self-enforced point of pause and must not be seen as an end in itself. This effort is more of an architectural beginning and a resource to be developed on through further architectural struggle. The drawings themselves are to be seen, hopefully, as a contribution to architectural drawing.

It is said, in ancient philosophy, that the way to a higher level of consciousness is through the single minded dedication to a single purpose.

I believe architecture is such a worthy purpose.

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