5-25-1966

The design program and solution for the development of the Zimmerman Plaza on the central campus of the University of New Mexico

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DEVELOPMENT OF THE ZIMMERMAN PLAZA · RICHEY-REX

A Design Program and Solution for the Development of the ZIMMERMAN PLAZA on the Central Campus of the University of New Mexico

Submitted in partial fulfillment of the
requirements for the degree of
Bachelor of Architecture

By

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Submitted 25 May 1966

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PART I FEASABILITY

GENERAL CLASSROOM FACILITIES

Due to the centrality of the Zimmerman Plaza site and its proximity to the major existing classrooms, it is appropriate that most or all of the additional classroom facilities to be built between the present and such time as the projected limit of 25,000 students is reached, should be located in this area.

At the present time, with student enrollment standing at 11,800 students, both full- and part-time, there is a cumulative total of 123,000 student-hours per week spent in general classroom facilities, based on a 67-hour week. Approximately 80 per cent of these student-hours are involved in classes held during 9 daytime hours, 5 days a week. During this 45-hour week, 98,000 student-hours are spent in general classrooms. We will base all further calculations pertaining to need and use on this 45-hour week, as all indications show this period as the continuing period of highest utilization.

On the basis of a 45-hour week, there is a total capacity of 284,000 student-station-hours per week in existing classroom facilities, which operate at a cumulative efficiency of 34.5 per cent. By use of computerized scheduling, other universities and colleges have successfully raised this factor of utilization efficiency to levels as high as 85 per cent. However, this efficiency level is somewhat high for planning purposes, so we have therefore arbitrarily set the efficiency standard at 66 per cent, which level should provide a sufficintly broad latitude for contingencies and possible growth beyond the currently stated limits.

Assuming that the present average of 8.3 student-hours per week per student in classroom instruction shall remain materially unchanged in the forseeable future, at that time that the theoretical limit on enrollment is arrived at, a capacity of 206,000 student-station-hours per week will be needed. In the

interim, however, an estimated total of 77,000 student-station-hours per week will be lost to classroom use due to the removal of buildings and conversion of classrooms to other uses. This loss will leave a 207,000 student-station-hours per week capacity in buildings to be continued in use. At 66 per cent efficiency, a total capacity of 308,000 student-station-hours per week will be needed, leaving a total capacity of 101,000 student-station-hours per week, or 2,200 student-stations, to be built.

Because of the ever-increasing freshman enrollment and an apparently continuing shortage of highly qualified professors, there is now and will be increasingly in the future, a need for large classroom spaces in which one very good man can present basic material to a large number of students, and for small lecture and seminar rooms where the material presented in these lectures can be discussed by a smaller body of students and a lower-ranked instructor.

We therefore propose to divide the required number of student stations to be built in the Zimmerman Plaza development into three 500-seat lecture spaces, each of which will be subdivisible into two 125-seat spaces and one 250-seat space; and 60 small classrooms, to be as flexible as possible alone or in combination with others, to accomodate the remaining 750 student stations.

Also needed in this development will be a central audio-visual "bank" to provide audio-visual equipment to all needs on the University and direct service to the proposed classrooms. This facility shall be such that a future conversion to closed-circuit television relay will be convenient and inexpensive. At such a time that this conversion is made, the bank would be simply a grouping of video- and audio-tape playback equipment and storage space for these tapes.

DEPARTMENTAL AND FACULTY OFFICES

In the Zimmerman Plaza development, the University has called for the inclusion of administrative and faculty office space for the Social Science departments, i.e., Economics, Geography, Government, Psychology and Sociology. Since all of these disciplines, excepting psychology, deal with non-laboratory types of research and teaching, the inclusion of their offices and research spaces would present no significant problems for vehicular access or servicing in a strictly pedestrian area. As far as psychology is concerned, a portion of their teaching and research does deal with the handling and disection of animals. However, it is assumed by the University that any large scale laboratory space for this kind of teaching and research would have to built away from the central campus due to servicing and other complications. Otherwise, these laboratories could be shared with the Biology department, adjacent to the Zimmerman Plaza site. We will, hawever, make provisions in this pahse of the

development of the plaza, for "dry" laboratories for teaching and research by the faculty.

Therefore, this phase of the building development shall consist of office space of administrative, senior and graduate faculty and clerical staffs; dry laboratories and cartography drafting rooms; and conference-work rooms, as needed by the various departments. All attempts shall be made to maintain maximum flexibility of interior spaces to allow for changing needs in the future.

The space requirements tabulated in Part II, are based on current levels and projected as accurately as possible, due to the unavailability of such projections from the departments concerned. Therefore, the requirements of space (below) shall be increased by a general factor of 20 per cent.

ARTS & ARCHITECTURE BUILDING

The third major facet of the Zimmerman Plaza development is the facility for the departments of Art and Architecture. The need for expanded space for these departments is presently critical and projections for the future show greatly increased enrollments in both departments. New studios, offices, classrooms and workshops will all be needed. The department of Art has estimated that a total of 1,800 students will enroll in its offered studio courses alone in 1977. The architecture department has likewise estimated that in the total design sequence, a total of 310 students will be enrolled in the same year.

To determine the amount of space necessary to house the various courses taught in both departments, we secured from each, their projections of enrollments for each course to be offered, and on the basis of a varying maximum number of students per section and a possible six sections per week, which represents an

efficiency factor of 75 per cent, determined the number of studios required for each area of the art department curriculum. In the case of the architecture department, we proceeded on the criterion that each student enrolled in a design course must have assigned desk space available to him at all times. The faculty offices have been evaluated on the basis of one office per senior faculty member, while graduate students in art are assigned a studio cubicle and graduate students in architecture are assigned space in the general design studios.

Among subsidiary spaces required for the department of art are: the department chairman's suite, small lecture rooms and studios for individual faculty members.

The department of architecture will also require a jury room, classrooms, archives, the department chairman's suite and conference and work rooms. Student and faculty lounges, some

of the classrooms and seminar rooms, a model shop, toilet, janitorial and mechanical equipment areas will be used by both departments in common.

Additional facilities relating to the College of Fine Arts in general which will also be included are an expansion of the existing Fine Arts Library and new suites and offices for the Dean and Assistant Dean of the College.

Aside from the above spacific needs, outdoor work and storage spaces should be provided.. Circulation space within the building should be generous and include both service and passenger elevators. Cailings in the studios should be high to admit the greatest possible amount of natural light and all studios should be oriented with their long dimension to the north. Considerable space, both along direct traffic routes and out of general circulation areas, should be alloted to display space

for student and faculty work. Receiving docks and vehicular access to these docks must be provided. The general quality of space must be carefully considered throughout the building.

ADDITION TO THE NEW MEXICO UNION

The final phase of the development of the Zimmerman Plaza area involves an addition to the existing New Mexico Union Building. We will not consider this phase for detailed development, although we will zone the addition sufficiently to determine its effect on the spatial and visual characteristics of the Plaza.

