



**AN URBAN WATERFRONT ROOM
IN GEORGETOWN**

AN ARCHITECTURE SCHOOL

**BY
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DESIGN THESIS SUBMITTED TO THE
FACULTY OF VIRGINIA POLYTECHNIC
INSTITUTE AND STATE UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF

MASTER IN ARCHITECTURE

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**DECEMBER 1996
ALEXANDRIA, VIRGINIA**

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(ABSTRACT)



PROPORTIONS

DANGEROUS LIAISONS

ULTIMATELY THIS PROJECT WAS APPROACHED AS A KIND OF ARCHITECTURAL CHOREOGRAPHY. AS IN ALL CHOREOGRAPHY MOTION PLAYS A MAJOR ROLE. THE MOTION OF THE PARTICIPANTS THROUGH THE SPACES, AND THE PLACEMENT OF THE PIECES IN RELATION TO EACH OTHER. ON A SMALLER SCALE A CHOREOGRAPHY OF DUALITY. MUTE, MUTE, LIGHT
ENCLOSED SPACE, ENCLOSED SPACE, VOLUME
HORIZONTAL AND VERTICAL
THIS PROJECT BEING A VEHICLE FOR DISCOVERY
VARIOUS AMOUNTS OF PLAY AND EXPLORATION ARE ALLOWED WITHIN THIS CHOREOGRAPHY. THE AMOUNT OF PLAY ALLOWED IS BOTH THE STRENGTH AND WEAKNESS OF THIS PROJECT. WITH SOMETHING OF THIS RANGE AND SCOPE THERE ARE:
DIRECT HITS,
NEAR HITS,
NEAR MISSES,
DIRECT MISSES,
ALL WITHIN THE WHOLE.
FINALLY AS WITH ANYTHING THAT IS THOROUGHLY DONE IT IS FUEL FOR BEGINNING AND NOT AN END IN AND OF ITSELF.

ACKNOWLEDGMENTS



THANK YOU:
JEANINE AND DENNIS
FOR YOUR SUPPORT AND TRUST

THANK YOU:
MICHAEL AND NORMA
FOR ALL YOUR HELP

THANKS TO:
ANETTE, KEITH, RANDY, GEOFFREY,
MARIA, BESS, GREG AND IOANNA, ROB AND
JEANINE, ALEXIS, KEVIN, JILL, ROB, JOHN
AND ALL
THANKS FOR YOUR HELP AND FRIENDSHIP

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CONCEPT

HISTORY

THE SITE IS SITUATED IN GEORGETOWN BETWEEN THE WHITEHURST FREEWAY AND THE POTOMAC RIVER, NEAR THE POINT WHERE THE RIVER TURNS UPSTREAM, ACROSS FROM THE THEODORE ROOSEVELT ISLAND. ORIGINALLY AN INDIAN TRADING POST, FROM THE 1700'S ON THE WATERFRONT WAS AN ACTIVE PORT, WITH TALL MASTED SAILING VESSELS DOTTING THE SHORELINE. WAREHOUSES, WHARFS, AND DOCKS DOTTED THE LAND. THE SHORELINE WAS DOMINATED BY VARIOUS BUSINESS VENTURES. FIRST TOBACCO SHIPPING AND TRADING, THEN COAL TRADING AND VARIOUS MILLING OPERATIONS USED THE RIVER AS BOTH A SOURCE OF CHEAP POWER AND TRANSPORTATION. BY THE LATE 1800'S, WITH THE ADVENT OF THE RAILROAD AND THE EXHAUSTION OF THE COAL SUPPLY, THE WATERFRONT WAS NO LONGER A COMPETITIVE TRANSHIPMENT POINT. WAREHOUSES BECAME ABANDONED, AND BY 1910 THE WATERFRONT AND MUCH OF GEORGETOWN HAD BECOME AN UNDESIRABLE PLACE TO LIVE. THE 1930'S SAW A REVITALIZATION FOR GEORGETOWN BECAUSE OF ITS CLOSE LOCATION TO DOWNTOWN WASHINGTON. THE REMAINING BRICK WAREHOUSES AND MILLS ALONG THE WATERS EDGE DID NOT SHARE IN THIS REJUVENATION.

3142 K STREET. IN 1910 FOUR LOTS AT THE SOUTHERN TERMINUS OF WISCONSIN AVENUE WERE COMBINED AND PURCHASED FROM THE FASHIONABLE GEORGE FOXHALL, BY THE CAPITAL TRACTION POWERHOUSE COMPANY. ON THIS NEW SITE WAS ERECTED A MONUMENTAL BRICK BUILDING WITH AN "EASILY PERCEIVED GEOMETRY". IT HAD TWO BRICK CHIMNEYS APPROXIMATELY 63 FEET IN DIAMETER, AND ABOUT 220 FEET HIGH. THE BUILDING CONTAINED FIVE TURBO GENERATORS PRODUCING 18,500 KILOWATTS OF DIRECT CURRENT WHICH SUPPLIED POWER TO ALL THE CABLE CARS OPERATING THROUGHOUT THE CITY. BY 1943 IT WAS NO LONGER OPERATING AND IT WAS TORN DOWN BY THE CITY IN 1968.

IN 1949 THE WHITEHURST FREEWAY WAS CONSTRUCTED, DESIGNED TO PROVIDE QUICK ACCESS FROM KEY BRIDGE TO CENTRAL WASHINGTON, IT IN TURN CREATED A BARRIER TO THE WATERS EDGE, WHICH WAS BY THIS TIME LARGELY AN URBAN LEFTOVER. THE FREEWAY DELAYED ANY INTEREST IN THE REJUVENATION OF THE RIVERSIDE.

SITE

AT PRESENT THE EX-SITE OF THE POWERHOUSE IS FLANKED TO THE LEFT BY A PARKING LOT THAT EXTENDS TO KEY BRIDGE AND TO THE RIGHT BY THE MIXED USE COMMERCIAL BUILDING, WASHINGTON HARBOUR. THOUGH DEEMED A PARK BY THE NATIONAL PARK SERVICE IT REMAINS LARGELY UNUSED AND UNOCCUPIED. WHAT HAD BEEN A THRIVING PORT AND INDUSTRIAL COMMUNITY HAD BECOME AN URBAN LEFTOVER. IN THE 1980'S WASHINGTON HARBOR REJUVENATED THE POSSIBILITY OF AN URBAN RIVERSIDE IN GEORGETOWN, AND CREATED A RIVERSIDE WALKWAY. MY PROPOSAL IS TO EXTEND THIS URBAN WALKWAY ONE MORE BUILDING, ONE MORE CELL OF THE CITY. A CONTEMPORARY ARCHITECTURE SCHOOL ON THIS SITE COULD ENERGIZE BOTH THE ARCHITECTURAL COMMUNITY AND THE CITY WHICH HAS A RICH ARCHITECTURAL HERITAGE, BUT LITTLE OR NO CONTEMPORARY COUNTERPARTS TO THAT HERITAGE.

THIS PROJECT IS BOTH A CONTINUATION AND A RADICAL DEPARTURE FROM THE HISTORY OF THE PLACE. THE SITE HAS BEEN USED FOR PRODUCTION AND EXCHANGE, AS A SOURCE OF POWER AND A DOCKING PLACE. THE DEPARTURE IS THAT AN ARCHITECTURAL SCHOOL SHIFTS PRODUCTION FROM THE REALM PRODUCTS AND COMMODITIES TO THE REALM OF IDEAS AND THE EXCHANGE OF KNOWLEDGE AND VALUES. THE BUILDING IS ALSO A "VESSEL" AND DEPARTURE POINT FOR THE ARCHITECTURAL COMMUNITY. THE TRADITIONAL BUILDING MATERIAL OF THE AREA HAS PREDOMINANTLY BEEN BRICK, THIS BUILDING IS REINFORCED CONCRETE, 20TH CENTURY MASONRY. THE CONTINUATION IS ONE OF BRINGING BACK LIFE TO WHAT ONCE WAS A THRIVING COMMUNITY AND RE "WIRING" THE DIRECT CURRENT THAT FLOWED FROM THE SITE.

IDEA

THE BUILDING COMPLEX EXISTS BETWEEN THE TENSION OF THE CITY ON THE NORTH SIDE, WHITEHURST FREEWAY AND GEORGETOWN, AND THE NATURAL ON THE SOUTH SIDE, POTOMAC RIVER AND THEODORE ROOSEVELT ISLAND. THE SCHOOL EXISTS BETWEEN THE NATURAL AND THE MANMADE AND CAN DRAW INSPIRATION FROM BOTH. THE WHITEHURST FREEWAY REMAINS A BARRIER TO THE WATER, BUT IN THE CASE OF AN ACADEMIC INSTITUTION CAN BE CONSIDERED ADVANTAGEOUS IN THAT IT ALLOWS THE SCHOOL TO BE BOTH PART OF THE CITY AND SLIGHTLY DETACHED FROM THE BUSINESS OF THE CITY. THE ENTIRE COMPLEX IS ELEVATED DUE TO THE FACT THAT THE SITE IS PRONE PERIODIC FLOODING. ALL EVENTS TAKE PLACE ON AN ELEVATED PLANE.

RULES AND FORMAL ELEMENTS

THE ARCHITECTURAL SCHOOL IS SEPARATED INTO TWO EQUAL COMPONENT PARTS THAT ARE INTERCONNECTED. THE EDUCATIONAL PROCESS IS SEPARATED INTO THESE TWO ENTITIES. ONE COMPONENT IS RELATED TO LANGUAGE AND INCLUDES AN AUDITORIUM, 12 CLASSROOMS, A LIBRARY, STUDIES, AND A LIBRARY READING ROOM. THESE ELEMENTS ARE LOCATED AXIALLY FROM NORTH TO SOUTH AND SEQUENTIALLY FROM MOST PUBLIC TO MOST PRIVATE. THE SECOND COMPONENT IS RELATED TO PRODUCTION AND IS MAINLY COMPOSED OF STUDIOS. THE FIRST FLOOR ARE SHOP, PHOTOGRAPHY AND UNASSIGNED STUDIOS. THE SECOND THROUGH FIFTH FLOORS ARE BROKEN DOWN INTO DIFFERENT SIZED ARCHITECTURAL STUDIOS WITH NORTH AND SOUTH ORIENTATIONS. THIS ELEMENT IS LOCATED AXIALLY EAST TO WEST AND RETAINS AN ADMINISTRATIVE BUILDING AT THE WESTERN END.

THESE TWO BASIC BUILDING FORMS ARE PLACED ON THE BORDERS OF THE SITE IN A SIMPLE L SHAPE. THEY ARE APPROXIMATELY EQUAL IN LENGTH. THIS PLACEMENT AT THE BORDERS OF THE SITE CREATES TWO URBAN EDGES ON THE NORTH AND EAST SIDE OF THE COMPLEX, AND CREATES AN INTERIOR ENVELOPE FOR A RAISED 30, 60, 90 TRIANGULAR PLAZA THAT FOLLOWS THE SHAPE OF THE SITE WITHIN.

THE WATERS EDGE IS A BOARDWALK WALKWAY IN A SAWTOOTH PATTERN LOCATED ALONG THE HYPOTENUSE OF THE TRIANGULAR PLAZA, IT IS ENTERED THROUGH A GATEWAY UNDER THE BUILDING AT THE EAST SIDE AND IS OPEN ON THE WEST SIDE. IT IS OPEN TO THE PUBLIC AND ACTS AS A POTENTIAL MEETING ZONE FOR THE PUBLIC AND THE SCHOOL. AT THE WESTERN CORNER IS A DOCK.

WHERE THE TWO FORMS MEET AT THE NORTHEAST CORNER IS AN OPEN SQUARE, RAISED COURTYARD THAT ACTS AS A MAIN ENTRY INTO BOTH STRUCTURES AND IS CONNECTED BY A DIAGONAL PASSAGE TO THE MAIN TRIANGULAR PLAZA WITHIN.

