Romaldo Giurgola

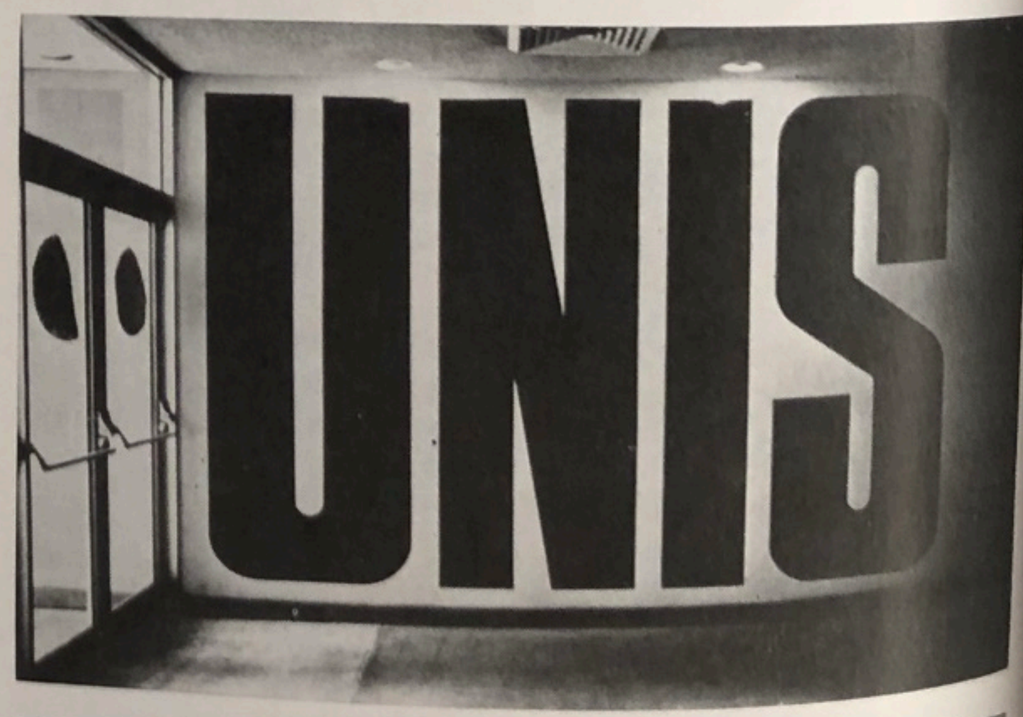
The pupil is his own pace-setter in two schools —one makeshift, one developed in toto— exemplifying the revolution in education

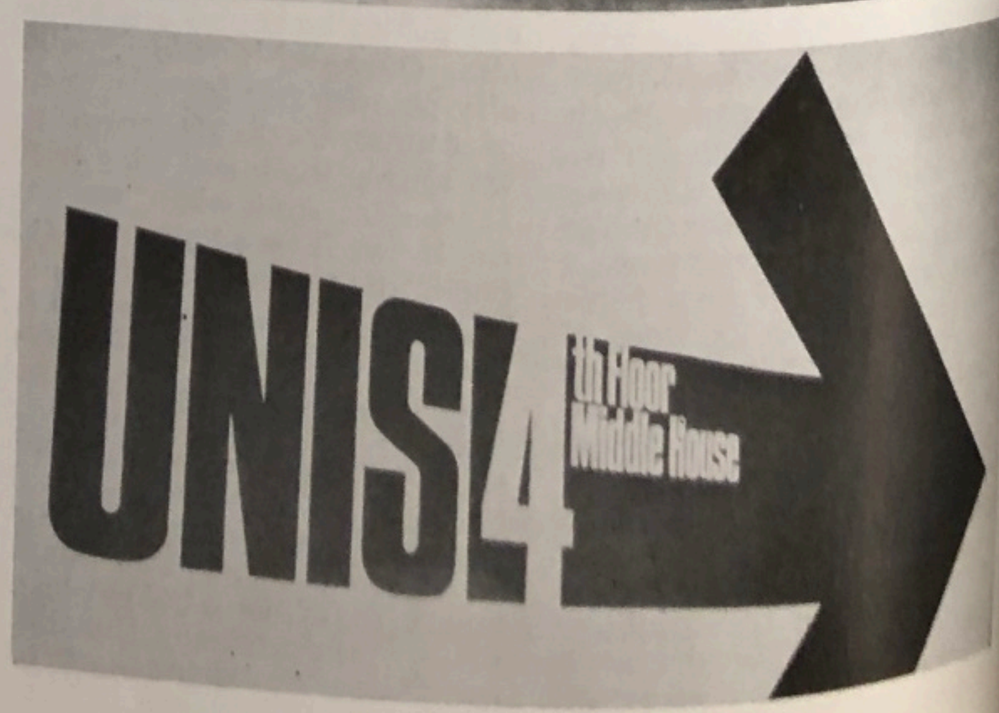
1. UN School in a loft building

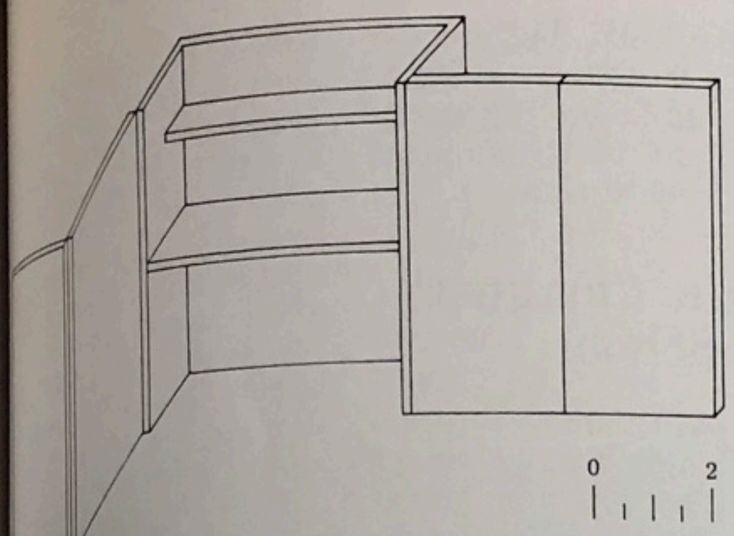
The most cosmopolitan group of school children in the world may be the 500 pupils who attend classes in a five-story midtown Manhattan, loft building of concrete and heavy timber which has been renovated and equipped with air conditioning, ventilation and heating. This is the United Nations International School for the offspring of diplomats stationed at the UN. It is an interim, low-budget facility to serve, hopefully, only until the realization of a multi-use UN structure containing a school with 3 times the capacity (1500 pupils), plus 700 apartments, 3 Con Edison transformer substations, and parking for 300 cars. The project, awaiting its required appropriation of $27,000,000 is by the same firm which produced the $1,000,000, 50,000 square-foot UN school in the loft, Mitchell/Giurgola Associates Architects of Philadelphia and New York. The team, frequently featured in INTERIORS, was last represented in our pages just a year ago with a student union for the State University at Plattsburgh, N.Y.; most of our readers know that Professor Giurgola, AIA, long ago was INTERIORS' art director, and is now Chairman of Columbia University's Department of Architecture," and that Ehrman B. Mitchell, Jr., FAIA, is President of the Pennsylvania Society of Architects. A bit of information which may not yet be general knowledge is that the firm has recently been awarded the commission to design Yale's two new dormitories.