PART II ESTIMATED SPACE REQUIREMENTS

GENERAL CLASSROOM FACILITIES

3	500-seat Lecture Halls	@ 6,000	18,000	sq. ft.
60	Seminar-lecture Rooms	@ 300	18,000	
	Audio-Visual Bank		2,500	
6	Men's Toilets	@ 120	720	
6	Women's Toilets	@ 120	720	
	Mechanical Equipment		400	
	Janitorial and Maintenance		400	
	Total, Exclusive of Circulation		40,740	

DEPARTMENTAL AND FACULTY OFFICES

Department of Economics:

	Department Chairman's Suite		900
20	Senior Faculty Offices	@ 150	3,000
8	Junior Faculty Offices	@ 150	1,200
4	Conference-Work Rooms	@ 300	1,200

Department of Geography:

	Department Chairman's Suite		900
10	Senior Faculty Offices	@ 150	1,500
4	Junior Faculty Offices	@ 150	600
2	Conference-Work Rooms	@ 300	600
2	Cartography Drafting Rooms	@ 600	1,200

Department of Government:

	Department Chairman's Suite		900
16	Senior Faculty Offices	@ 150	2,400
6	Junior Faculty Offices	@ 150	900
4	Conference-Work Rooms	@ 300	1,200

Department of Psychology:

	Department Chairman's Suite		900
24	Senior Faculty Offices	@ 150	3,600
10	Junior Faculty Offices	@ 150	1,500
6	Laboratories	@ 600	3,600
2	Conference-Work Rooms	@ 300	600

Department of Sociology:

	Department Chairman's Suite		900 sq. ft.
24	Senior Faculty Offices	@ 150	3,600
10	Junior Faculty Offices	@ 150	1,500
4	Conference-Work Rooms	@ 300	1,200

General:

24	General Secretarial Stations placed throughout building	@ 150	3,600
16	Men's Toilets	@ 100	1,600
16	Women's Toilets	@ 100	1,600
	Janitorial and Maintenance		400
	Mechanical Equipment		400
	Total, Exclusive of Circulation		38,300

ARTS & ARCHITECTURE BUILDING

College of Fine Arts:

Dean's Suite	1,200
Assistant Dean's Office	400
Addition to Fine Arts Library	4,000

Department of Art:

	Department Chairman's Suite		900
46	Faculty Offices	@ 150	6,900
40	Graduate Studio Cubicles	@ 120	4,800
10	Individual Faculty Studios	@ 135	1,350
4	Conference-Work Rooms	@ 300	1,200
4	Painting Studios	@ 700	2,800
2	Sculpture Studios	@ 750	1,500
4	Drawing & 2-D Design Studios	@950	3,800
1	Advanced Drawing Studio		700
	Lithography Studio		600
	Jewelry & Metalwork Studio		800
	Ceramics Studio		800
	Photography Studio		800
	Intaglia & Etching Studio		600

Art and Architecture Use:

4	Seminar Rooms	@ 300	1,200 sq..ft.
6	Lecture Rooms	@ 400	2,400
	Model Room		600
	Print Room		200
	Student Lounge		400
	Faculty Lounge		250

Department of Architecture:

	Department Chairman's Suite		900
16	Faculty Offices	@ 150	2,400
2	Conference Rooms	@ 300	600
	Workroom		200
	Archives		600
2	Classrooms	@ 600	1,200
	Jury Room		2,000
310	Student Design Stations	@ 60	18,600

General:

4	Men's Toilets	@ 200	800
4	Women's Toilets	@ 200	800
	Janitorial and Maintenance		400
	Mechanical Equipment		400
	Total, Exclusive of Circulation		67,100

ADDITION TO NEW MEXICO UNION BUILDING *

Snack Bar Expansion	20,000
Bookstore Expansion	10,000
Ballroom Expansion	20,000
Miscellaneous Additions & Expansions	30,000
Total *	80,000

* Approximate-for planning purposes only

PART III DESIGN DETERMINANTS

THE SITE

The Zimmerman Field area, which is proposed as the site for the new General Purpose, Faculty Office and Arts & Architecture Buildings and the expansion of the existing New Mexico Union, is approximately 450,000 square feet in area. This area is, in our opinion, far too great in which to construct a viable and cohesive plaza. The purpose of this section will be to determine the best location within the site and the appropriate size of the plaza, with respect to the purposes of the individual buildings and their respective sizes.

The University has made the decision, with which we concur, that this space should be an urban space in the full connotation of the term. It should be, then, subject to the greatest and most constant use and traffic flow possible. It should be used by as many different people as possible, that is, not only by those having business within the area

itself. It should avoid all implications of being either for static use only or for transient use only; but it should visually imply as wide a variety of possible uses as is consistent with the framework of building use within which it is built.

The Zimmerman Field area is presently one of great traffic flow due to the location of the New Mexico Union and student housing on the east side and the major academic areas to the west. This traffic, however, is routed primarily over two parallel routes along the northern and southern boundaries of the area. The construction of additional major classroom space as specified above for the General Purpose Building will aid in developing diagonal traffic through the area. However, one of our purposes will be to develop a need and desire for as great a traffic flow in all directions through this plaza as possible.

The location which best serves the needs noted above is probably in the northern area

of the total site because of the location of a major entrance to the Union Building, the general classrooms of the Education Complex and Mitchell Hall along the East-West Axis of what is now Ash Street. However, the strong need for the Arts & Architecture Building, a prime facet of the proposed Building development, to be in close proximity to the existing Fine Arts Library on the Southern edge of the available site, would tend to make a space encompassing the traffic at the northern end, too great in length to be held together by the limited building area which has been found to be feasable. This problem can be solved by judicious placement of the Union Building expansion, particularly the new snack bar facility. Since this facility is the major drawing point to the Union Building during the day, and since it needs to be adjacent to the kitchen facilities, located in the southwest corner of the building; by locating the new snack bar to the west of the expanded kitchen and providing space for outdoor seating in the

plaza itself, as well as that seating indoors, we automatically provide both a major traffic flow into and out of the plaza and a prime device for encouraging static use. It may also be possible to provide the needed expansion of bookstore space with a major entrance directly or indirectly from the plaza and thereby create another activity generator.

In the previous sections of this program, we have studied the need and feasability of the various functions and buildings proposed for inclusion in this plaza, and have determined the maximum space which may feasably be included. Historical precedents show, in spaces of the nature desired here, a very strong relationship between the unity and coherence of a space and the proportioning of open area to the heights of the physical objects enclosing and defining the space. This factor will assume prime importance in the eventual determination of the size and configuration of the plaza.