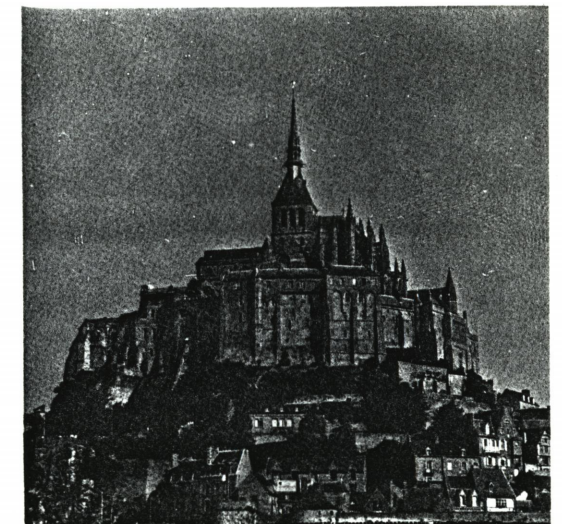
THE CIRCULATION INSIDE THE LANGUAGE BUILDING IS LOCATED ALONG THE EXTERIOR FACES OF THE BUILDING AND ACTS AS A SCREENING DEVICE (FILTER) TO THE INTERIOR WORKINGS WITHIN. THERE ARE A VARIETY OF INTERIOR ATRIUMS THROUGHOUT THAT PRODUCE SPACIAL COMPLEXITY AND PROVIDE A NUMBER OF VISTAS TO PLAZA, RIVER AND SKY. THE LIBRARY READING ROOM THE MOST CONTEMPLATIVE PLACE WITHIN SITS BEYOND THE WATERS EDGE, OVER THE RIVER, FRAMING THE RIVER AND THE VIEW DOWNSTREAM.

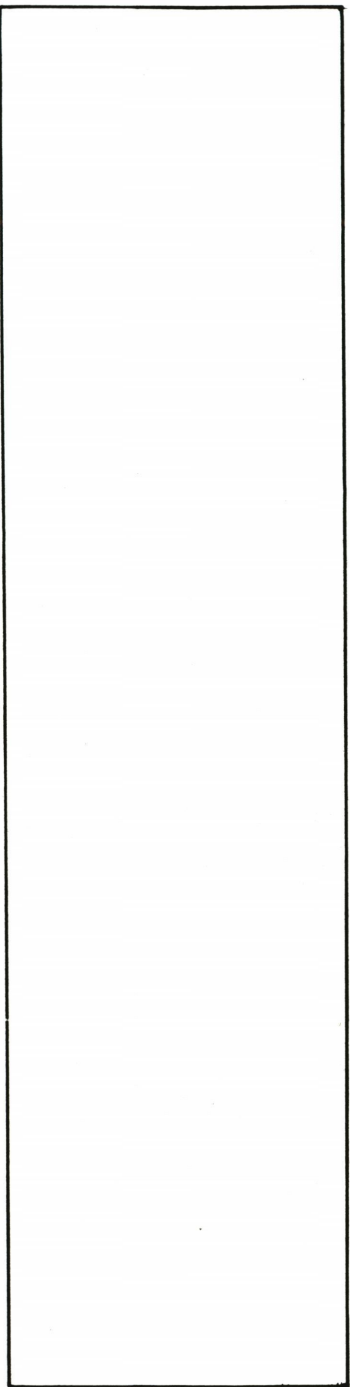
THE STUDIO COMPONENT OF THE COMPLEX, THOUGH ONE BUILDING, IS SUBDIVIDED INTO SMALLER MORE INTIMATE VOLUMES BY CONCRETE FRAME HALL AND EXIT STAIR TOWERS. THESE TOWERS ROUGHLY RELATE THE SITE BACK TO ITS ORIGINAL BUILDING LOTS. WITHIN THESE VOLUMES THE CIRCULATION IS CENTRAL OFF AN OPEN CORE WHICH CASCADES UP TO SKYLIGHTS ABOVE. ALLOWING LIGHT TO ENTER FROM THE SKY.

THERE ARE STUDIOS ON BOTH THE NORTH AND SOUTH SIDE OF THIS CORE, WITH THE INTENTION BEING THAT THE STUDIOS CAN HAVE A RELATION TO BOTH THE EXTERIOR ENVIRONMENT, AND TO THE INTERIOR SPACIAL VOLUME. THE SOUTHERN FACING STUDIOS HAVE EXTERIOR BALCONIES WITH BUILT IN CONCRETE PLANTERS, THESE ACT AS SHADING DEVICE, LIGHT SCREEN AND FRAMING DEVICE FOR THE SOUTHERN FACADE, AS WELL AS PROVIDING A SOFTER EDGE FOR THE BUILDING AND GIVING THE STUDENTS A PLACE TO TAKE A BREAK.

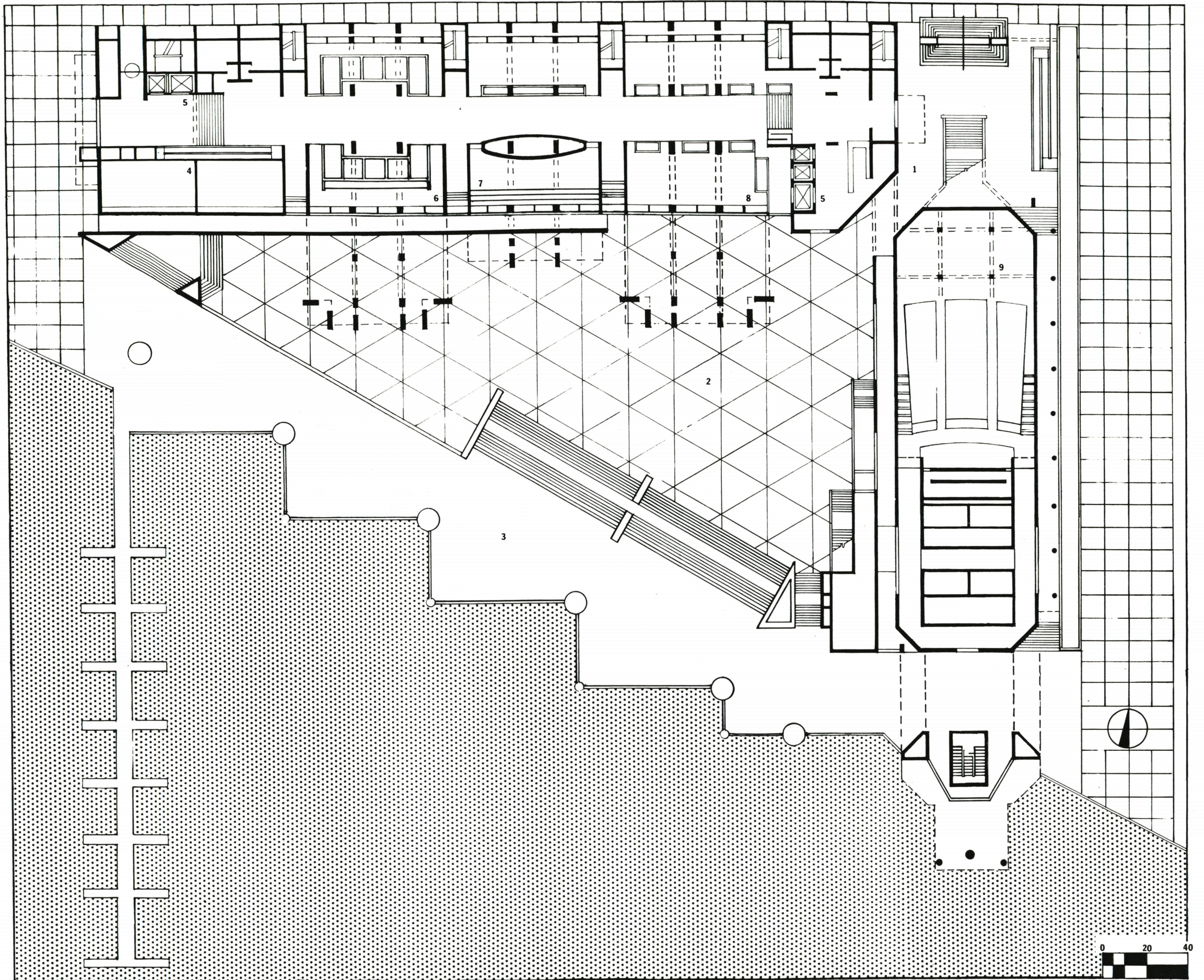
THE PRIMARY STRUCTURAL SYSTEM OF THE LANGUAGE BUILDING IS REINFORCED CONCRETE BEARING WALL, WITH A SECONDARY COLUMN STRUCTURE, THERE ARE PIN CONNECTED CURVED STEEL BEAMS CREATING A STEEL AND GLASS VAULTED ROOF STRUCTURE OVER MOST OF THE BUILDING. FOR THE PRODUCTION BUILDING THE MAJOR STRUCTURAL COMPONENTS ARE PRECAST REINFORCED CONCRETE COLUMNS AND BEAMS, THE STAIR TOWERS ARE REINFORCED CONCRETE WALL/FRAME. THERE ARE STEEL WINGED ROOFS ABOVE.

THE ENTIRE ASSEMBLAGE IS TIED TOGETHER FIRST BY A TRIANGULAR PLAZA AND SECONDLY BY AN ORTHOGONAL GRID. 5 FEET IN PLAN AND 4,4,4,2, FEET VERTICALLY. THE PERMUTATIONS AND DISLOCATIONS WITHIN THESE SYSTEMS ALLOW FOR A RICH PLAY OF SHAPE AND VOLUME WHILE PROVIDING A STRONG RIGEUR TO THE WHOLE. THE INTERPLAY OF BOTH MAJOR BUILDING PARTS CREATE VISUAL, SPACIAL, AND TEMPORAL DYNAMICS WITHIN THE WHOLE. THROUGHOUT THERE IS AN INTERPLAY BETWEEN BUILDING, SKY AND RIVER. THE ENTIRE COMPLEX IS HORIZONTAL IN NATURE KEEPING WITH THE OVERALL NATURE OF WASHINGTON ARCHITECTURE.