With industrial indoor-outdoor carpeting underfoot, white-painted perimeter walls, and suspended industrial fluorescent fixtures, the architects have provided the Spartan comforts of a basic shell within which little else is fixed, except in certain special spaces such as the entrance lobby and kitchen. Bold graphics used with a color-code floor-identification system is the principal medium of decor. All other visual divertissements are the living and moving cast of characters and the educational tools being used—books, TV screens, maps, chalkboards.

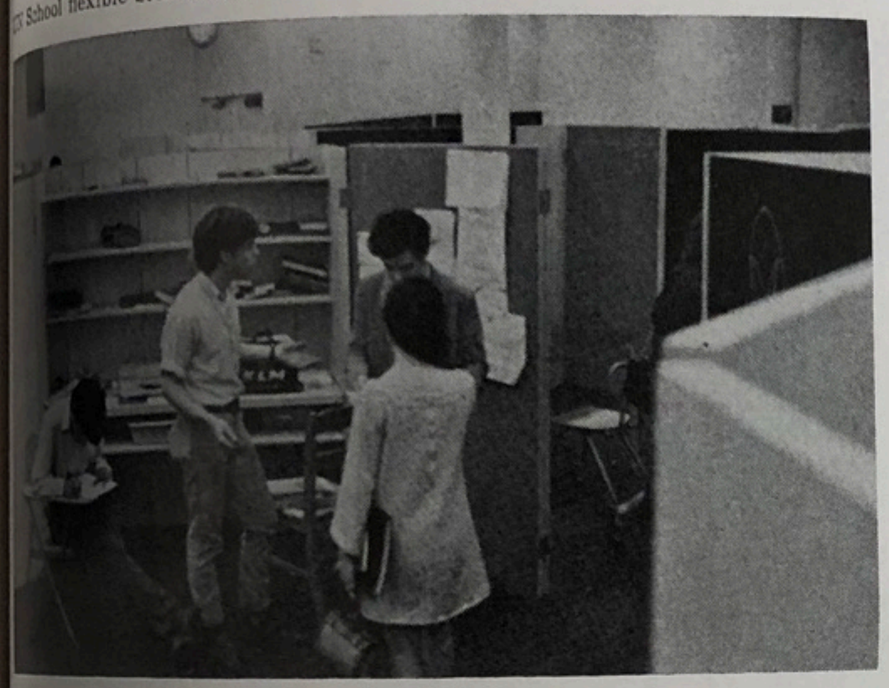
The fact that there are relatively few scheduled classes in which pupils of about the same age proceed together through the day—the traditional learning ceremony in elementary schools and to a lesser degree in high schools—is not a symptom related to the international mix at this school, but something that is happening everywhere. The concept of large groups going through the same learning motions in unison, following the commands of a teacher-captain has given way to another, long used in a number of prestigious experimental schools. In this system each student follows a learning program partly mapped out *for* him and partly mapped out *by* him but by and for *himself alone,* allowing him to acquire and explore knowledge at his own pace. Group activities and even a few class-like discussions survive in the system but no longer dominate it. Instead each individual student circulates under his own steam between library, laboratory, gymnasium, seminar room, his facul-

