stony brook review

"A great university is not built overnight. But Stony Brook on Long Island is giving it that old college try. Less than a decade ago, bulldozers slashed through the woodlands 60 miles from Manhattan to start a daring enterprise: construction in years of what has taken other institutions decades to build."

Buffalo Evening News

"The State University of New York at Stony Brook is animated by an impressive vision: instant excellence. Starting from scratch, Stony Brook has set out to become one of the nation's leading centers of education and research as quickly as talent and money will allow."

Scientific Research

A MONTHLY PUBLICATION OF THE STATE UNIVERSITY OF NEW YORK AT STONY BROOK

THE CAMPUS:

YESTERDAY · Today · TOMORROW

Just ten years ago, what is now a bustling campus sporting some $100 million worth of buildings, six miles of roads, a live-in community of 4700 and a commuter population of 7000 was 1200 acres of wilderness.

Although Stony Brook prides itself on being one of the nation's newest and fastest growing universities, its growth hasn't been instant and it hasn't been, and still isn't, easy. There has been mud, mud and more mud. And noise and holes and detours and delays. Cries have been raised about inadequate campus lighting, late delivery of furnishings, poor landscaping and lack of parking space. Students awaiting unfinished dormitories have complained about overcrowded living quarters. And there are people today who profess a preference for the wilderness rather than what appears to them to be a multi-million dollar haven for homeless hippies.

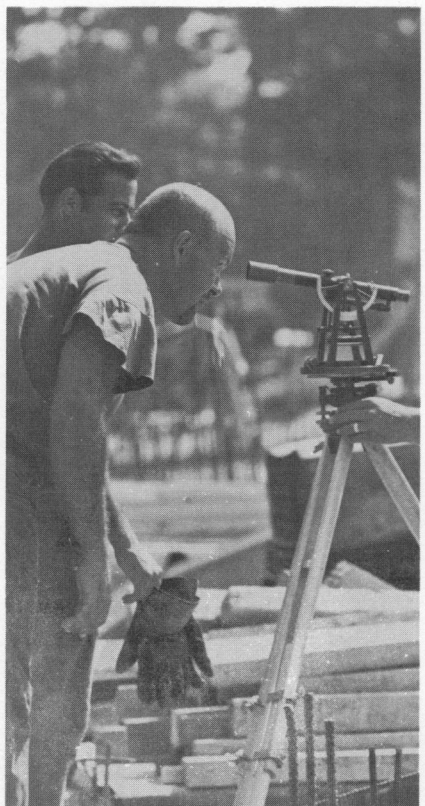
But the growth of the campus has not been all rumbling and grumbling. There has been something exhilarating and inspiring about building a top-rate institution from the ground up, or as President Toll said four years ago, "to be in on the beginning of a university that has every reason to believe that it can be one of this country's great institutions in a decade."

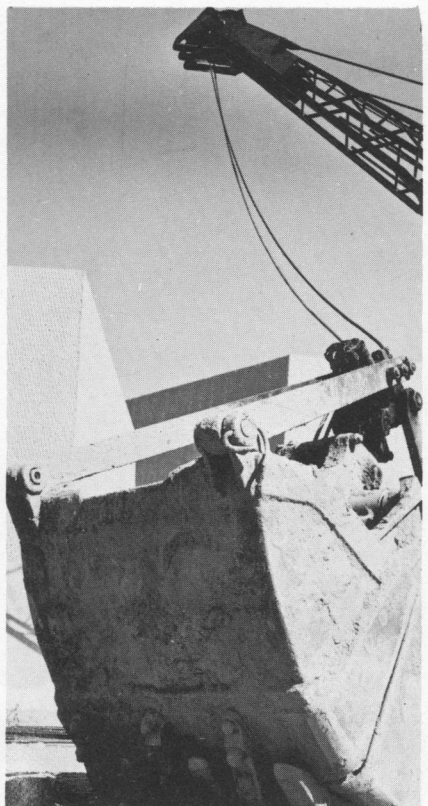
What was envisioned by some as a small community college and what was founded in 1957 in Oyster Bay as a center for educating secondary school math and science teachers has already become a dynamic university with 23 departments offering bachelors degrees and more than a dozen offering degrees through the doctorate. Today the aim is to build a balanced institution for about 20,000 students with strength in all areas of the arts and sciences and engineering.

The student body which moved from Oyster Bay to Stony Brook in 1962 would be outnumbered by today's faculty and overwhelmed, twenty to one, by the present student population. The first graduating class of 25 has swollen to an alumni body of 2800 and is being augmented by more than a thousand each spring. The 1969-70 operating budget of roughly $30.7 million quadruples the $7 million of only four years ago.

President Toll recently reported to the faculty that 200 new courses and more than 100 new faculty had been added this year. He also noted that both graduate and undergraduate enrollments were up 20% from one year ago and that enrollment in continuing education (graduate courses offered evenings to part-time students) was up 200%.

However, Dr. Toll cautions that the growth of the University will continue to be strictly governed by the rate at which the faculty and facilities nec-





THE CAMPUS

YESTERDAY

The growth of the campus has meant much watching (above, President John S. Toll, Academic Vice President Bentley Glass and faculty members view early days in the construction of the earth and space sciences building, shown completed below) and waiting (right).

essary to maintain high standards can be provided.