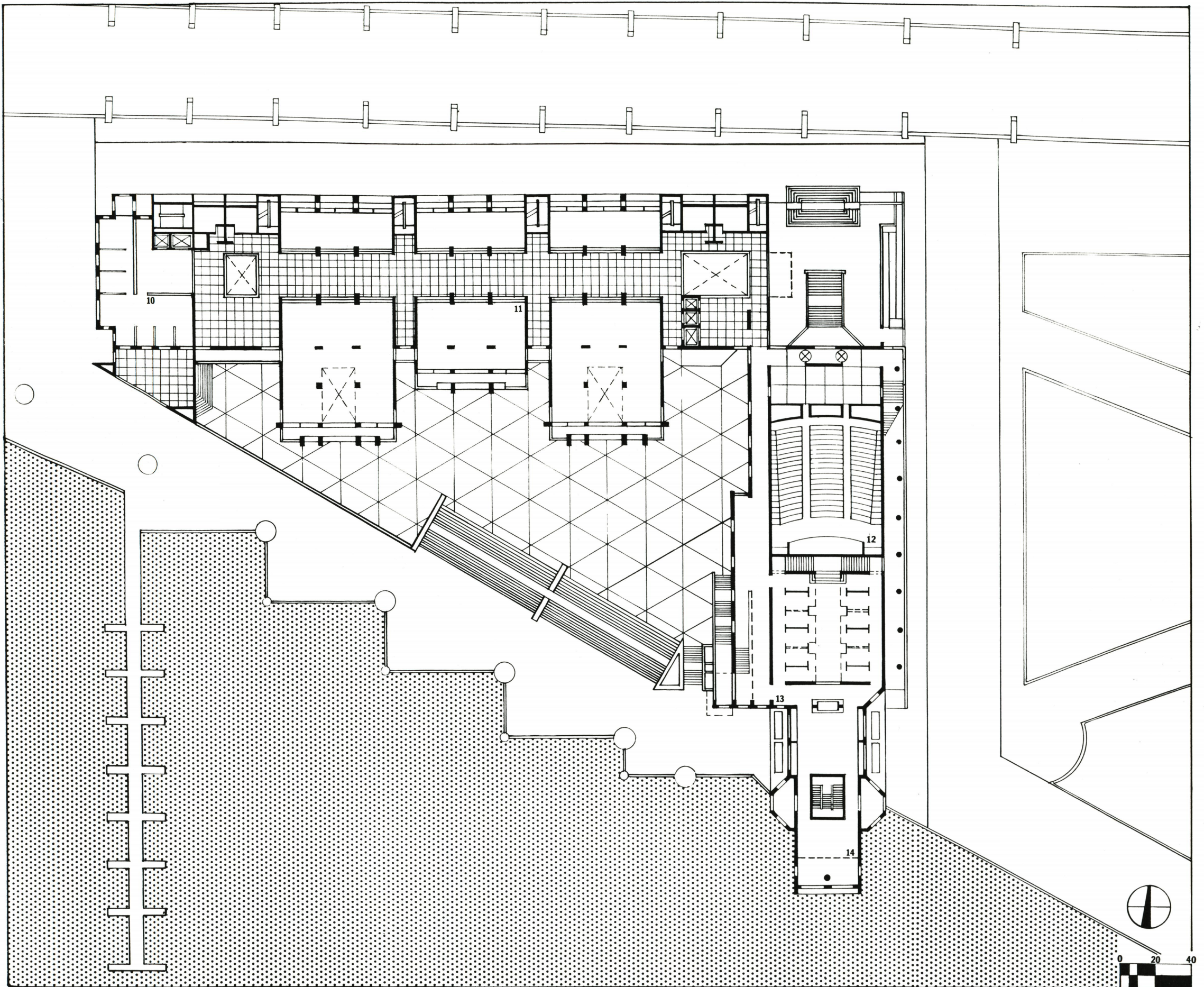




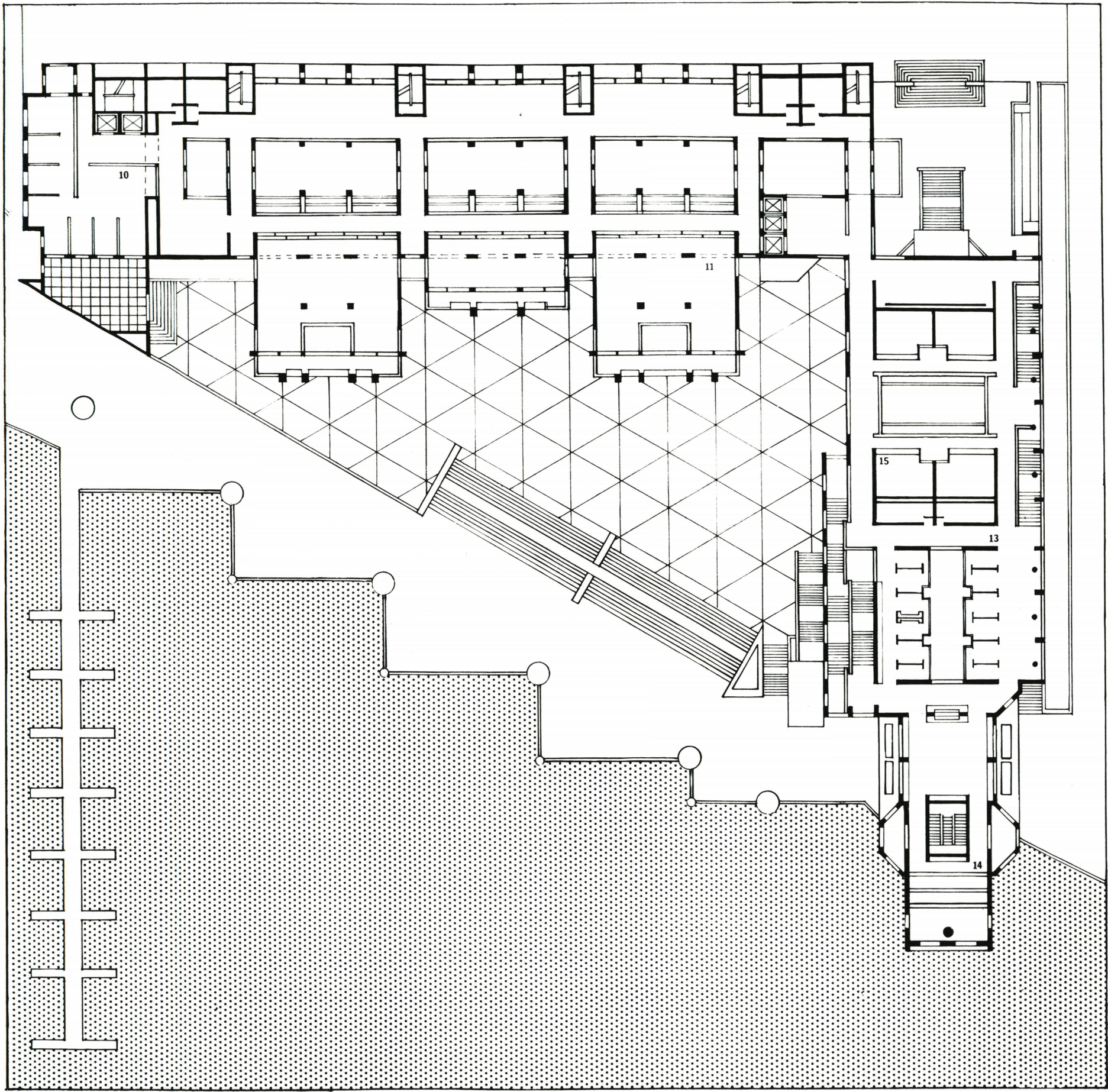
SITE PLAN



FIRST FLOOR PLAN

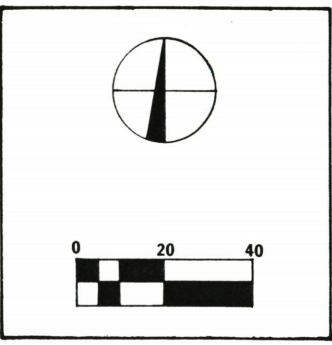


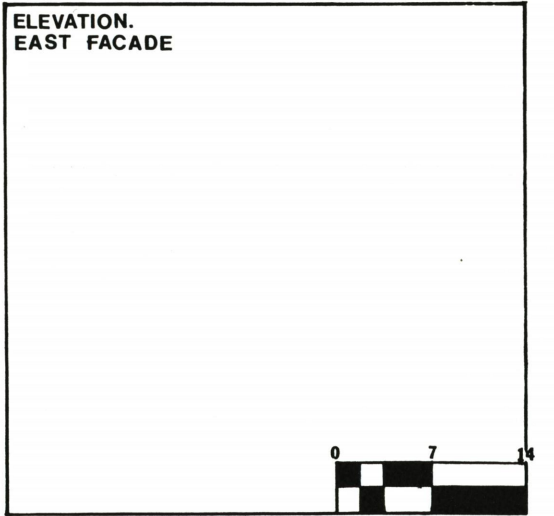
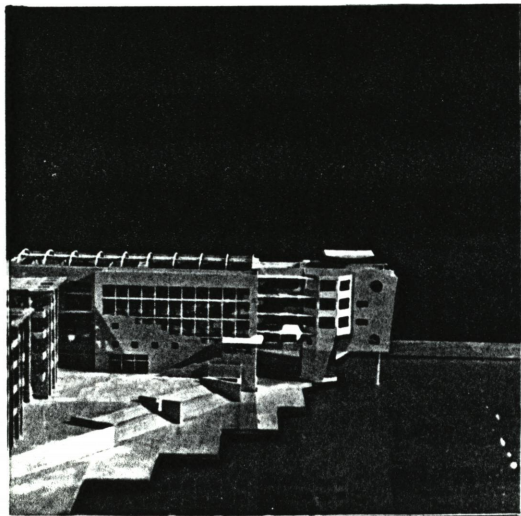
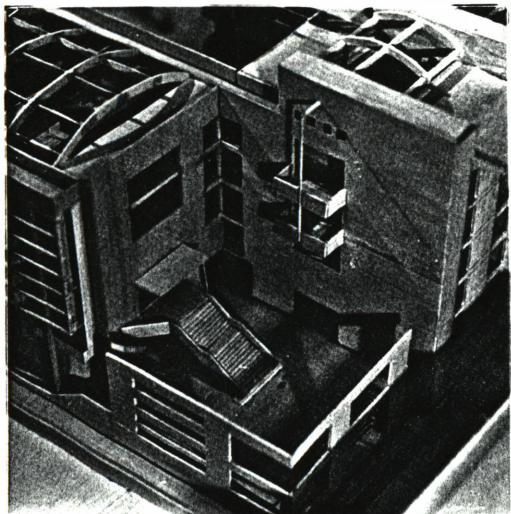
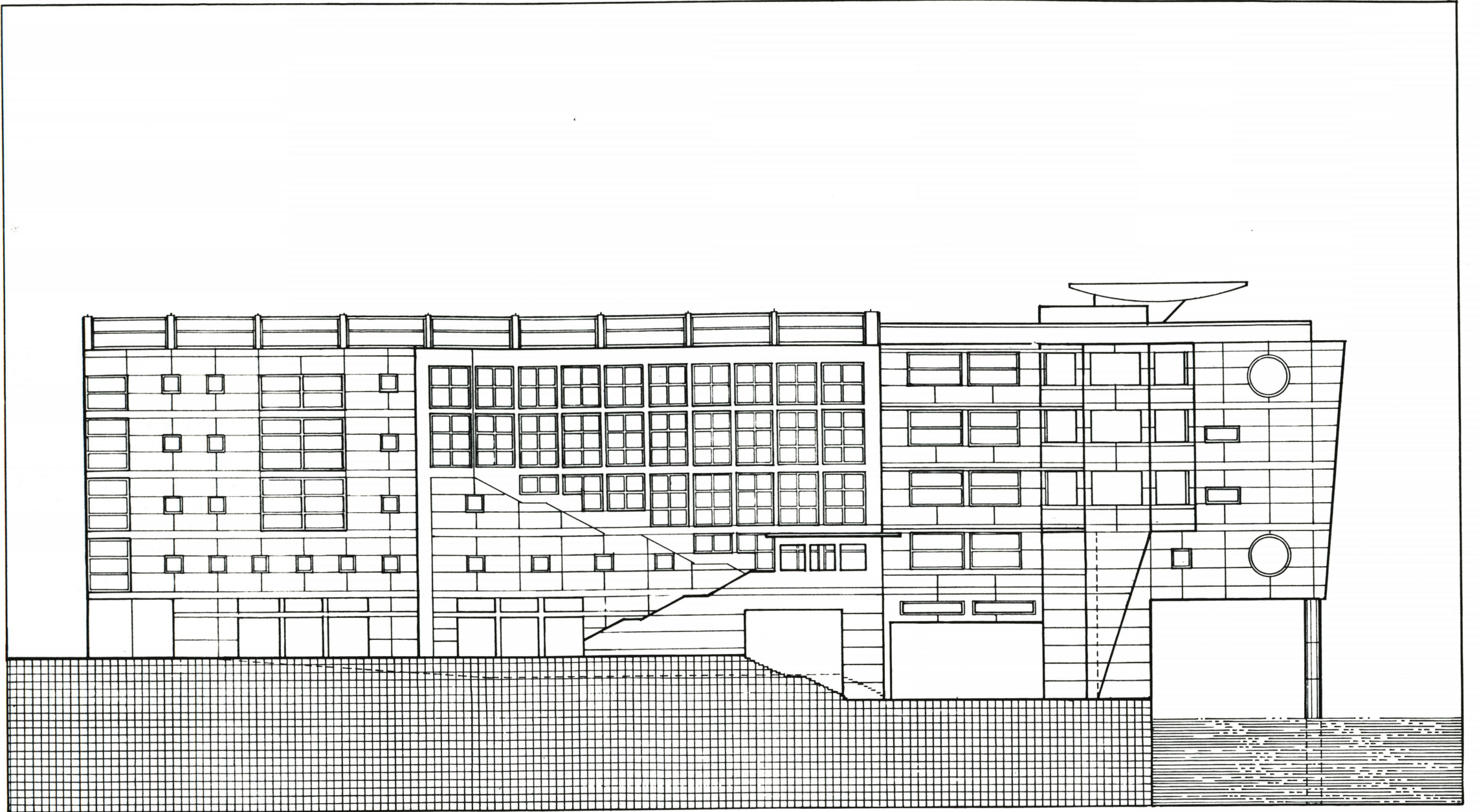
SECOND FLOOR PLAN