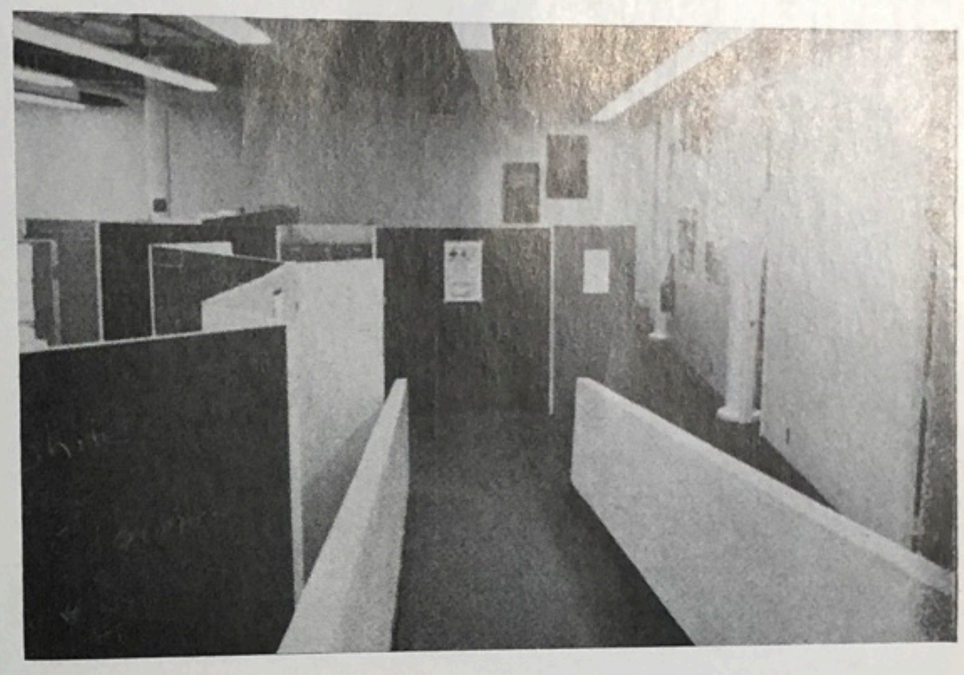


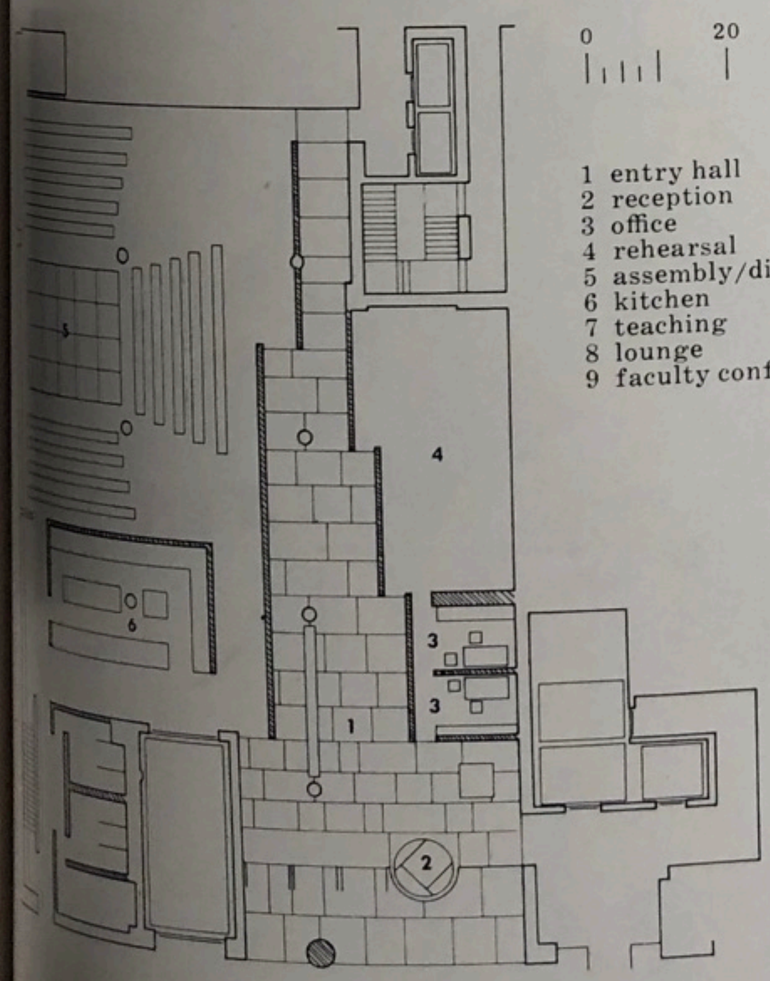


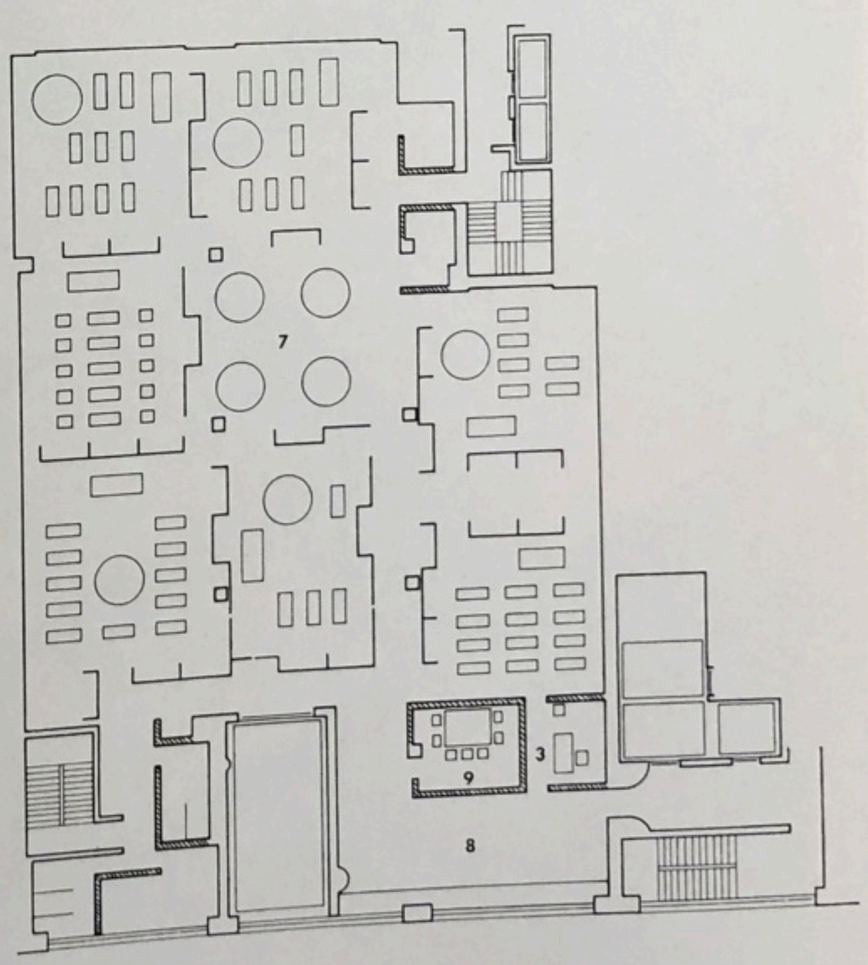


T School flexible storage/partition/desk unit









Mitchell/Giurgola Associates

ty advisor's office, studio, and his own personal carrel—where he can turn on cassette TV instruction and lectures, and information retrieval machines as he will. The need for classrooms declines, and what classrooms are used are enclosures continually in process of change—enlargement, contraction, regrouping, making and unmaking. Thus the architects of the UN School provided few walls and conventional desks but mostly flexible, movable storage/partition units serving partly as desks and partly as home bases for each student.

2. Penn "magnet" High School

Mitchell/Giurgola's William Penn High School is based on architect/planner David Crane's "North Philadelphia School Facilities Study" of June 1968—an extraordinary analysis of the area's existing and required educational facilities for elementary and secondary age children, as such facilities relate not only to educational goals and methods, but as they relate to the layout, transportation facilities, and needs of the community in which they are located.