Another factor in the unity of exterior spaces is the apparent self-sufficiency of the space, i.e., the degree to which the space is an entity within itself, particularly at eye-level. If the space is allowed to die off in the distance with no visual stop between its intended confines and infinity, there can be no unity. Objects without the immediate area are best seen above the physical boundaries of the space rather than next to them. Most often, the best means to this end is to restrict the size and directness of accesses to the space but not necessarily the number of such accesses.

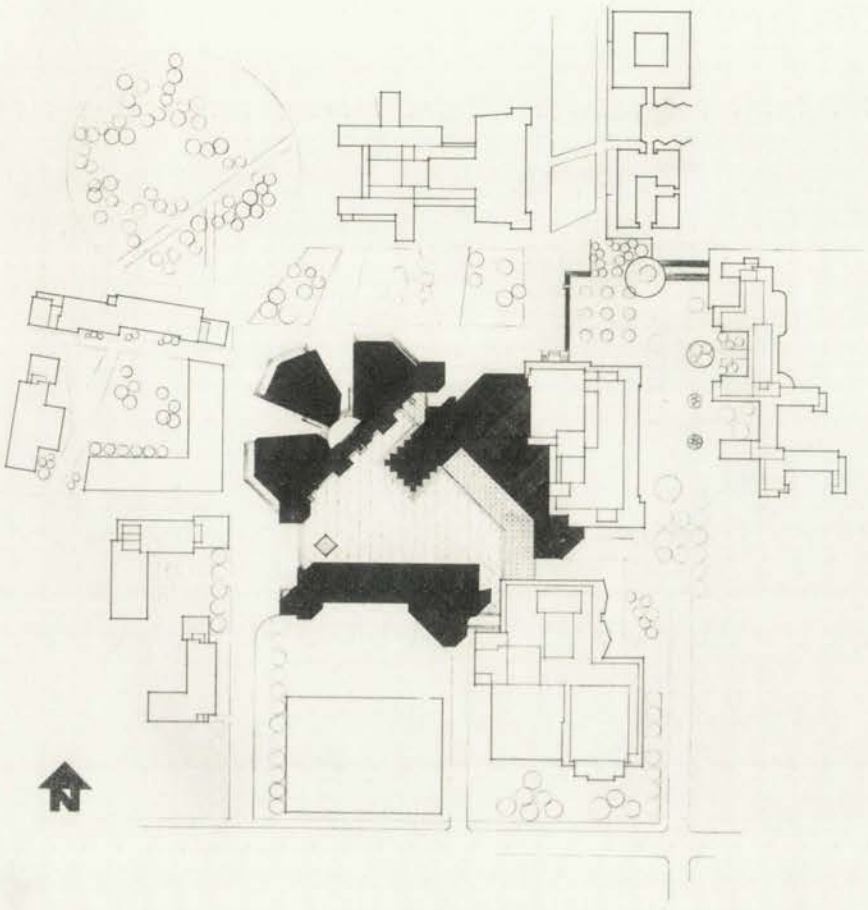
Light and shadow are also of prime consideration, particularly in our warm, semi-arid climate. The plaza must be long enough in the north-south direction that the majority of the area receives sun during most of the day in the winter, while sufficient shade for comfort must be provided during the summer.

The primary direction of all building on the University campus has been the horizontal, with the exception of the Library stack tower. However, the recent addition to the Library has destroyed the effect of the tower as a vertical element. Therefore, it appears worthwhile to create in the plaza a strong vertical element to foil the rather monotonous horizontality of the rest of the buildings on the campus, but also to invoke the magnet of curiosity in drawing people into the plaza, and as a point of reference from without. Because of the requirement for easy and rapid movement between classes, the building involving classrooms cannot be considered for feasable high-rise development. However, the faculty offices are easily adaptable to such development because of the relatively low traffic volume within the building, which can easily be handled by one or two elevators; and the advantage of the rather spectacular view in all directions can be best appreciated in this type

of use.

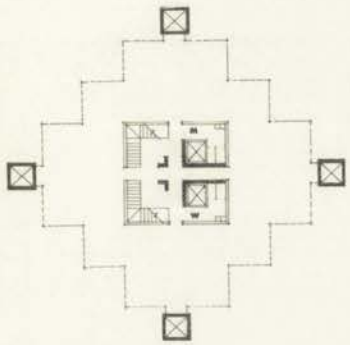
The Arts & Architecture Building must have north light for the studios, and because of the length limitations of the site in the East-West direction, it must be of at least three or four stories. This building will also require approximately twenty-foot ceiling heights in all of the studios, which will result in a building sixty to eighty feet in height.

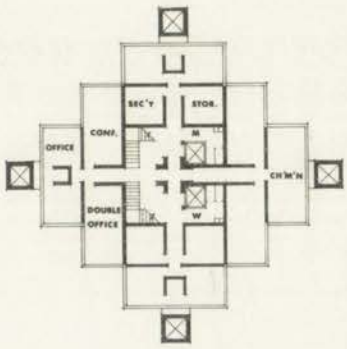
The general classrooms will not require any peculiar conditions, although the optimum height for this type of building, due to time-motion problems, is either two or three stories. The large lecture halls must be located at ground level for rapid entry and exit. The audio-visual bank should be easily accessible form all classrooms, lecture halls and faculty offices, and due to the need for controlled light, can easily be located below grade.

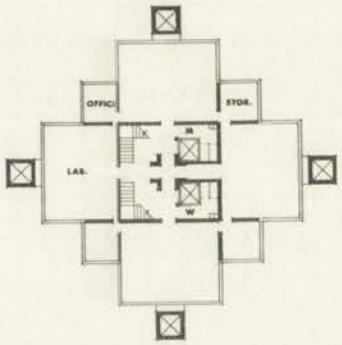


A DEVELOPMENT OF THE

ZIMMERMAN PLAZA







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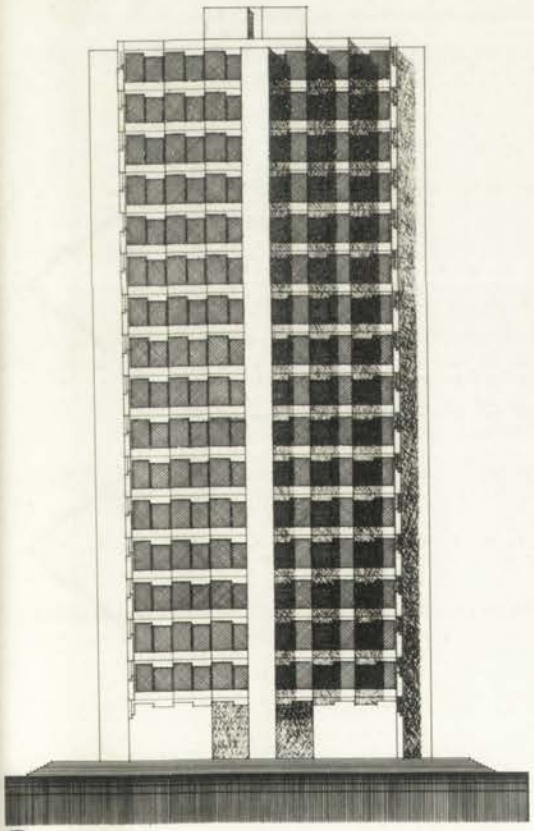