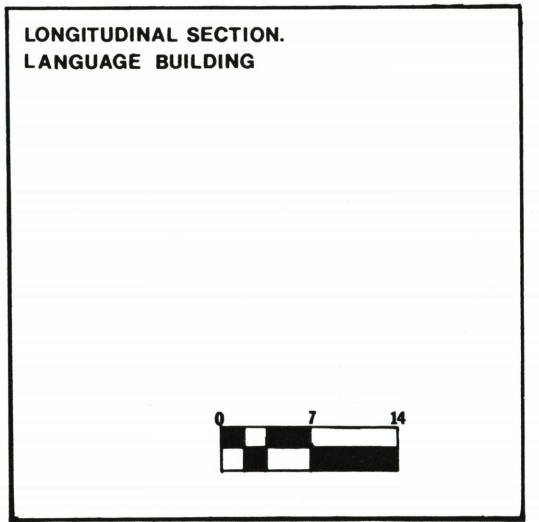
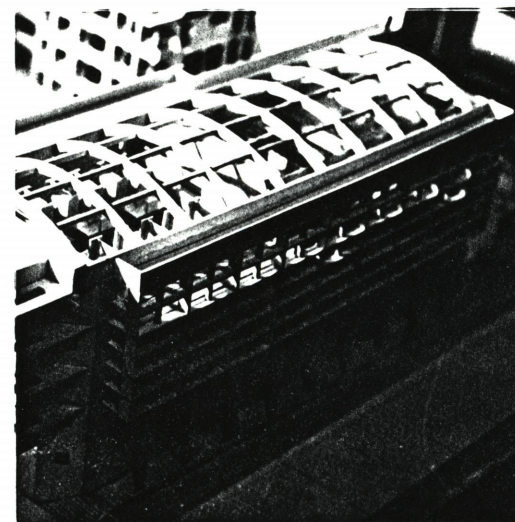
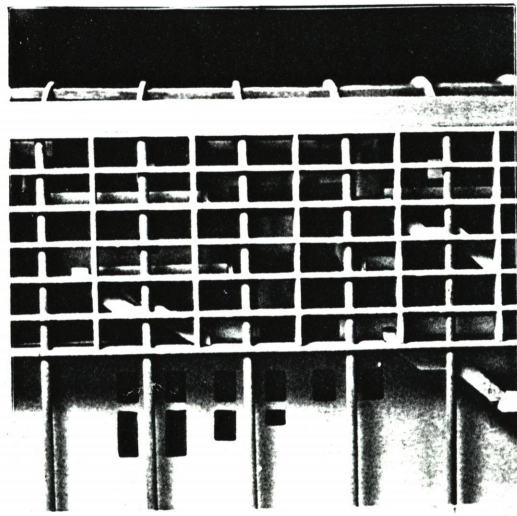
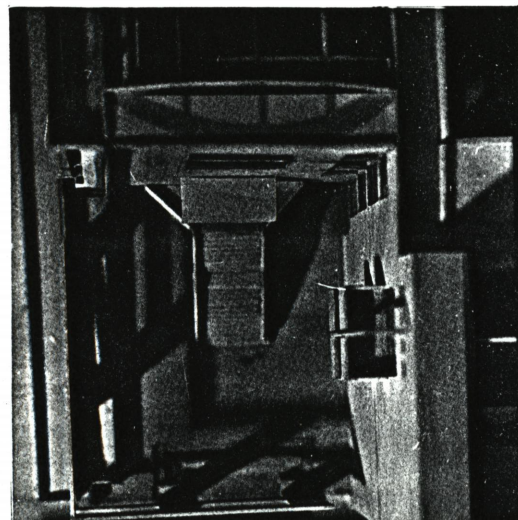
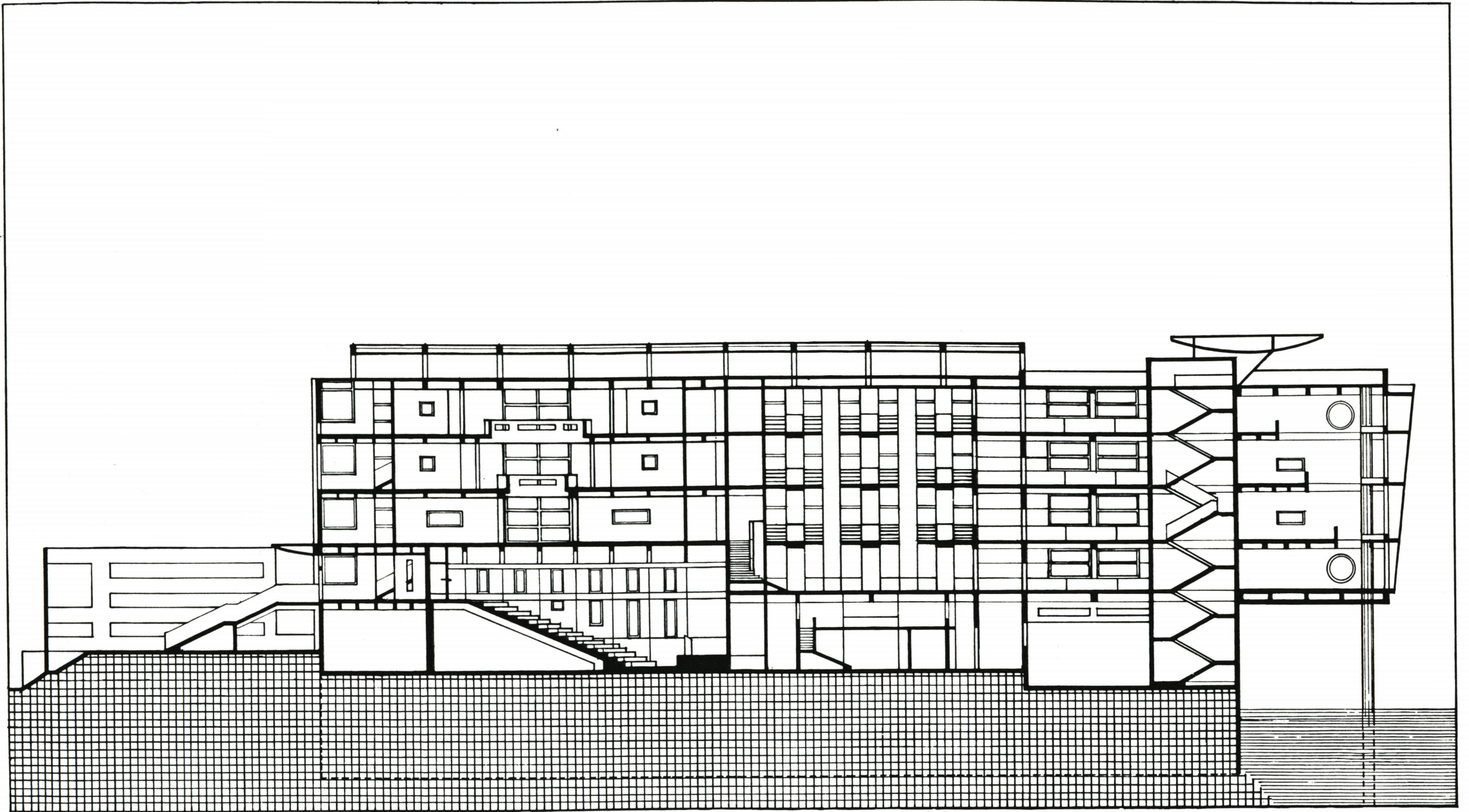