The educational principle basic to the Crane study is

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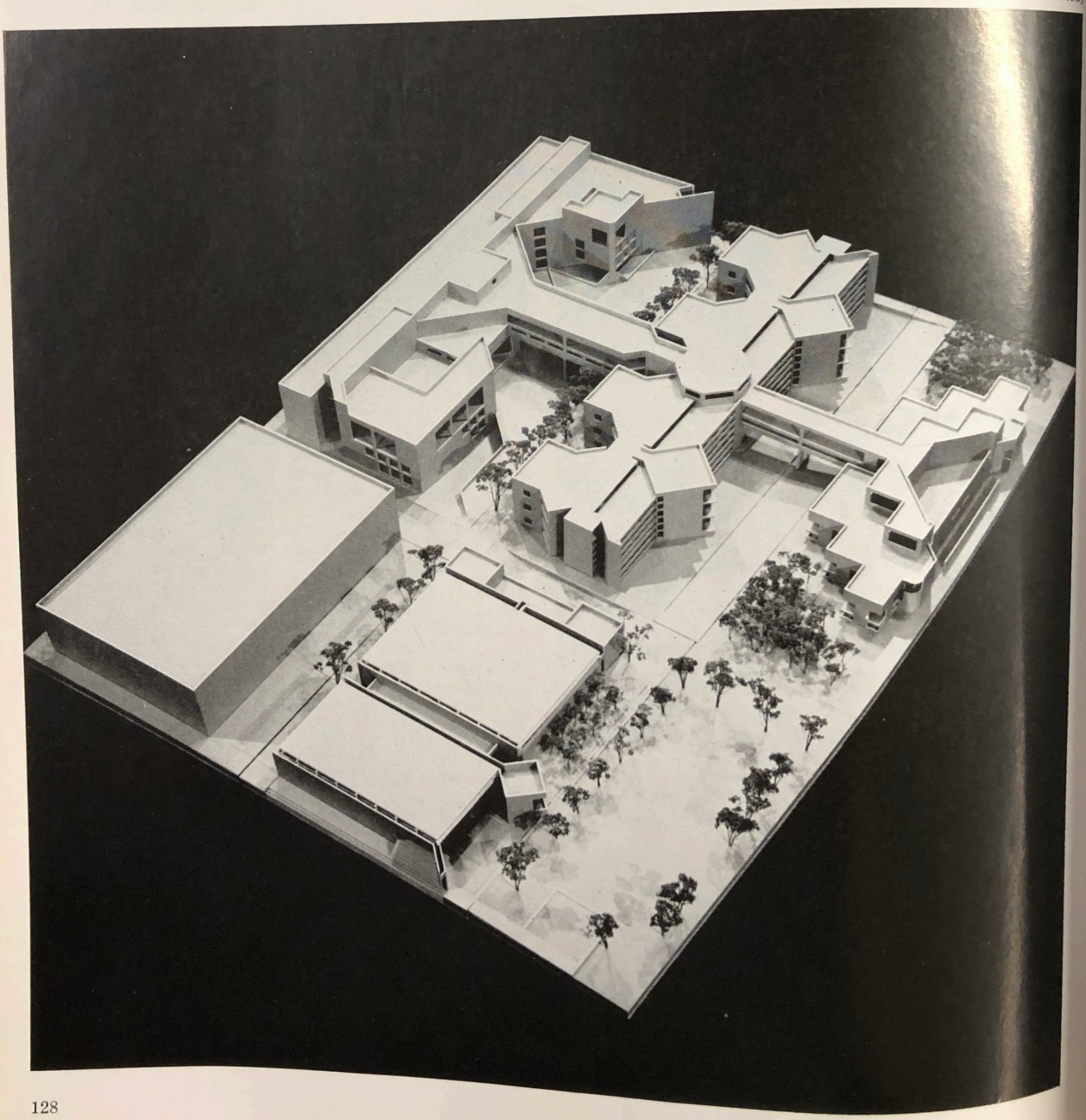
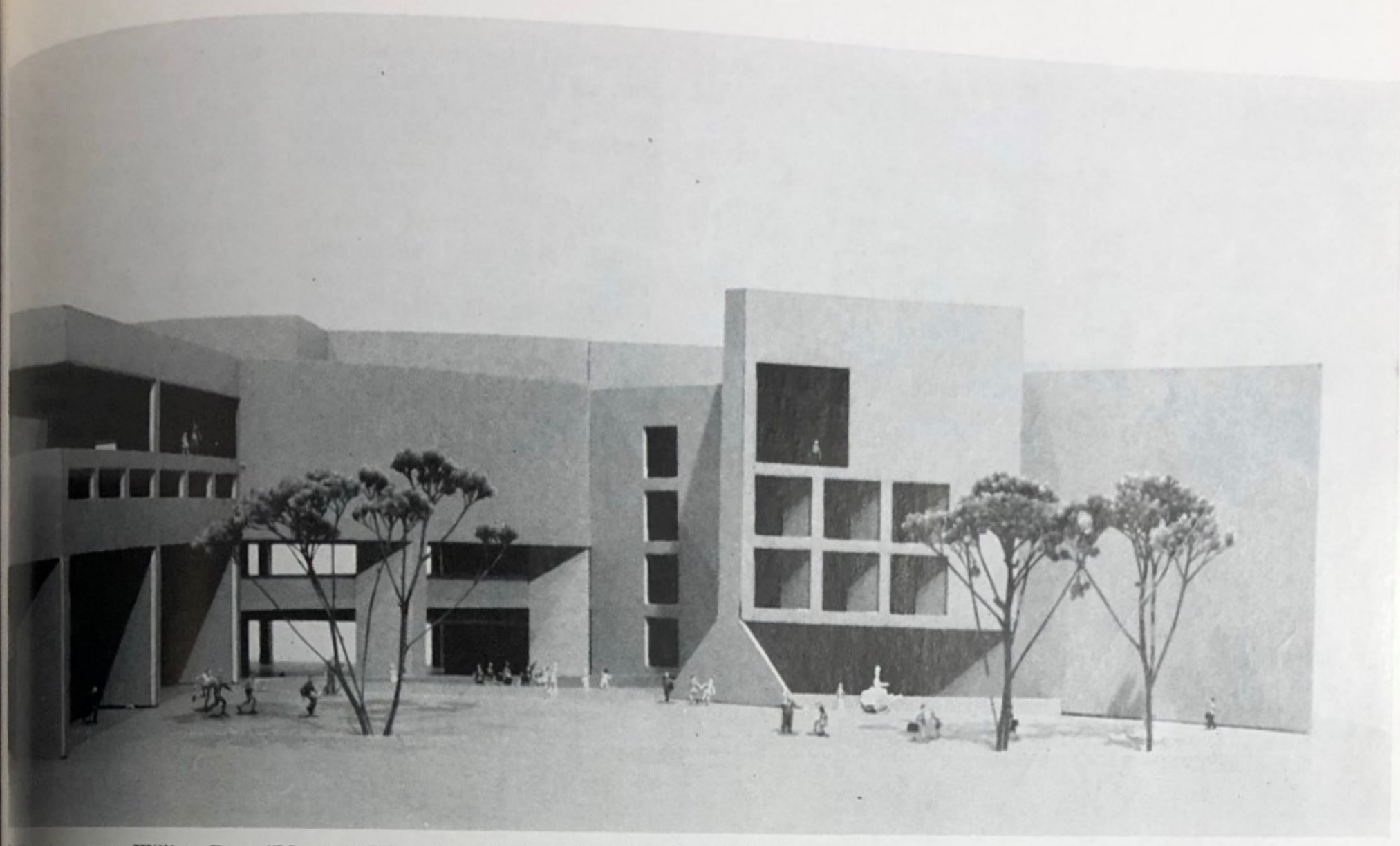
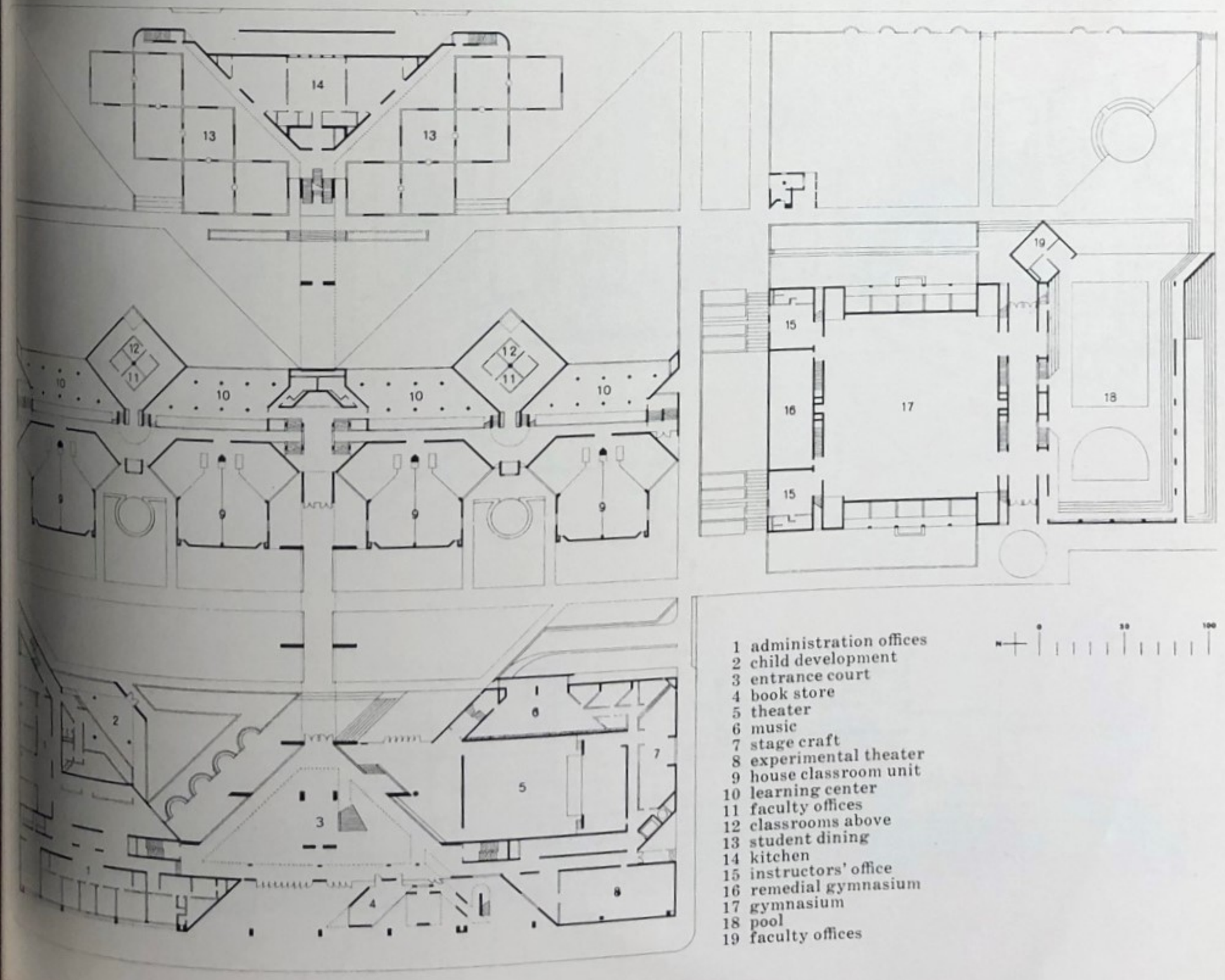