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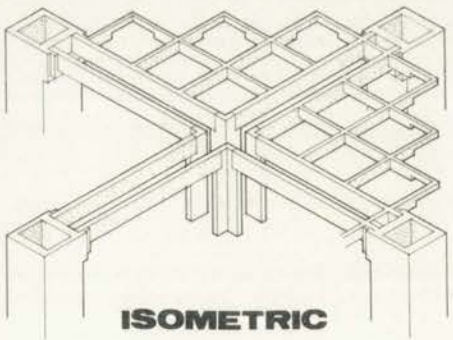

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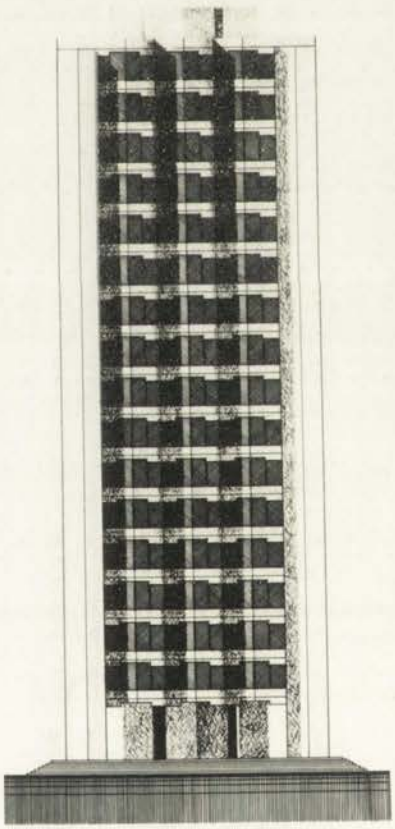

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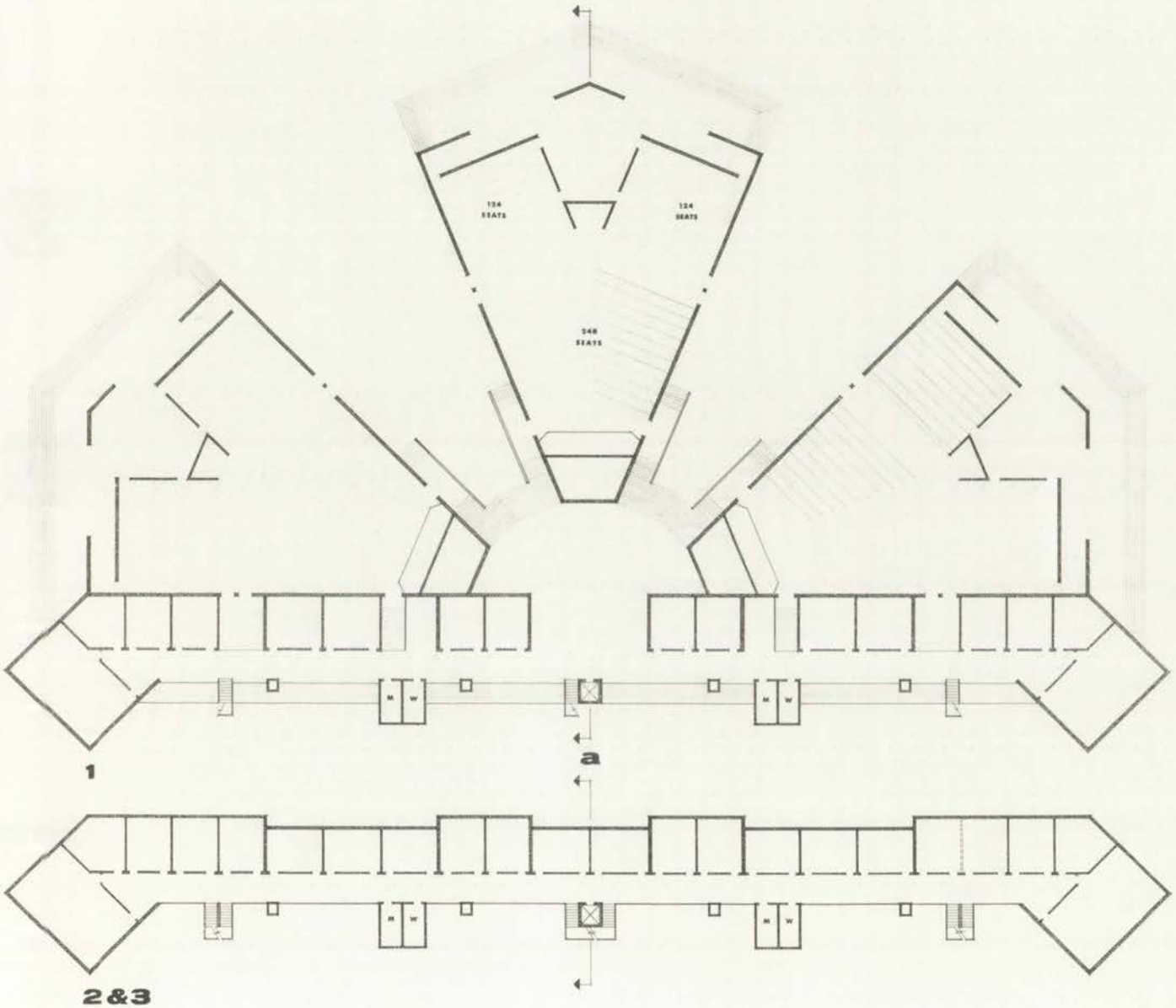

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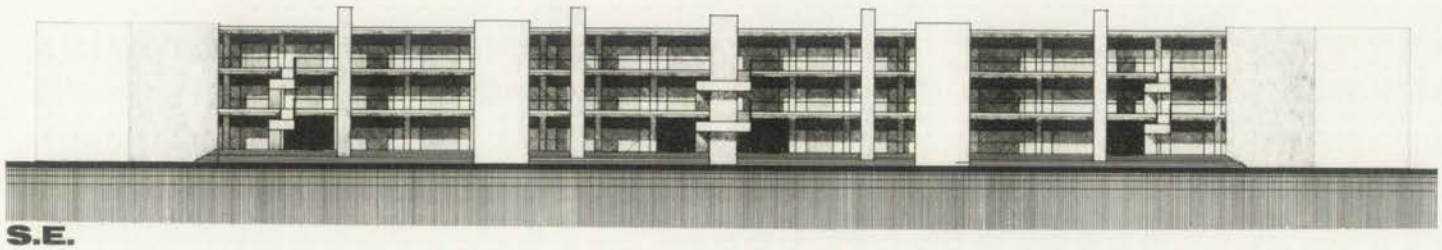