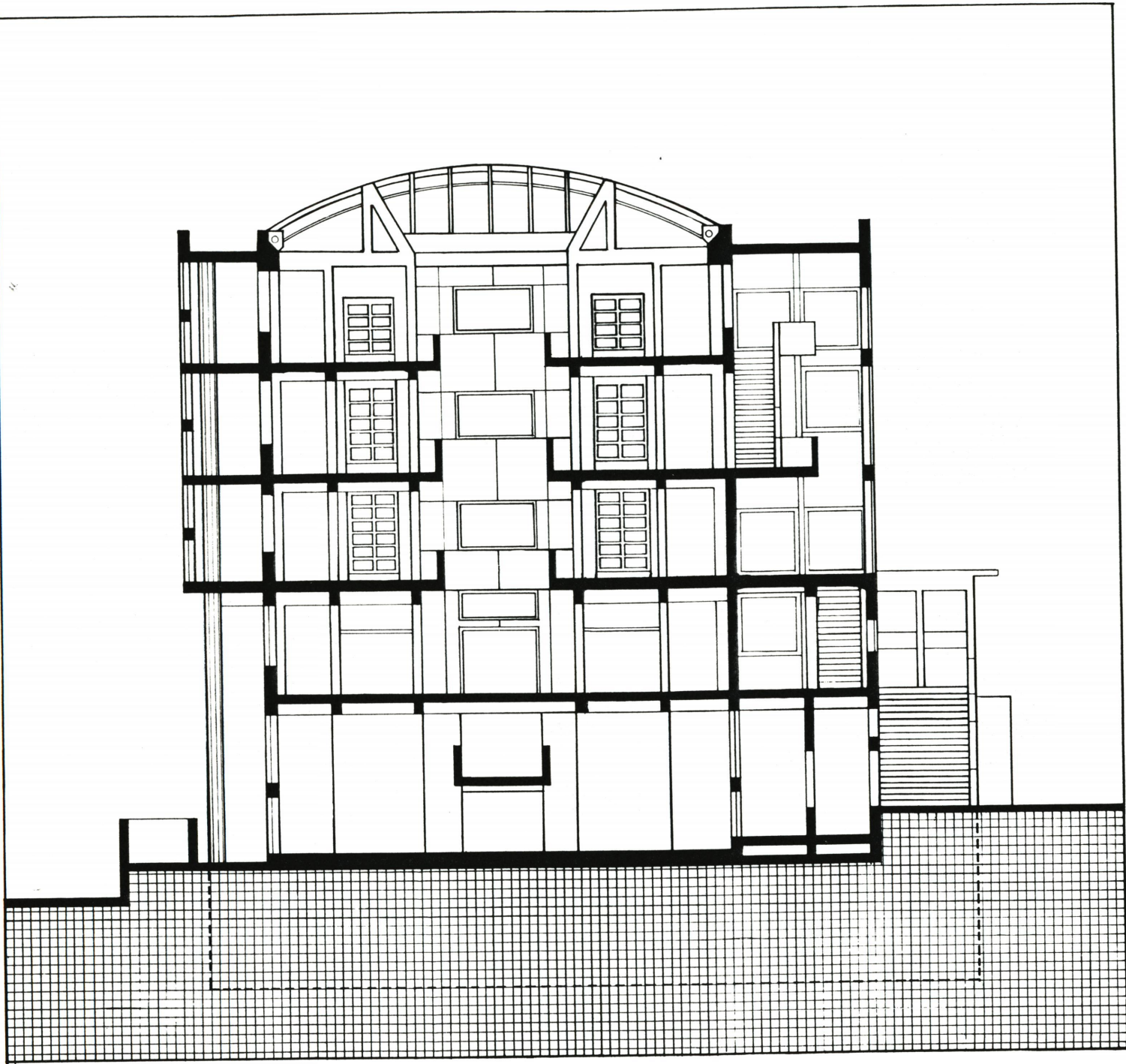
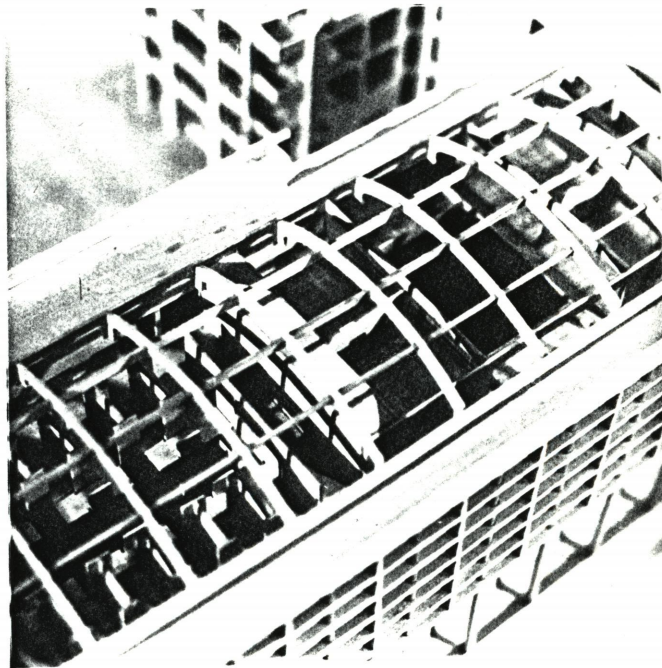
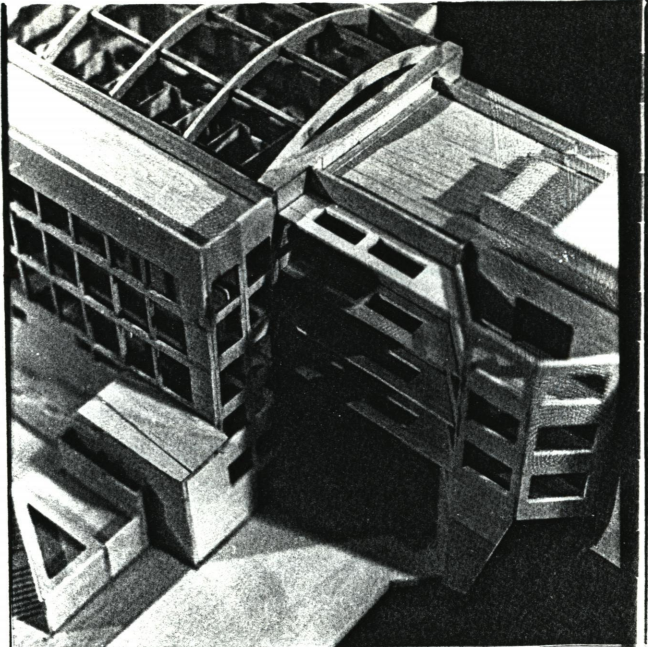
- 1. MAIN ENTRY
- 2. PLAZA
- 3. RIVERSIDE WALKWAY
- 4. STORAGE
- 5. ELEVATORS
- 6. PHOTO STUDIOS
- 7. CRIT. ROOM
- 8. SHOP STUDIOS
- 9. MECHANICAL
- 10. ADMINISTRATION
- 11. ARCH. STUDIOS
- 12. AUDITORIUM
- 13. LIBRARY
- 14. LIBRARY READING ROOM
- 15. CLASSROOMS

TYPICAL FLOOR PLAN

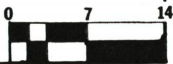


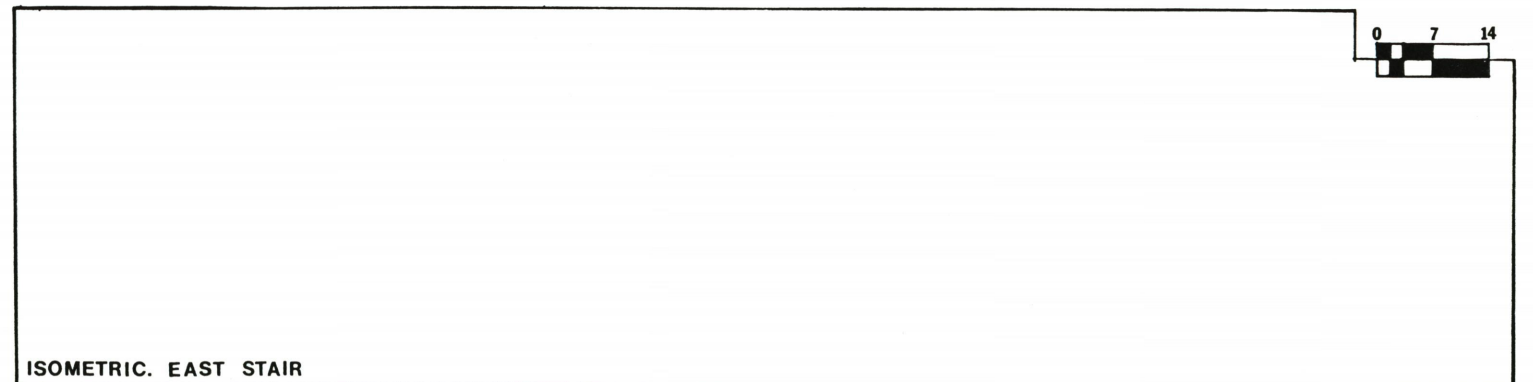
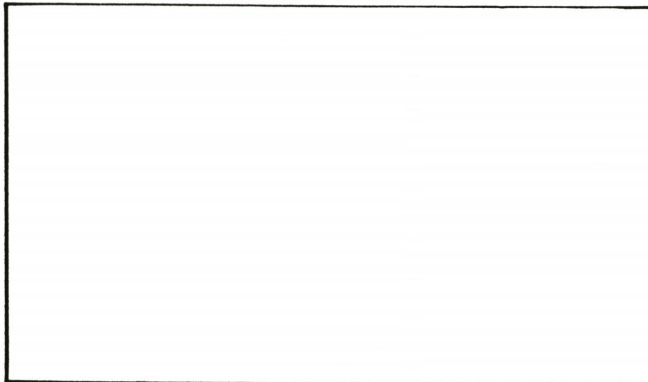
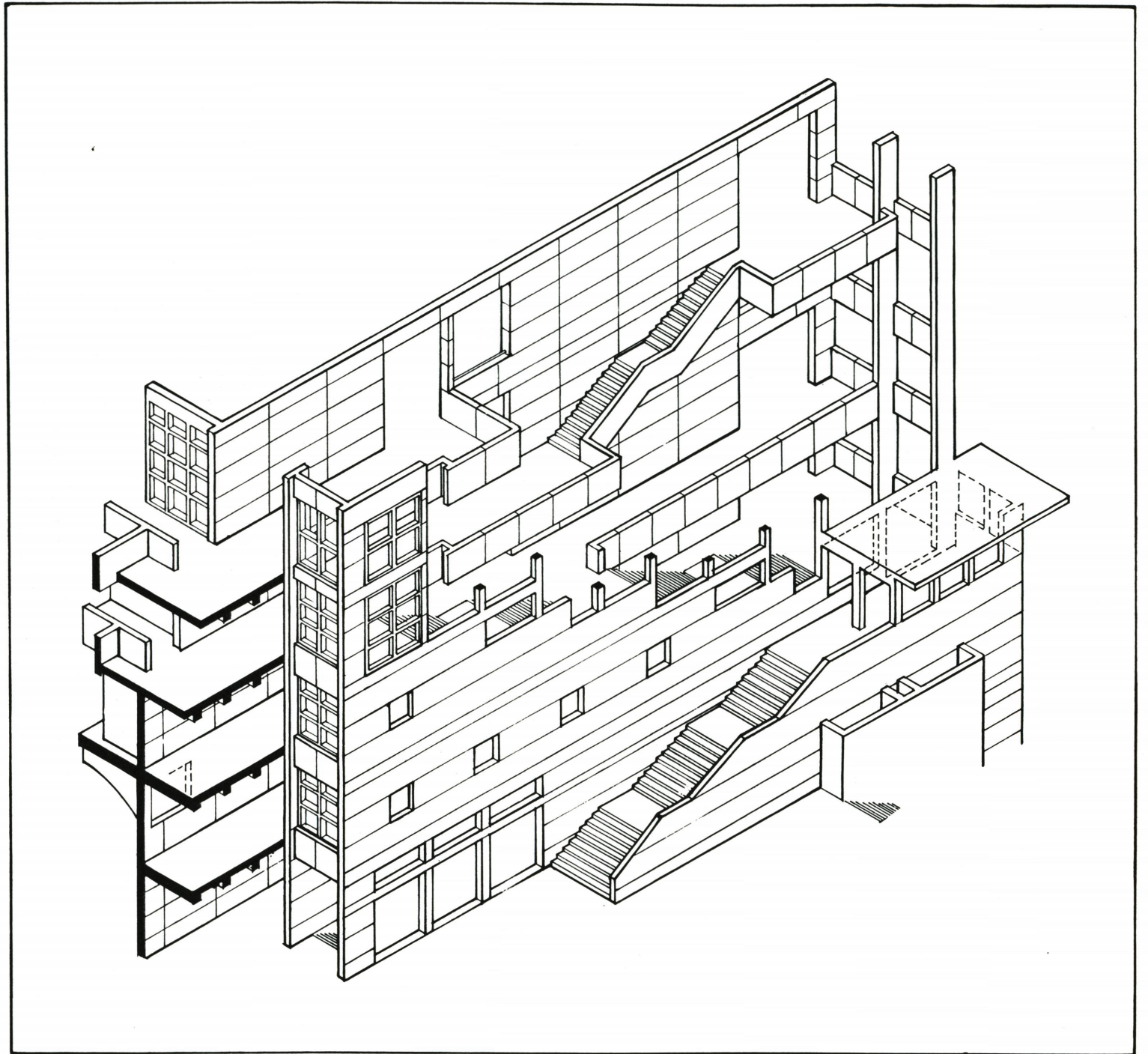
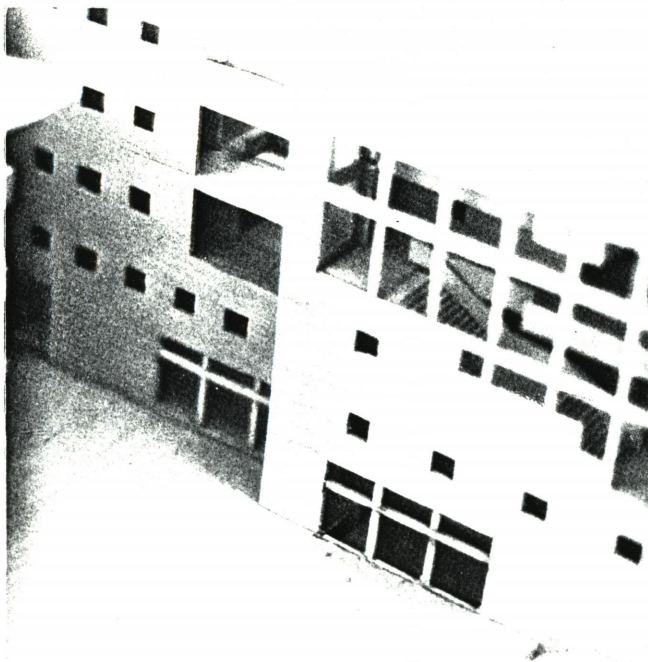
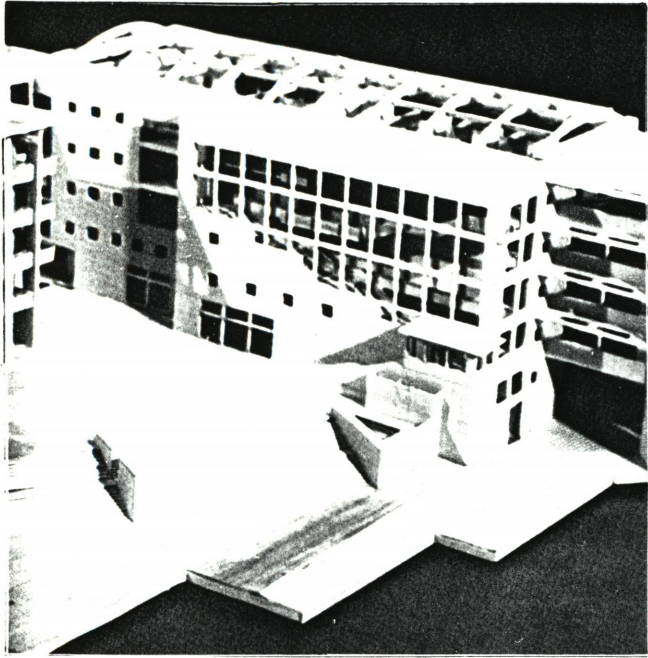