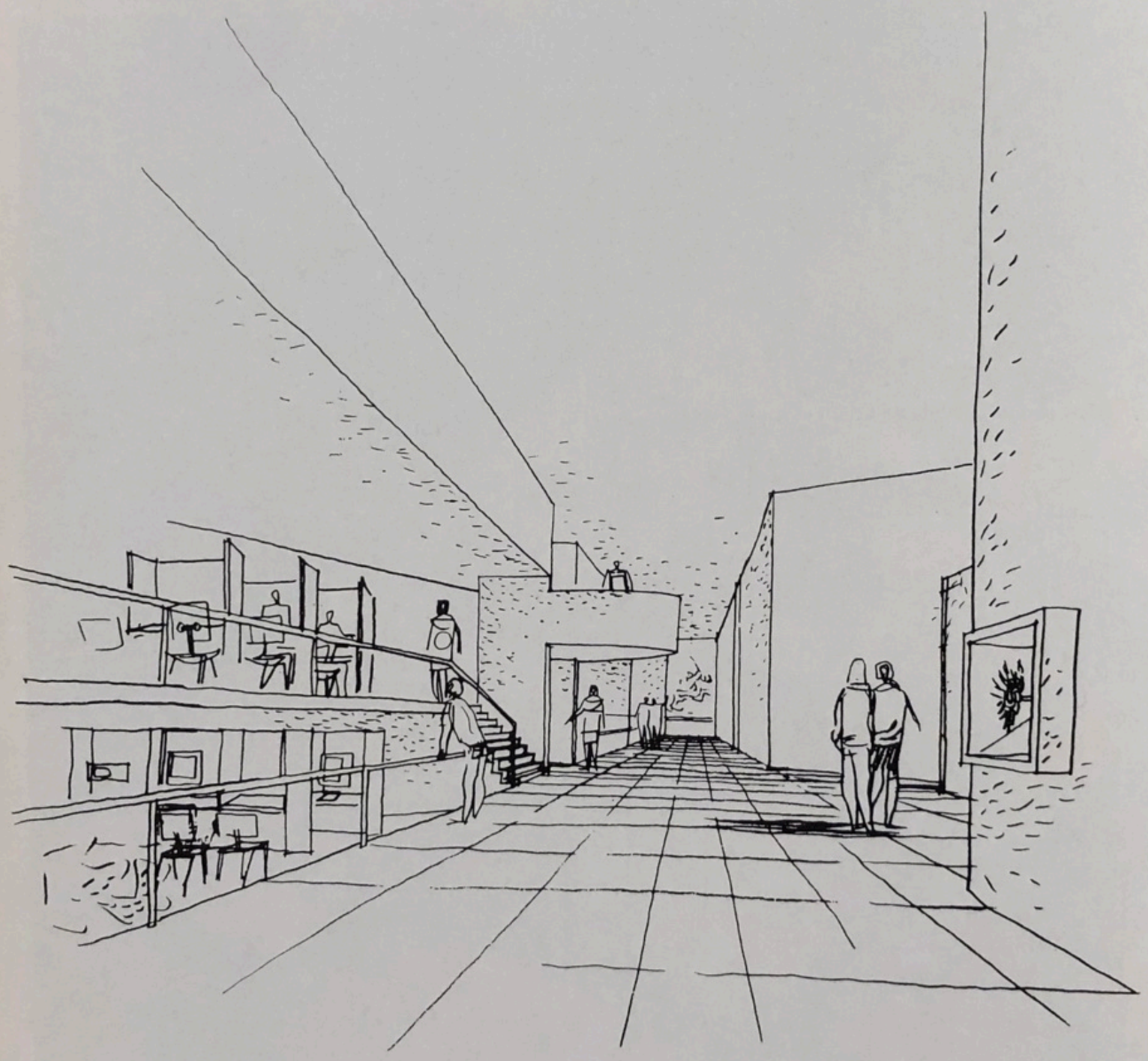
On these two pages: William Penn "Magnet" High School models and plan of main level