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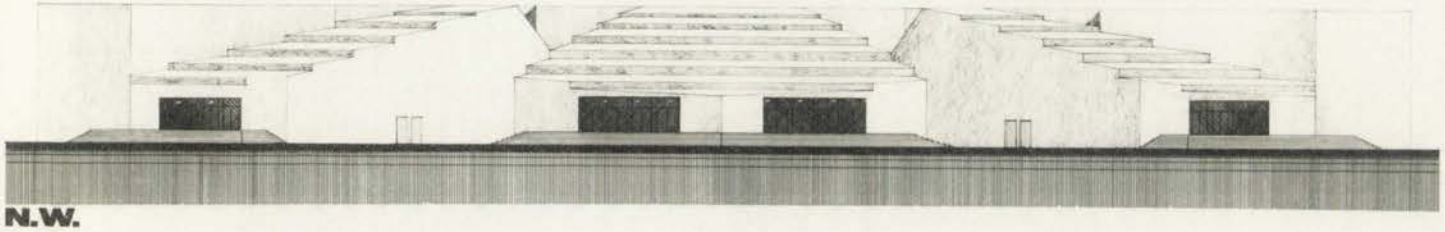

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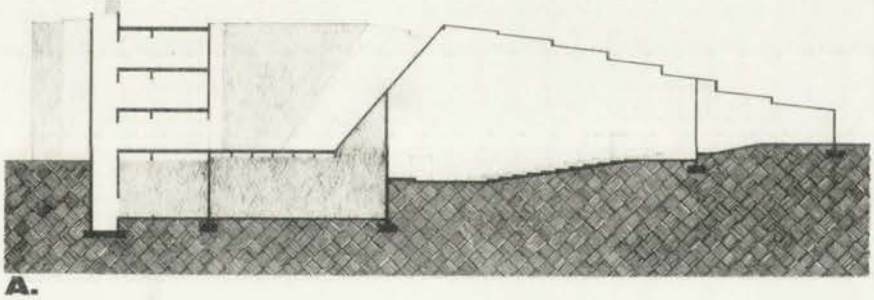
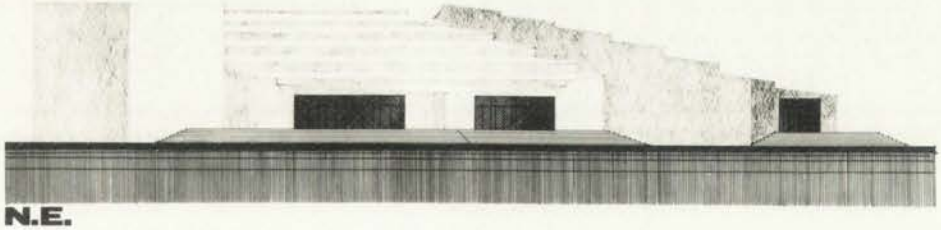


A.

SECTION



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ELEVATIONS

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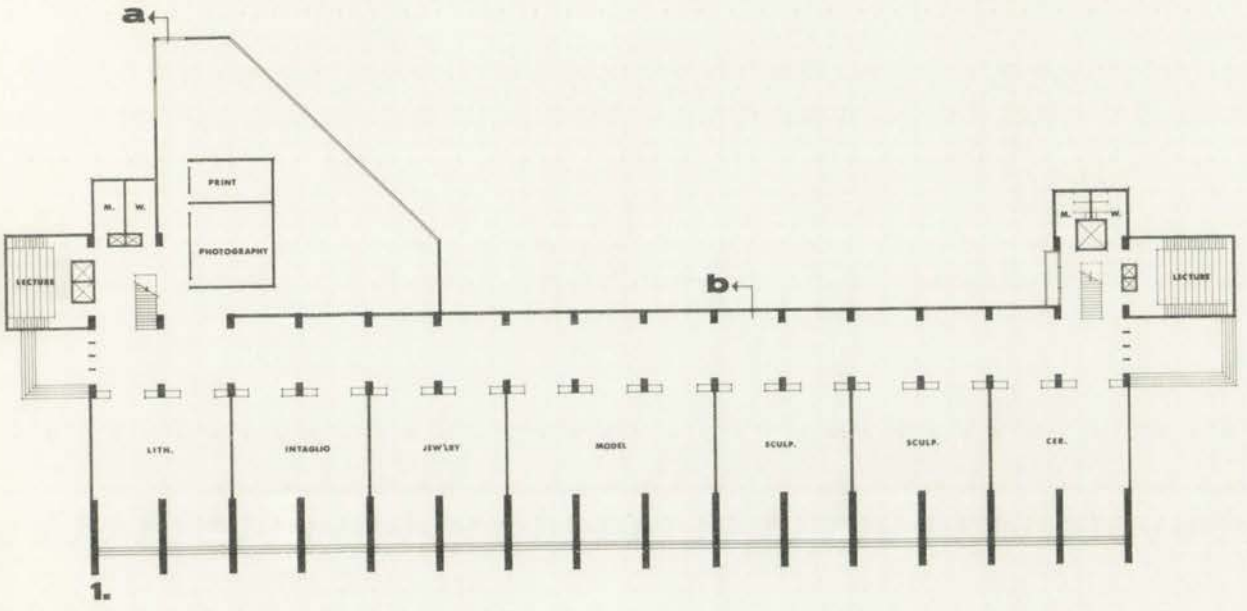

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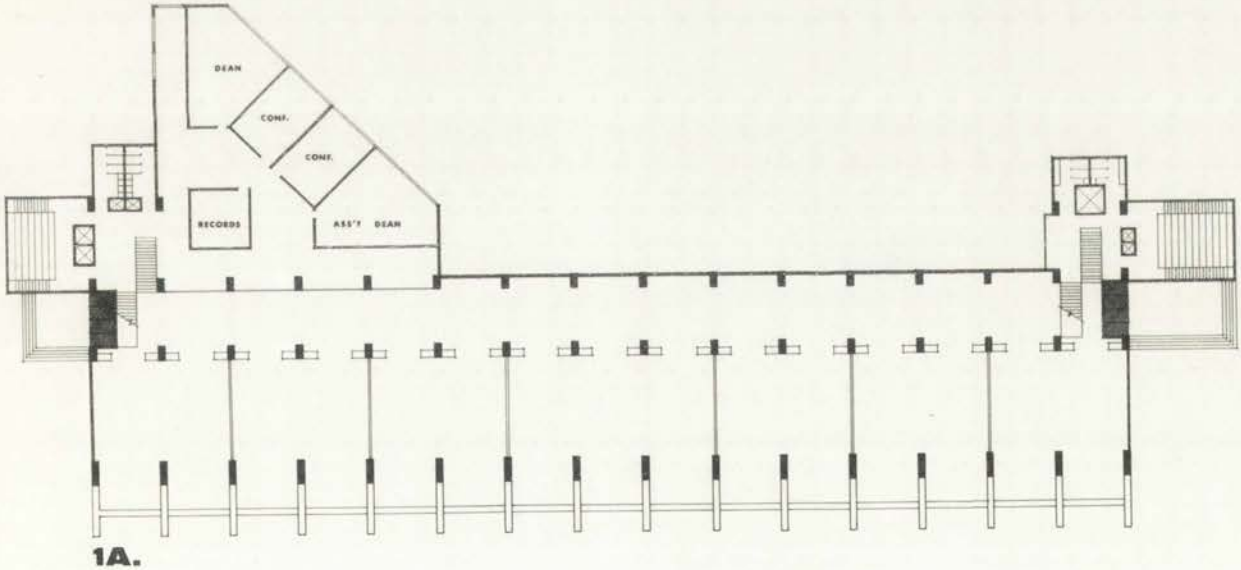