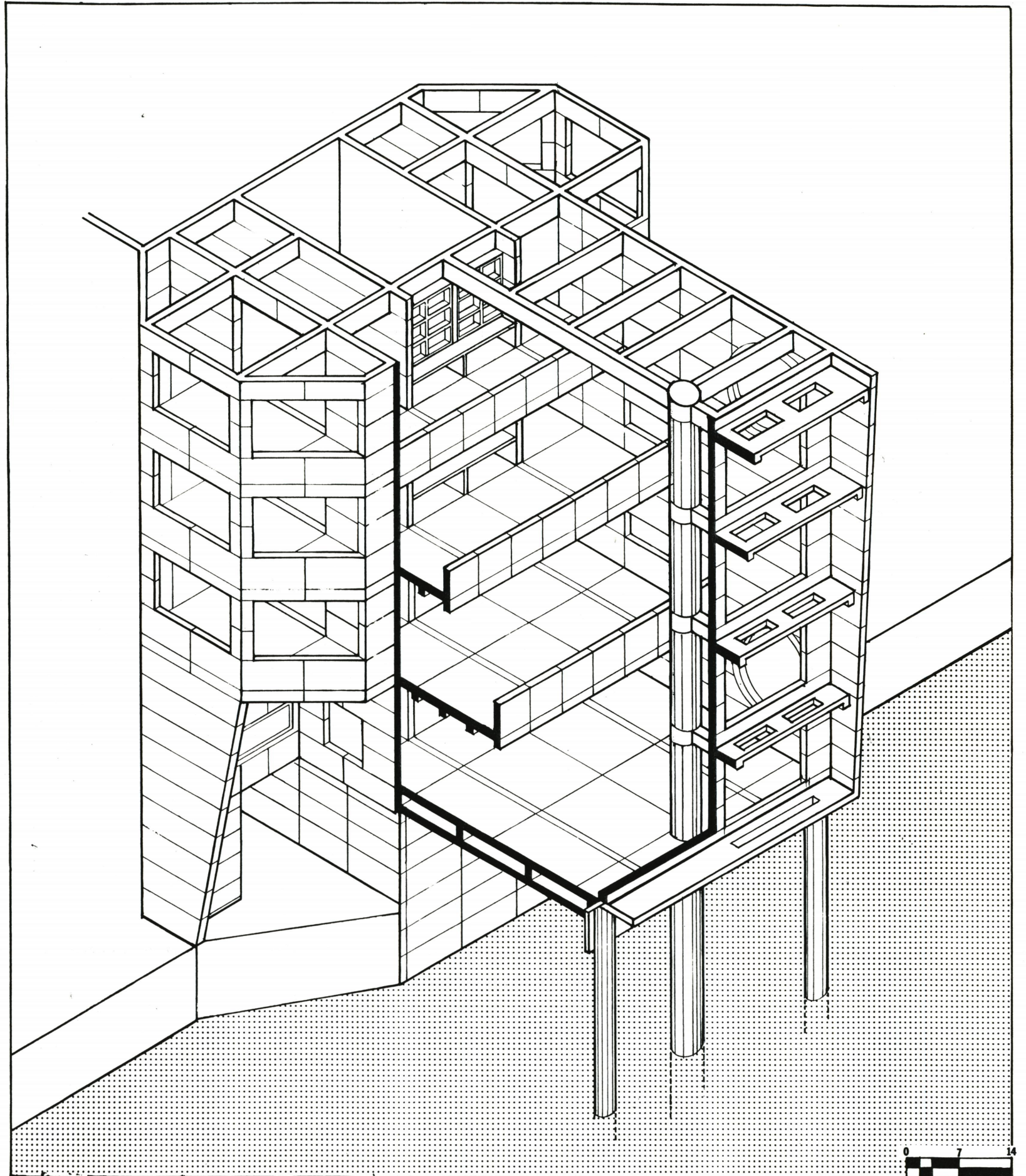
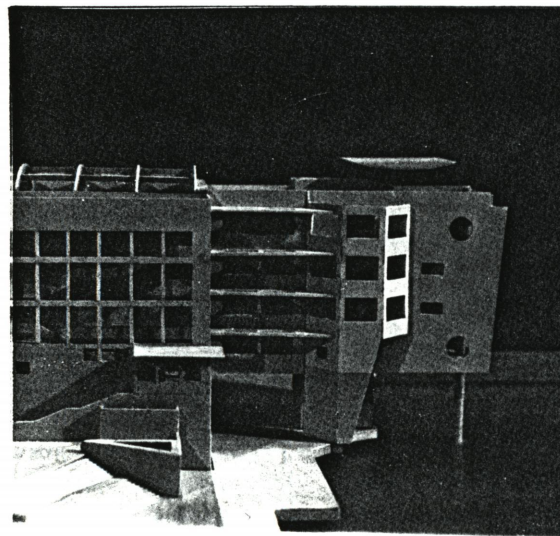
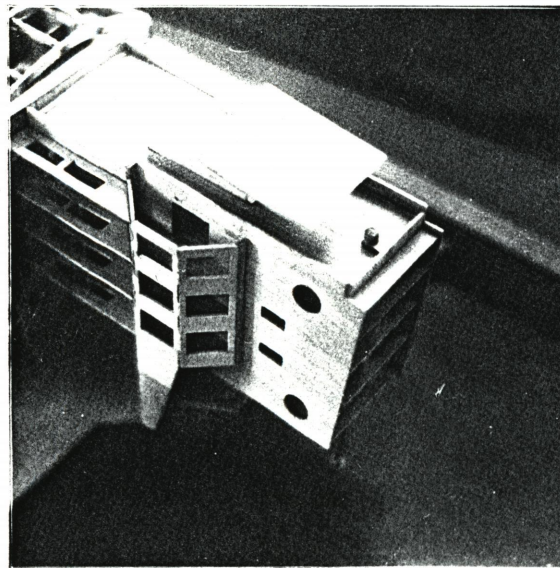
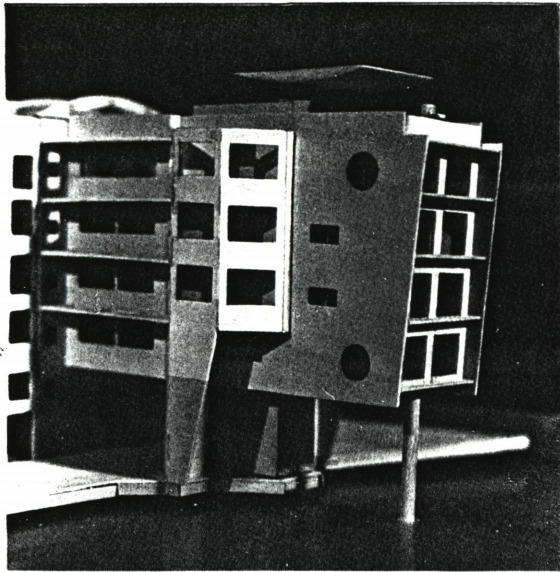
SECTION. LIBRARY



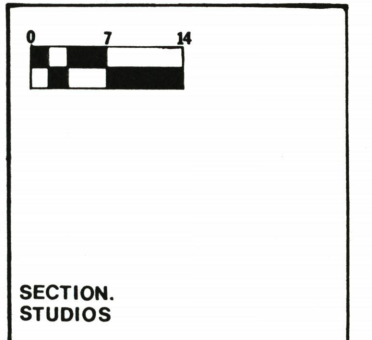
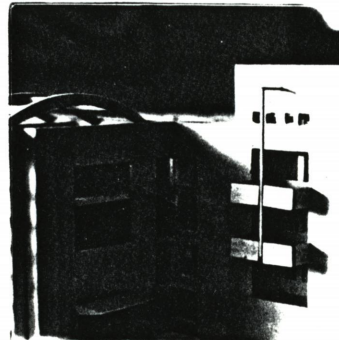
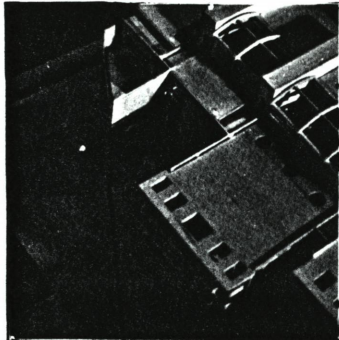
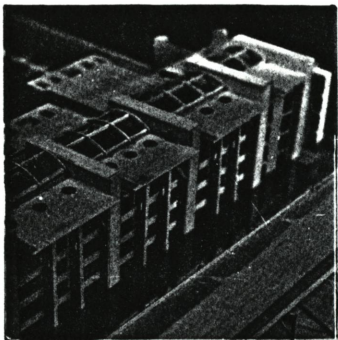
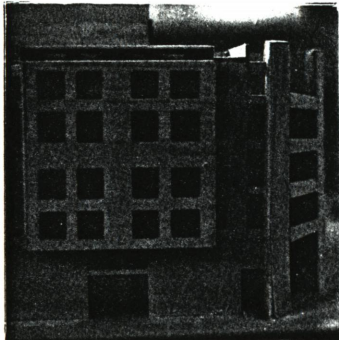
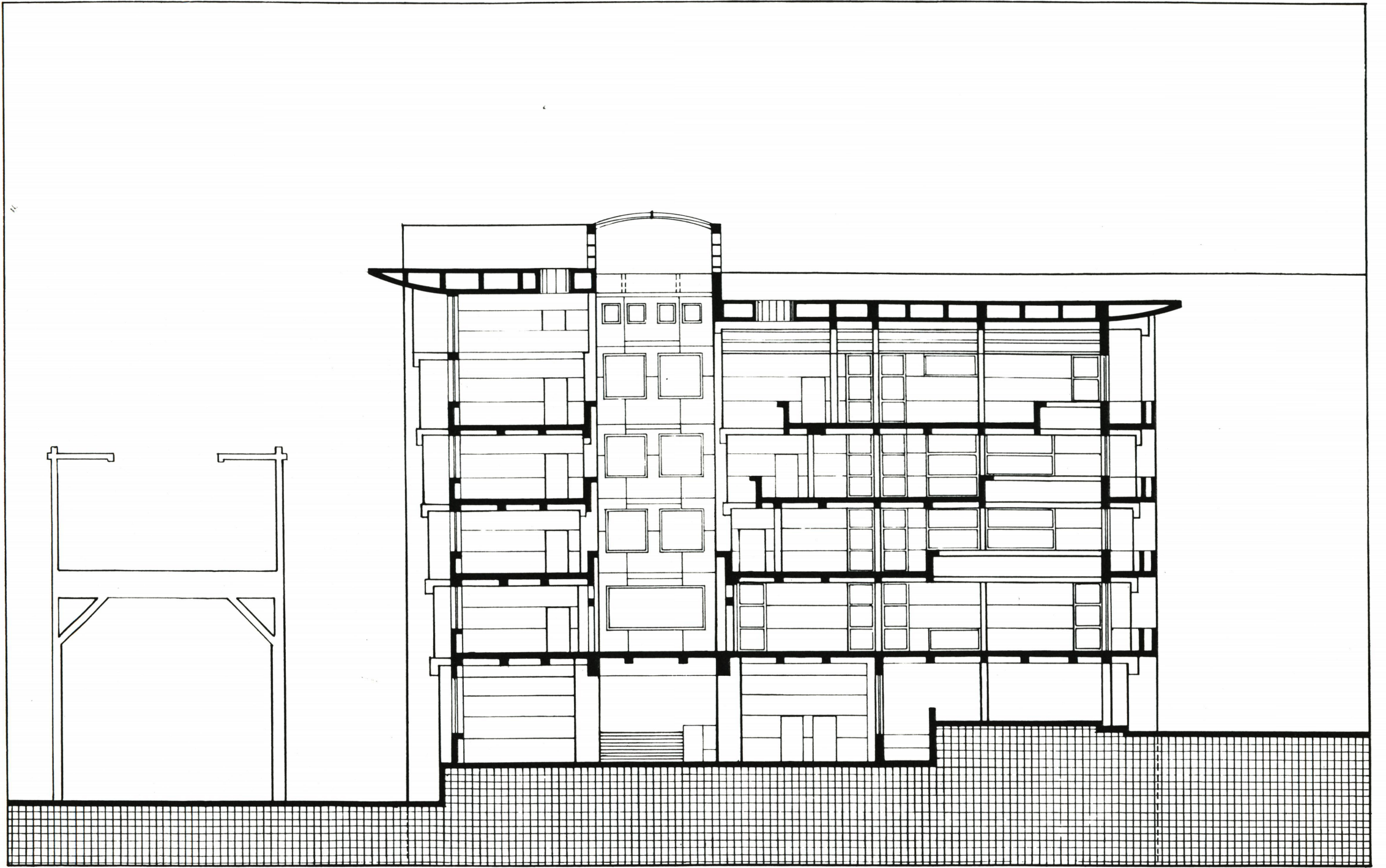