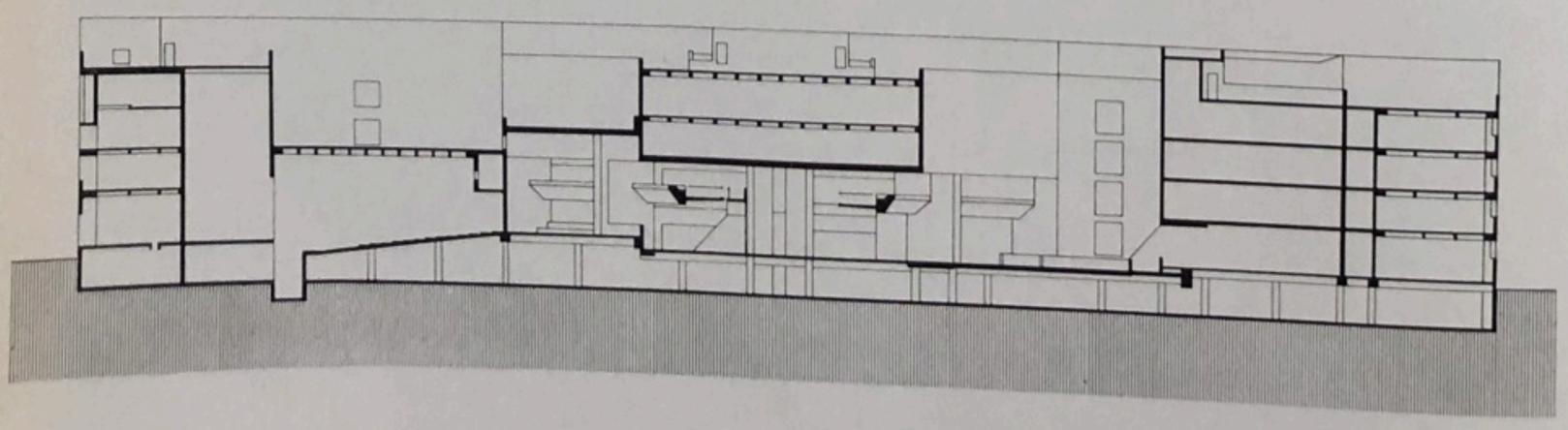


1 administration offices
2 child development
3 entrance court
4 book store
5 theater
6 music
7 stage craft
8 experimental theater
9 house classroom unit
10 learning center
11 faculty offices
12 classrooms above
13 student dining
14 kitchen
15 instructors' office
16 remedial gymnasium
17 gymnasium
18 pool
19 faculty offices

Mitchell/Giurgola Associates

the one mentioned briefly with regard to the UN school on the preceding pages—that each child will be following an individualized program shaped by his own capacities, needs, and goals. Instead of moving in groups from class to class students move individually from library to laboratory to their personal study carrels. The size of the student's circuit—the distances between study centers—increase as he grows older, so that by his mid teens he may not even be bound within the confines of one school building or even one school-building complex. For if he has some specialized interest which requires specialized technical, spatial, or library resources that cannot be duplicated in every neighborhood high school of moderate size, then he may spend large portions of his time in the school specializing in that field. That kind of school would be called a *magnet* school because it would pull in all the students oriented to a particular field—biological sciences, let us say, or mathematics, or communications. Eventually he might make that school his base—where his personal study carrel is located—even though a less specialized school might be closer to his home.