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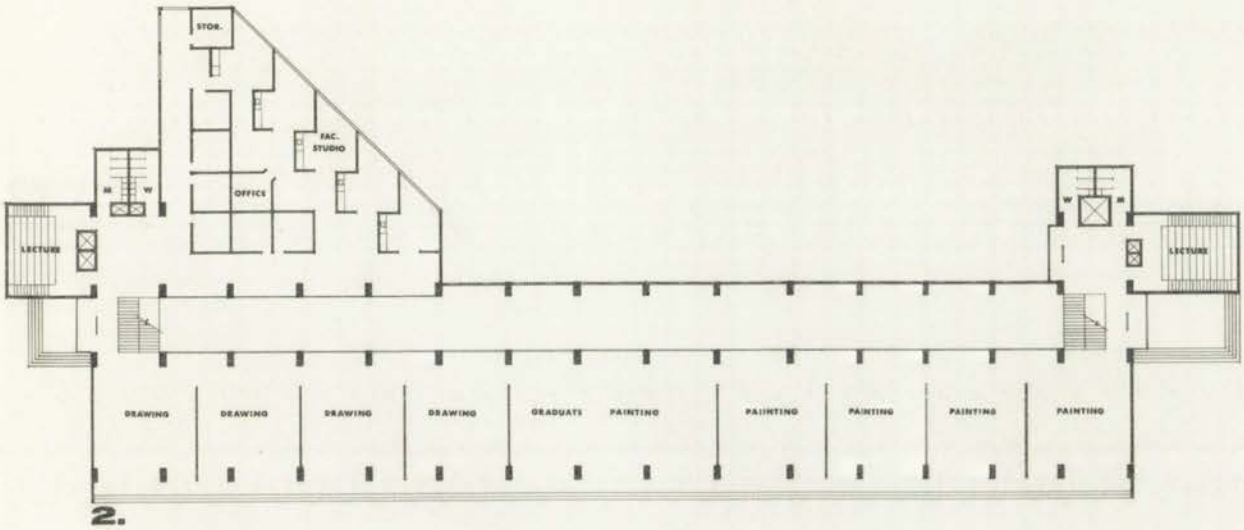

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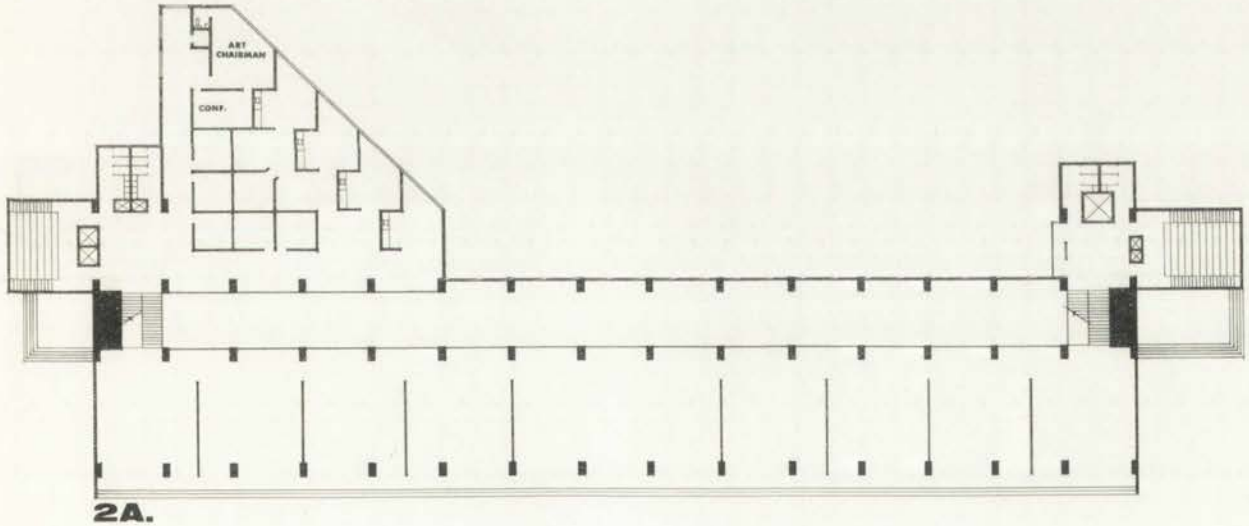

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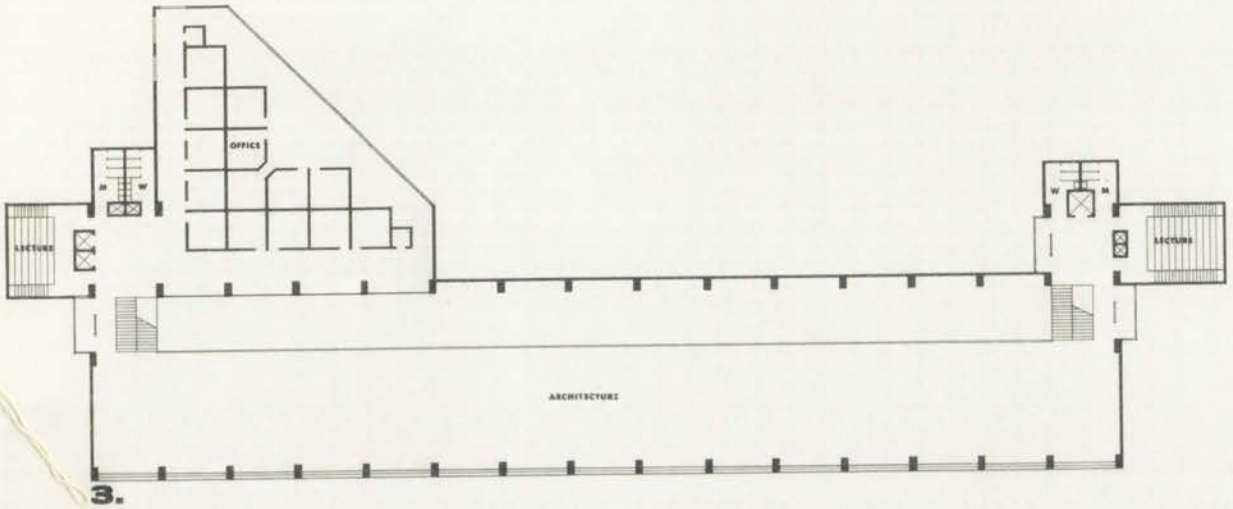