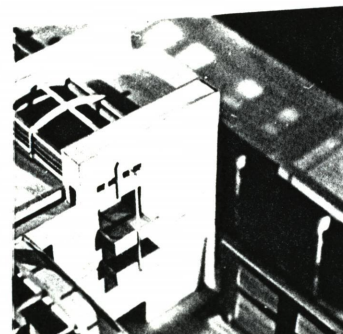
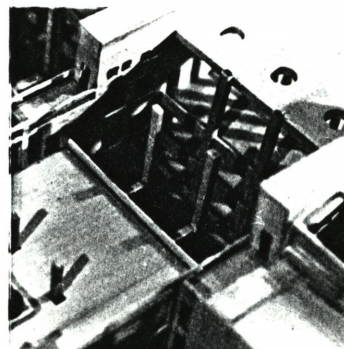
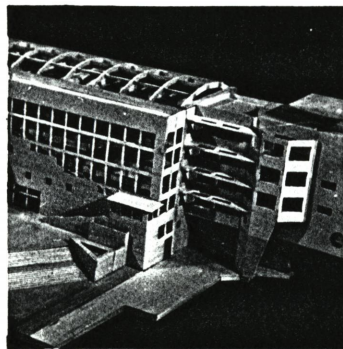
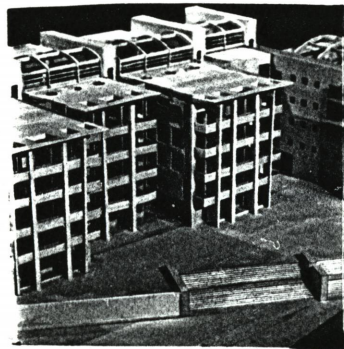
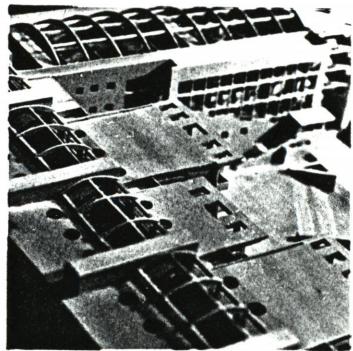
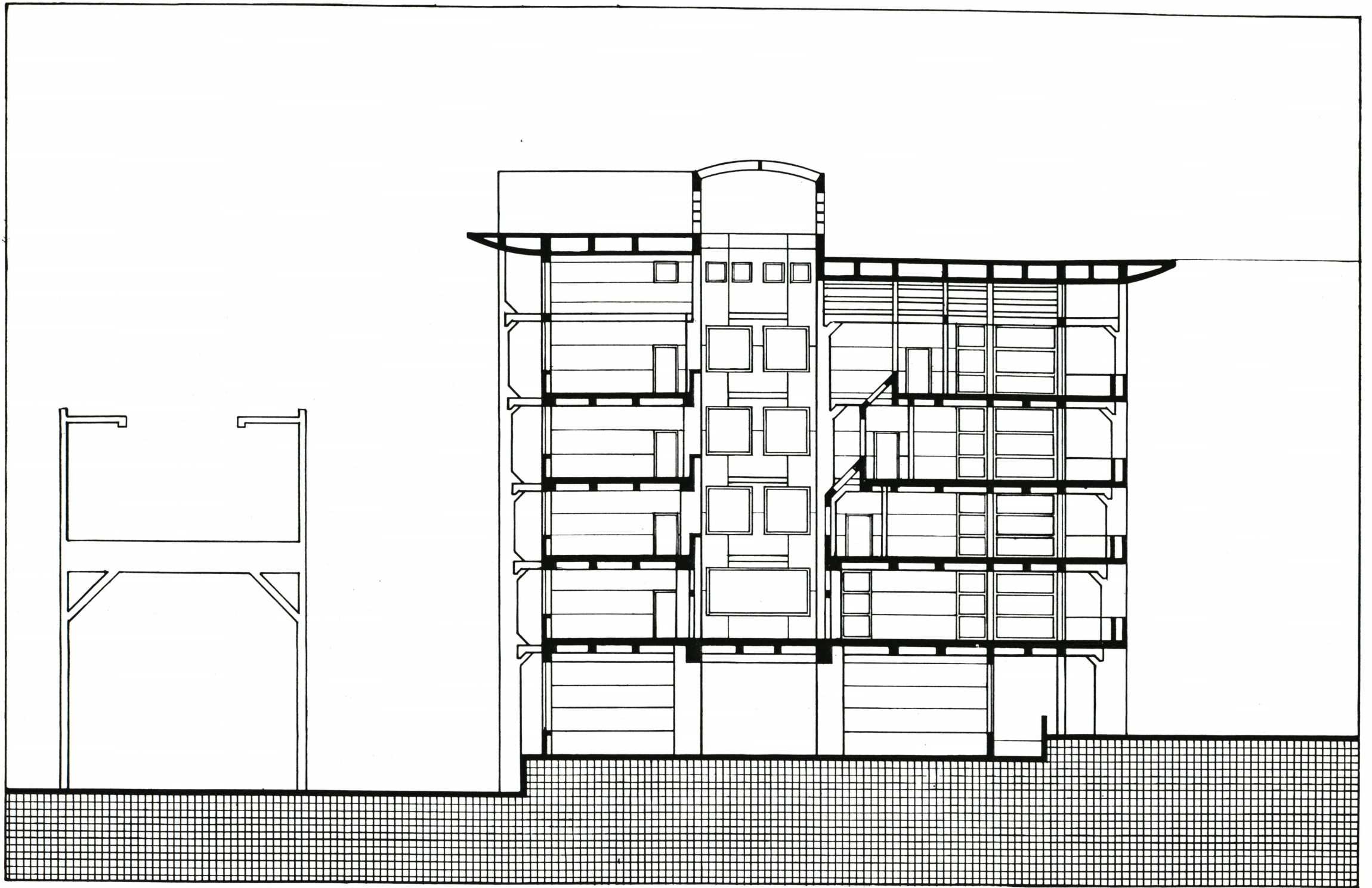
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ISOMETRIC. EAST STAIR