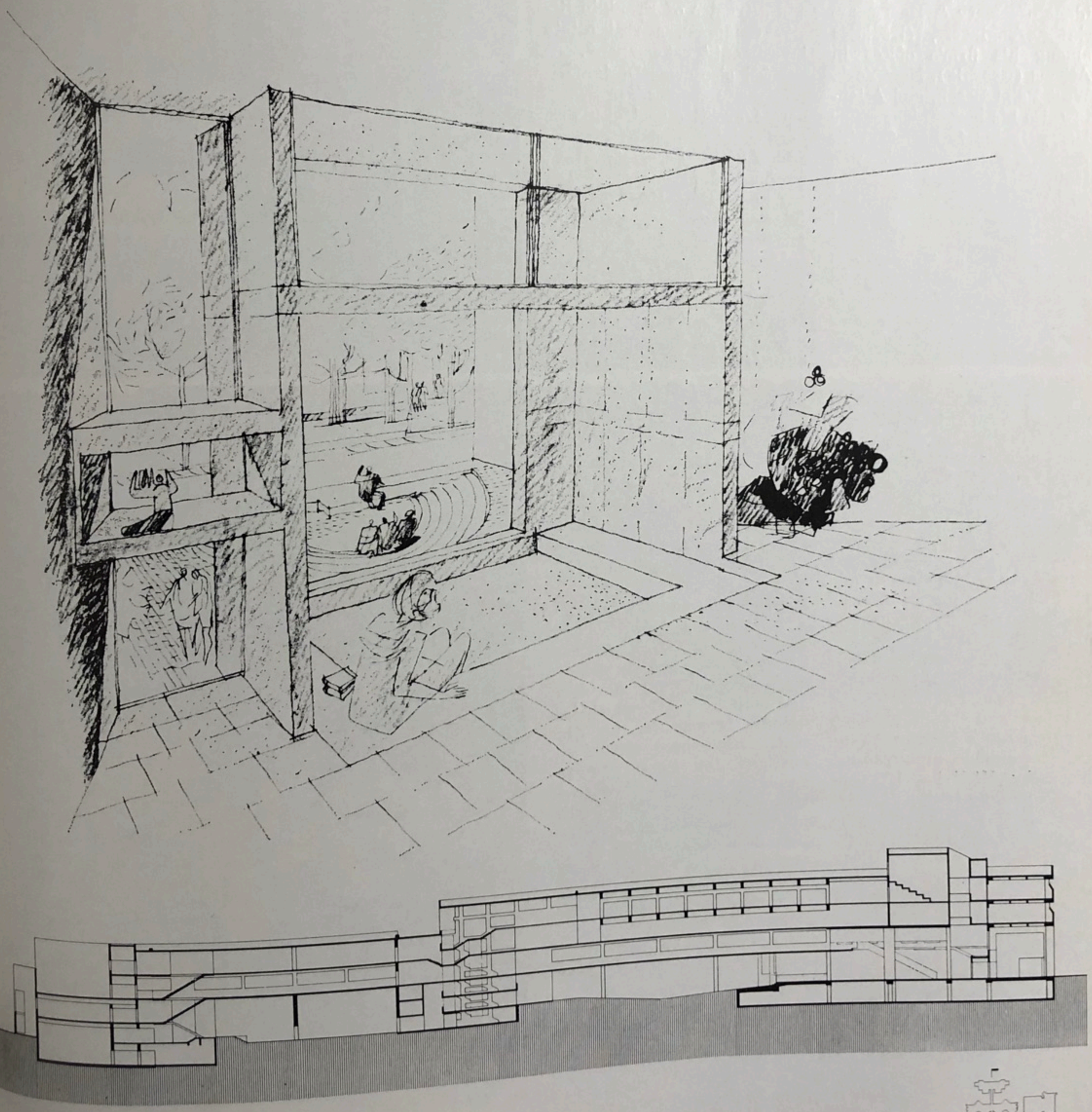
On these two pages:
William Penn "magnet" High School, where spaces range from individual carrels to rehearsal rooms and a theater.

The question of location is related, for as Crane points out, it is not desirable to concentrate educational facilities in huge educational parks which entail the disadvantage of razing homesteads, separating communities from educational facilities, preventing the community from using educational facilities after school hours, denying community participation in the educational process, and unnecessarily increasing the cost and time of traveling between home and school.

The kindergarten and lowest elementary school facility should thus be intimate-scaled and closely embraced by the residential community it serves; at the opposite end of the age-space scale, the magnet high school can be large, though located at a subway or other mass transit station. It should be community-oriented too.

The Mitchell/Giurgola design shown here is such a "magnet" high school, the William Penn High School specializing in communications now being built for $13,000,000 (and winner of a citation—1970—from the American Association of School Administrators). In an area of 526,000 square feet it will accommodate 3,000 students in grades 9-12, the facilities also arranged for after-school community use. The building is organized into five major activity areas: Administration and Special Educational Centers; Instructional Materials Center (IMC); Academic Houses; Dining and Recreation; Gymnasium and Pool. Fronting on Broad Street are the Administration complex and a 500-seat theater. In the cen-

(continued on page 162)



John E. Bertini, AIA, partner in charge of design, and Alsey W. Newton, Jr., AIA, chief designer in the interior furnishings section. Collaborating on the landscaping was the firm of Sasaki, Dawon, DeMay Associates, Inc. Edison Price did the lighting.

Heavily engaged in banks, schools, industrial buildings, shopping centers, stadiums, Wilson, Morris, Crain & Anderson have an interior design department with a permanent staff of four—two trained as architects, two as interior designers—under Alsey Newton. Occasionally interior designer Sally Walsh of Houston is called in as a consultant. The firm now has a definite policy of trying for the interior contract on all of its buildings (the work always done under a separate contract, incidentally), because, as Anderson says, "We feel that in the commercial area this is the way it's going to go."—*O.G.*

Mitchell/Giurgola & Associates Architects

(Continued from page 130)

ter, secluded from the distractions of the street, are the six Academic Houses (which are the basic study areas for ordinary academic high school subjects, and where the "home base" individual study carrels are also located). The IMC links the Broad Street school areas with the Houses. Toward the residential community is the Dining and Recreation building, which is connected to the main circulation artery. The Gymnasium and Pool facility to the south is adjacent to the playing areas. On site parking is provided under the structure along Broad Street.