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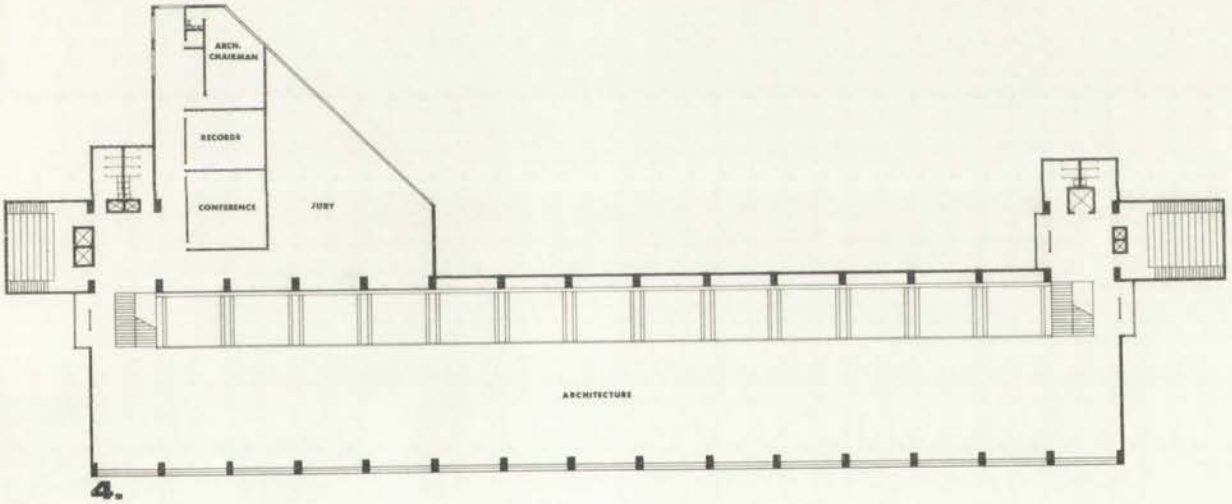

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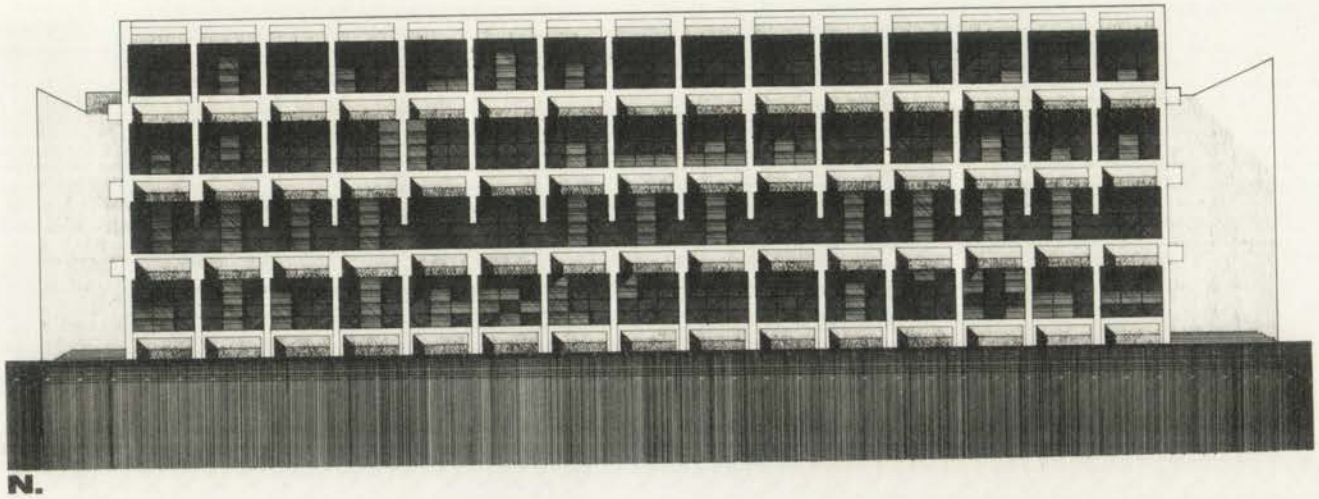

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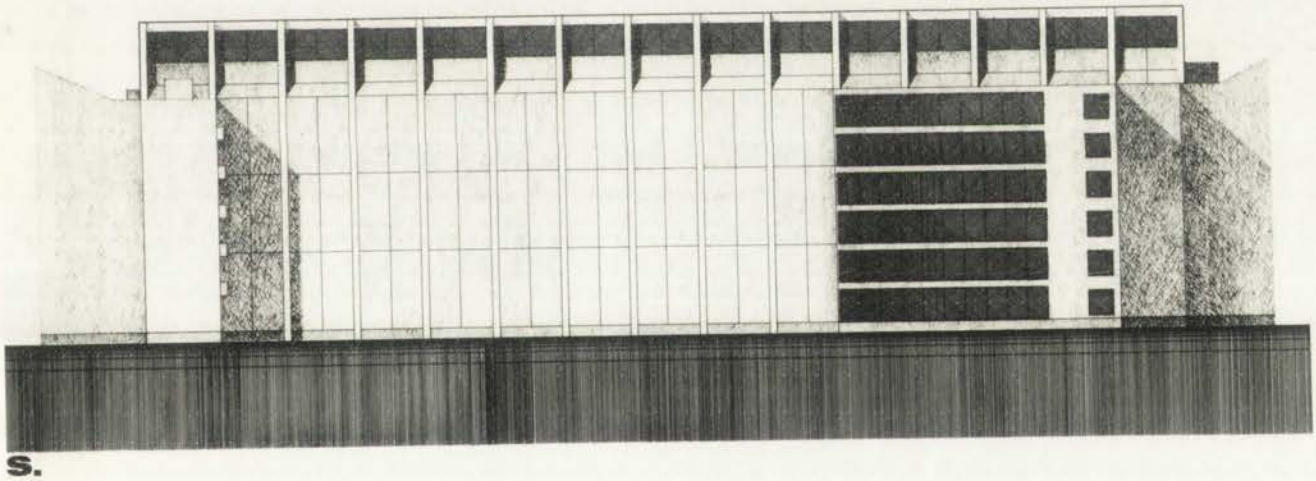