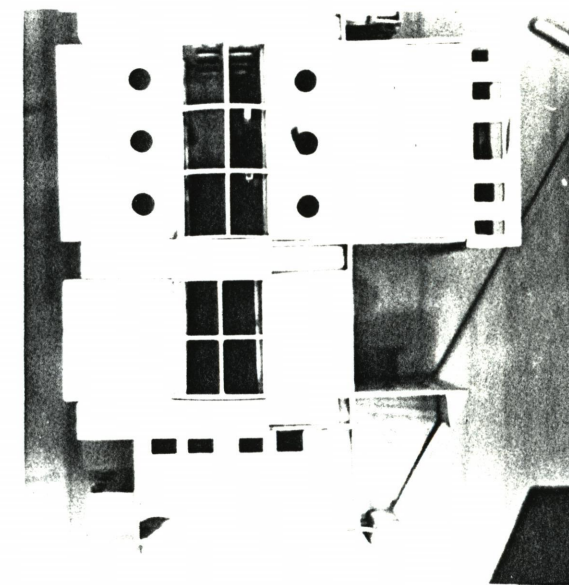
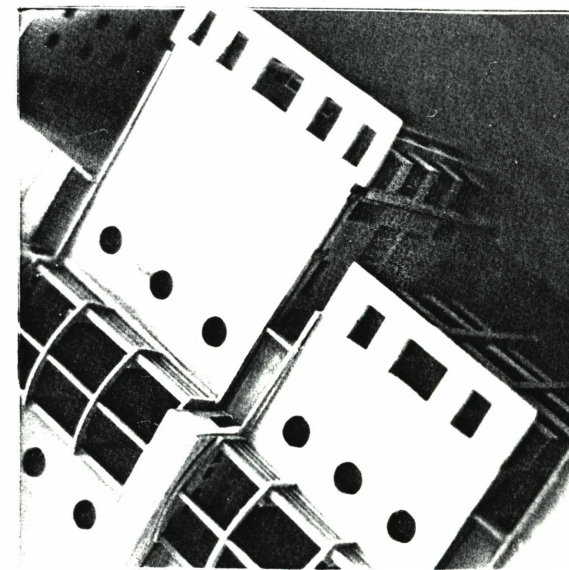
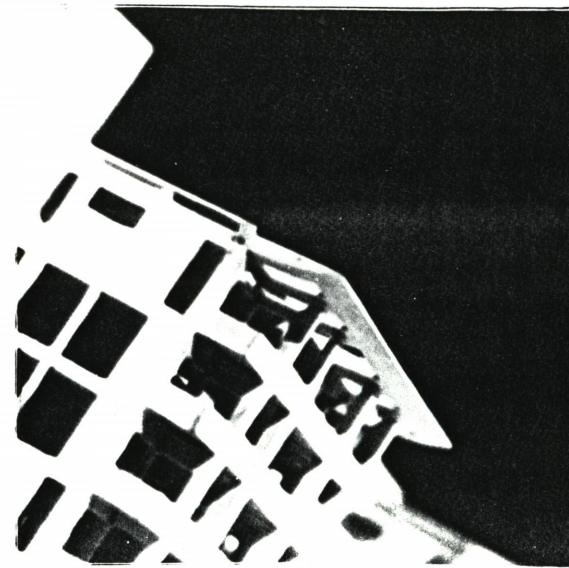
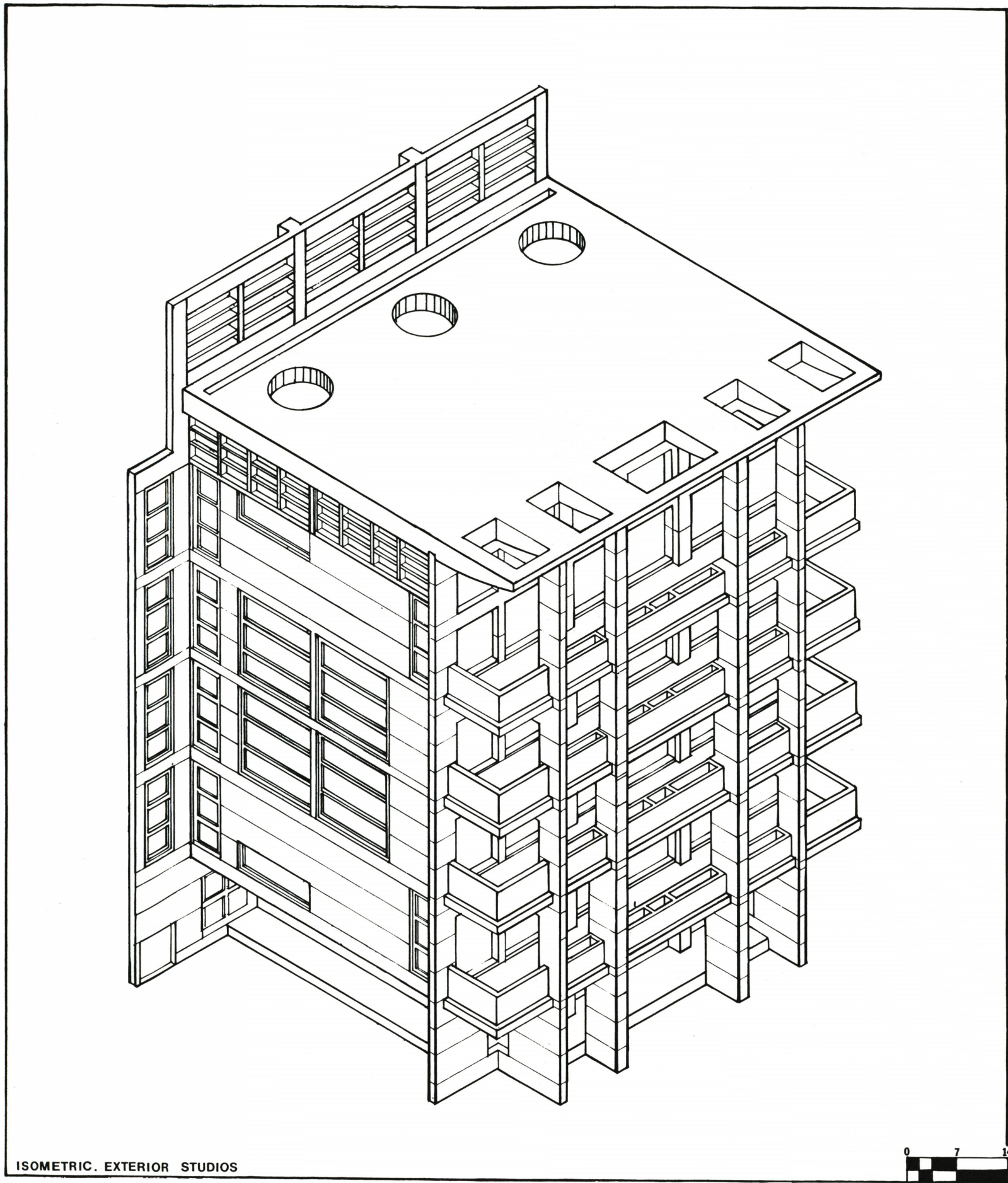
ISOMETRIC. LIBRARY READING ROOM

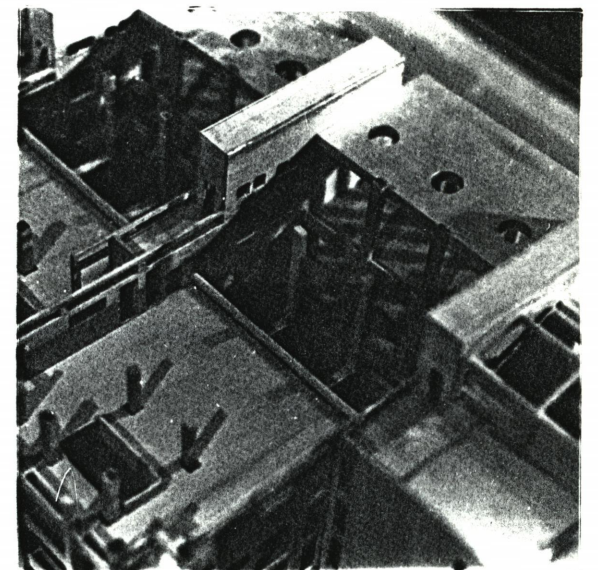
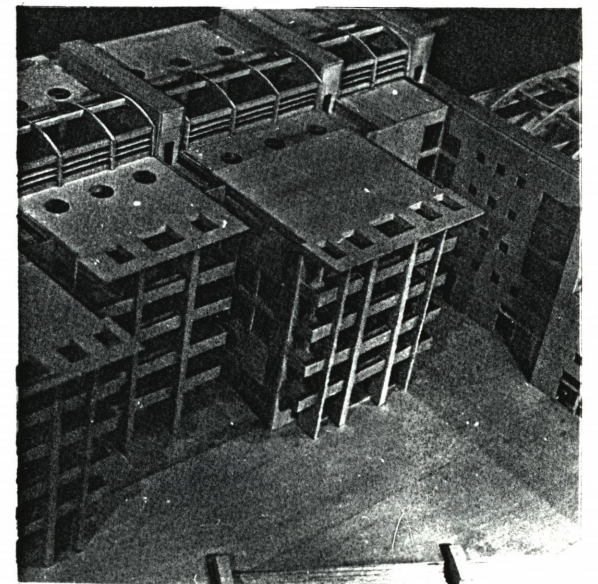
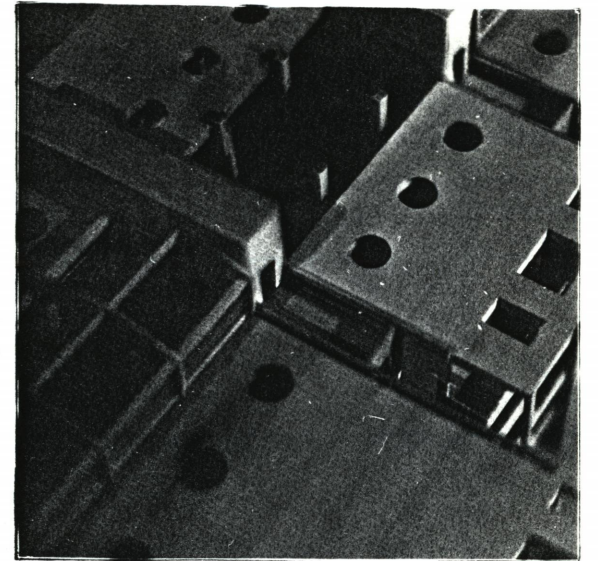
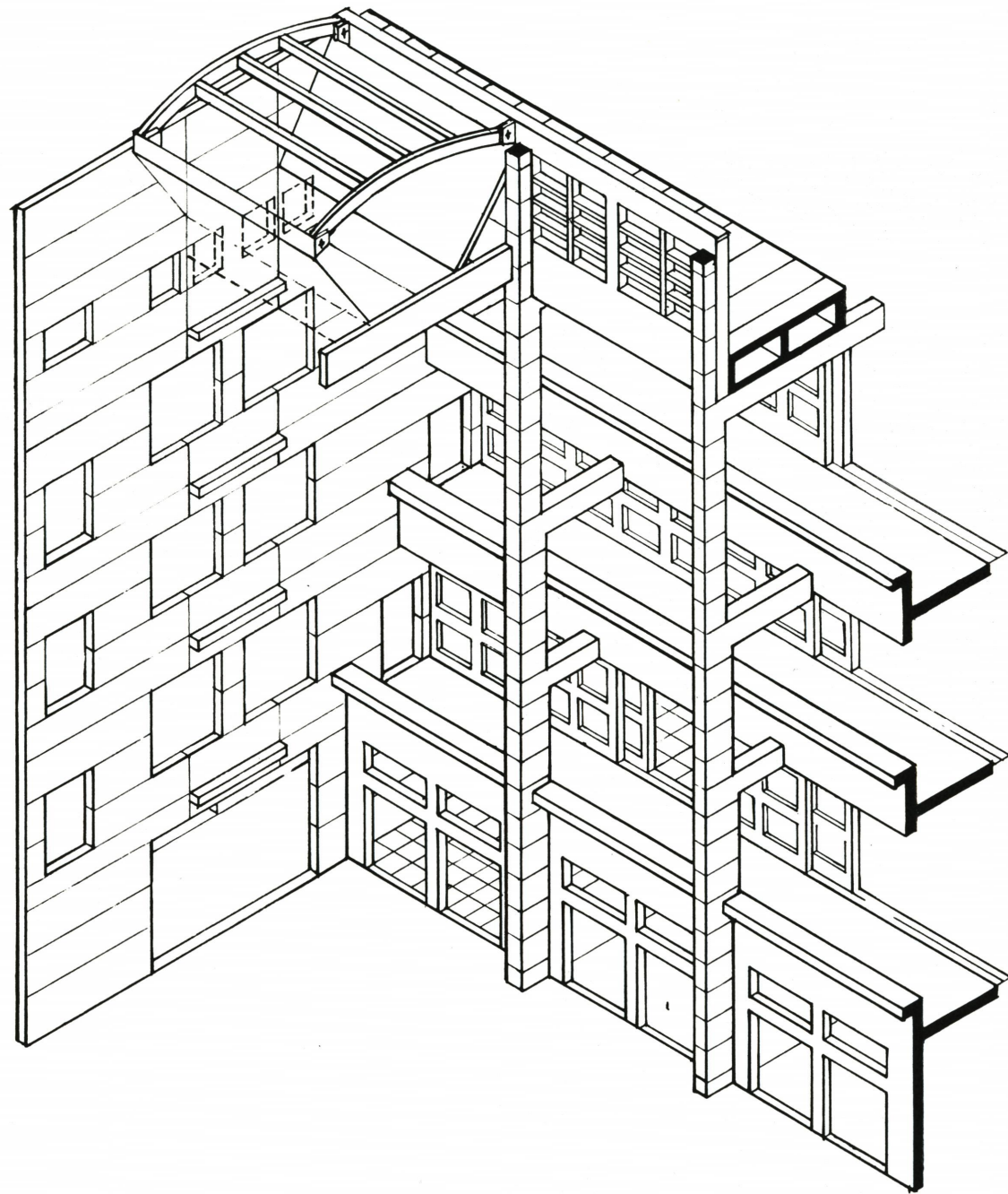




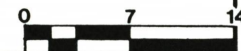
SECTION.
STUDIOS

A scale bar with markings at 0, 7, and 14 units. The bar is divided into segments, with the first segment being the largest and the others being smaller.





ISOMETRIC.INTERIOR STUDIOS



BIBLIOGRAPHY

GEORGETOWN ARCHITECTURE .THE WATERFRONT
UNITED STATES DEPARTMENT OF THE INTERIOR
1968

GEORGETOWN HISTORIC WATERFRONT
UNITED STATES COMMISSION OF FINE ARTS
1968

TADAO ANDO
GA ARCHITECT
1987

FRANK LLOYD WRIGHT
THE MASTERWORKS
RIZZOLLI
1993

BETWEEN SILENCE AND LIGHT
LOUIS KAHN
NEW YORK PRESS
1966



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