This senior high school for young men and women in the 9th through 12th grade has a built-in expansion capacity to accommodate 1,000 additional students (from 3,000 to 4,000). It will serve students in the William Penn community as well as students from other parts of the city majoring in communications—journalism, radio, TV, theater.

The implementation of the educational innovations requires spaces for large and small group instruction, team teaching, independent study, and flexible scheduling in small time-modules. *(cont'd. p. 164)*

Time module vs. class period

It is pertinent to point out that the *module*, meaning a fixed period of time, is the term used instead of *period* in new educational parlance. In his individual program the student may devote several consecutive time modules to uninterrupted work on a research, learning, or laboratory task on which he wishes to concentrate (just as this kind of individualized education encourages him to concentrate for days or weeks on a massive progress effort, going far above his standard grade in a subject—language, science, mathematics, or whatever—to which he feels committed.

Equipment is provided for open-and-closed-circuit television and computer-assisted teaching. An Instructional Materials Center, combining all instructional media and communications links, is the focal point of the complex. Faculty work space is fitted into each major subject area.

Flexible spaces

Many different types of teaching and learning processes will be conducted within the school, requiring a diversity of classrooms, laboratories, etc. Generally spaces are designed without fixed interior walls and with provision for a flexible arrangement of space to meet changing needs. The sizes of learning groups are classified as large groups—90-500 students; intermediate groups—20-40; seminars up to 15, and individual study.

Organization of the educational plant

The William Penn program required six separate but identical instructional units called Academic Houses, each, in effect a 500-student school within the 3000-student complex. Each house will have its own faculty-counseling-

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guidance staff: Here are the individual students' home bases —250 study carrels in each house, each carrel providing individual book and coat storage for two students. Each carrel will be wired for portable electronic equipment. A house will contain classrooms for English, Foreign Language, Social Studies, Mathematics, Typing. Outside the house are instructional centers for Music, Art, Theater, Science, Commerce, Home Arts, Physical Education.

Electronic teaching equipment

The open-and-closed tv instructional system will be fed from a production studio and an instructional studio each with a control room. Each will be able to broadcast in black-and-white and color. Broadcasts will be distributed through a communication center in the school's Instructional Materials Center. Each teaching station will have capability for television monitors, program original via closed circuit television, and dial access intercom.

Quasi-professional communications and theater facilities

The radio studio will accommodate small audio productions may transmit local community programs.

The Fine Arts area's 500-seat theater will have a hydraulic lift and fully equipped stage fly. The additional experimental workshop theater will have a flexible scenery grid and banks of movable seats.

Exterior and interior finishes

The building will be of exposed poured-in-place architectural concrete, the form marks and holes showing—and designed to look orderly and attractive. The floor construction is generally exposed flat slab construction, with a rib floor slab system at Broad Street. Long spans over the Gymnasium and Swimming Pool are exposed structural steel.

(continued on page 166)

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Rafts-

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BRASS TRAY TOP TABLES
LLED BRASS ACCESSORIES
TIQUES & REPRODUCTIONS
APPAREL, WOOD CARVINGS
TAN HORNS, EMBROIDERY
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Interior finishes are few, with much concrete exposed. Non-load-bearing walls will be painted plaster. Metal acoustical ceiling tile will be used only where required to satisfy acoustical criteria. Teaching areas will generally be carpeted, main circulation and other heavy-use areas floored in terrazzo or exposed concrete floor finishes.

Community-oriented vs. academic facilities

The site considerations—isolation of the 6 Academic Houses in the center and the orientation of community-related facilities to the street, etc., have already been explained. It remains to be said that though the main approach to the school is from Broad Street, students may reach the houses directly from entrances within the school grounds, the dining areas and gymnasium may be reached directly without traversing other school areas, and circulation throughout the school complex is principally located at the second level and connects all major elements of the school.

Most of the facts above are taken virtually verbatim from the official Mitchell/Giurgola presentation of the school, and though they constitute a clear explanation of the educational program and the design implications of that program, they are mute on the question of just what kind of psychological, psychic, and esthetic environment is provided by this school. Of course the architects, again, make their official explanation: "An appropriate human scale is achieved by arranging the various instructional areas into a complex of different structures linked together to form one functional unit. The separation of these areas provides continuous open spaces throughout the school grounds."

To open the mind and touch the heart

The plans, cross sections, and renderings tell us more about the delights of these spaces, how they relate to each other, how occupants will see from one to the other as he moves through them, looks up or down from one level to

another, looks through architectural frames at spaces beyond, finding alcoves and pits for contemplation or conversation. The environment is tranquil and at the same time full of surprises.

Diagonal movement through the plan

Unlike Louis Kahn, who has pinned down a system of "master spaces" and "slave spaces" (or utility spaces), and Walter Netsch, who is now designing according to his "field theory" (mentioned on page 110), Giurgola has said nothing about a developmental system of any kind. Yet the plans for William Penn (and numerous Giurgola designs of the past decade) show a system of diagonal movement through rectangular spaces which could probably be verbalized as neatly as the diagonal development system of Netsch's "field theory". Giurgola's diagonal-moving interiors function exceedingly well for flexible/modular education in that they literally enable the student to find with maximum efficiency, the stations where he will carry out his program. The strength of the building masses, and the happy proportions of the spaces between them are less susceptible to analysis by formula. In any case it is good to see design of this caliber becoming environment for our children and our communities.—*O.G.*

Walter Netsch

(Continued from page 114)

nodal interchange on the main north-south campus walk and eventual walk interchange to Student Services, Art and Music, Performing Arts, and the passive meadows of the lagoon and lakefront campus. At this entrance level, the entry lantern, benches, steps, clerestories, nodal spaces, and columns supporting the research towers, intermingle with the heavily-treed old campus and the lake views.

"The first level above the plaza contains those special group reader environments that logically participate on the