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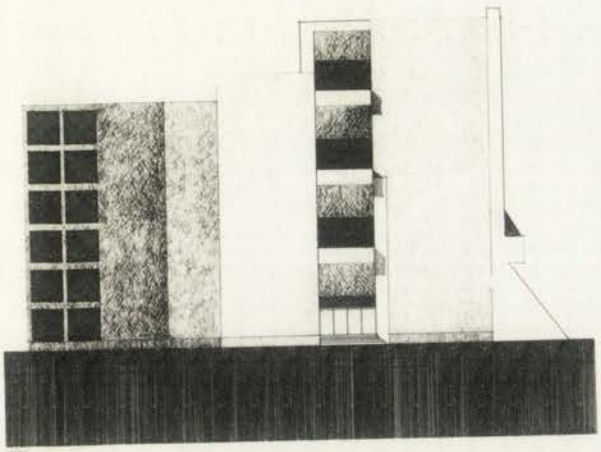

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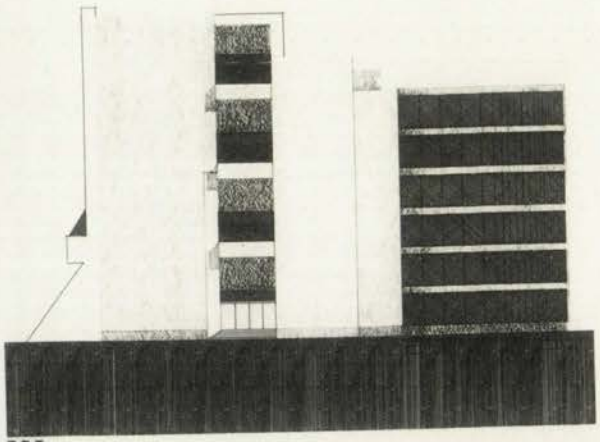

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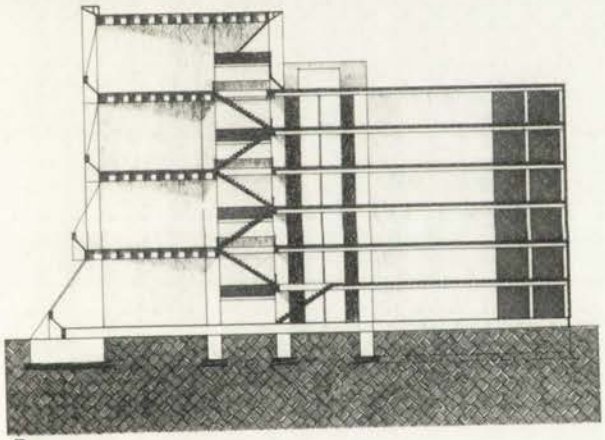

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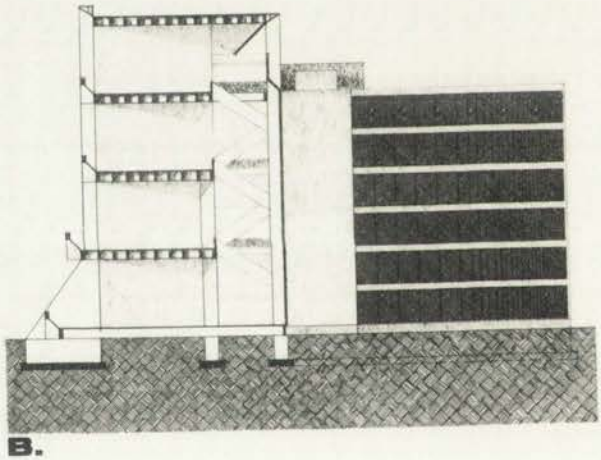

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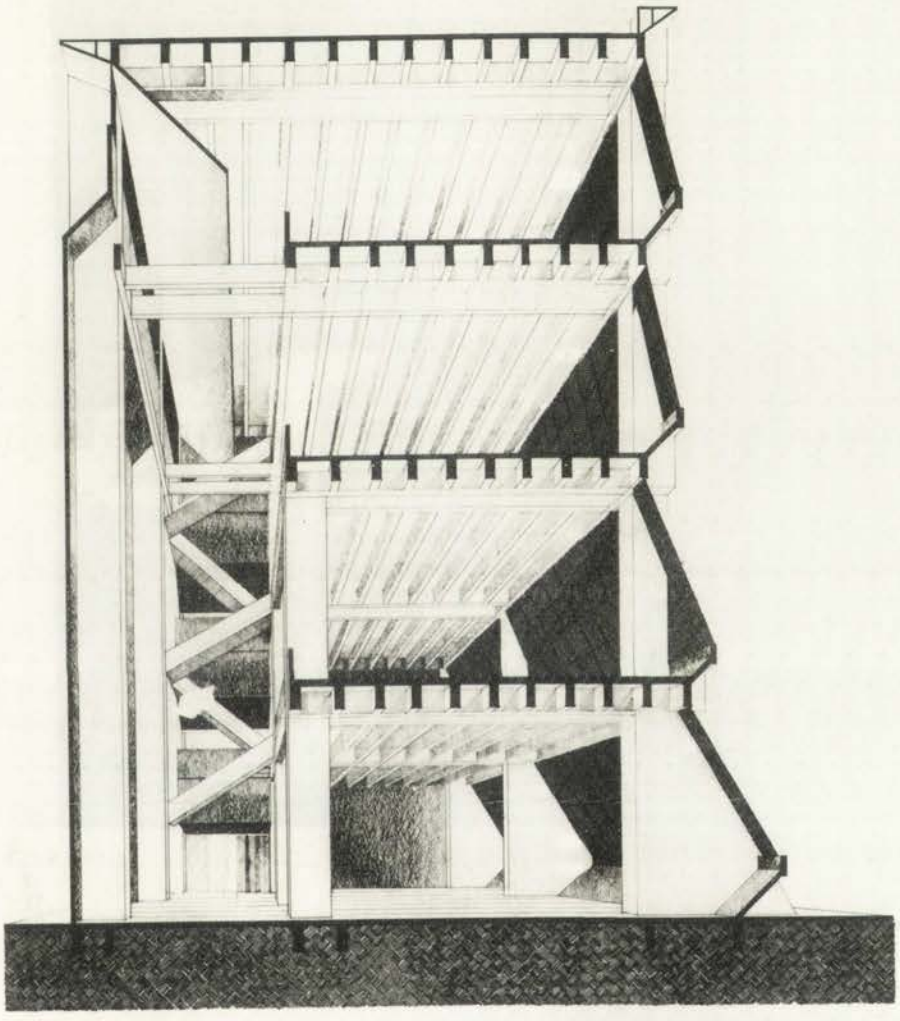

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