Innovation, a byproduct of growth, has become a way of life at Stony Brook, as the University has sought to develop and apply new methods of teaching, study and research which improve and enrich the learning process and the search for new knowledge. Precisely because of its youth, the institution is better able to do things in new and previously untried ways.

But the most visible sign of growth is in campus construction. Campus structures completed in 1969 include the $4.8 million earth and space sciences building, the $1.9 million lecture center, the $2.2 million heavy engineering building and the $6.5 million six-building complex forming the Stage XI dormitories and dining hall.

The earth and space sciences building contains 147,000 square feet of classroom, office and laboratory space, a lecture hall and library for studies ranging from oceanography to astrophysics. The 56,000 square-foot lecture center comprises ten lecture halls of different sizes and shapes ranging in capacity from 60 to 600 seats and equipped with advanced audio-visual equipment. The heavy engineering building provides 53,000 square feet of offices and labs for conducting experiments with heavy equipment. The Stage XI dorms, the fifth residential quadrangle on campus, house 1000 students in five residential colleges.

Construction underway or near completion is estimated at more than $22 million. This includes the Stony Brook Union building, a laboratory-office building, Instructional Resources Center, administration building and Stage XII dormitories.

Students are expected to have full use of the Stony Brook Union in February. Built at a cost of about $4 million, the 154,000-square-foot building will house dining facilities, student lounges, game rooms, hobby areas, bowling lanes, student organization offices, meeting rooms, a bookstore and a post office.

A two-story 62,500-square-foot laboratory-office building is expected to be completed in January 1971. Science laboratories, offices, seminar rooms, animal quarters and supporting facilities will take up the bulk of the space. The first "tenant" will be the health sciences center which will use the facility until its own quarters are constructed. Cost of the building is estimated at about $4.6 million.

Also scheduled for completion in January 1971 is a 44,000-square-foot Instructional Resources Center at an estimated cost of $2.1 million. Television and radio studios, moving picture and other film-making facilities, audio-visual equipment and offices will be located in the two-story structure.

Stony Brook's administration building is scheduled for occupancy in September. Built at a cost of $3.8 million, the 115,000-square-foot building will assure centralization of administrative services currently scattered around the campus. This centralization will release much-needed classroom and library space now being occupied by administrative offices in other buildings.

The Stage XII dormitories for 1000 students are scheduled for completion in the spring of 1971. The complex, to cost approximately $6.7 million, will include four residential colleges and a dining hall.

Construction of 11 new academic buildings was begun this month on the far south section of the campus. Using a new architectural systems approach known as surge buildings, the builders expect to complete the buildings by September 1970. The buildings are single-story units arranged in four clusters on about 12 acres. The buildings will provide 264,000 square feet with a high degree of internal flexibility to accommodate a variety of academic purposes, including the health sciences and other academic departments.

Looking to the future, numerous additional buildings are in various stages of planning. These include a library-humanities addition, new biological sciences building, physical sciences complex, fine arts building, additional engineering facilities, new dormitories and health sciences center.

Going to bid early this year is a library-humanities addition of 350,000 square feet. The addition, to surround the present library and be 3½ times its present size, is estimated at $15 million.

A 330,000-square-foot biological sciences building, also costing about $15 million, is planned.

Bids on a physical sciences complex to give the chemistry, physics and math departments greatly expanded facilities have already been received by the State University Construction Fund but came in well over the anticipated $38 million cost. The project, the largest ever undertaken by the Construction Fund, is currently under study.

Being designed are a 253,000-square-foot fine arts building, additional light engineering facilities and Stage XV dormitories for 1000 students. Charles R. Wagner, director of facilities planning, said the price of dormitories has risen substantially since the Stage XI dorms were contracted. The current cost is about $5900 per bed.

The university's quarter-mile outdoor track will get a new face, and new baseball diamonds, touch football fields and soccer fields will be provided under a contract estimated at about $1 million.

The most dramatic construction under consideration is for the health sciences center—two hospitals and schools of medicine, dentistry, nursing, social work and allied health professions to cost in the neighborhood of $160 million. Slated to be built on a site just east of Nicoll Road and connected to the main campus by an underpass, the complex promises to be one of the largest and most progressive medical centers in the nation, incorporating the latest advances in both architecture and medical theory.

As the campus grows so does the problem of traveling between its many buildings. This year a free, ever-circulating bus system was inaugurated. Eventually it is hoped that a large peripheral parking area and increased reliance on the bus system will enable the University to limit vehicular traffic in the central core area to essential deliveries.

Wagner said that parts of the campus will continue to be torn up, not only where new buildings are being constructed but in other locations where utility tunnels must be dug up. "They will run right down the spine of the campus," he said.

Despite campus construction, Wagner emphasized that many areas will remain in their natural state. "While there is a massive amount of construction going on, we are establishing preserves under the master plan for this campus which can never be violated," he said.

The most celebrated of these areas is the Ashley Schiff Memorial Nature Preserve which was dedicated January 7 to the late Stony Brook professor and conservationist during a service led by former Secretary of the Interior Stewart L. Udall.

Such areas are being planned in an effort to make the charm and natural calm which have long characterized the Stony Brook area a permanent feature of the campus.

—Ralph Chamberlin and Donald Myers □

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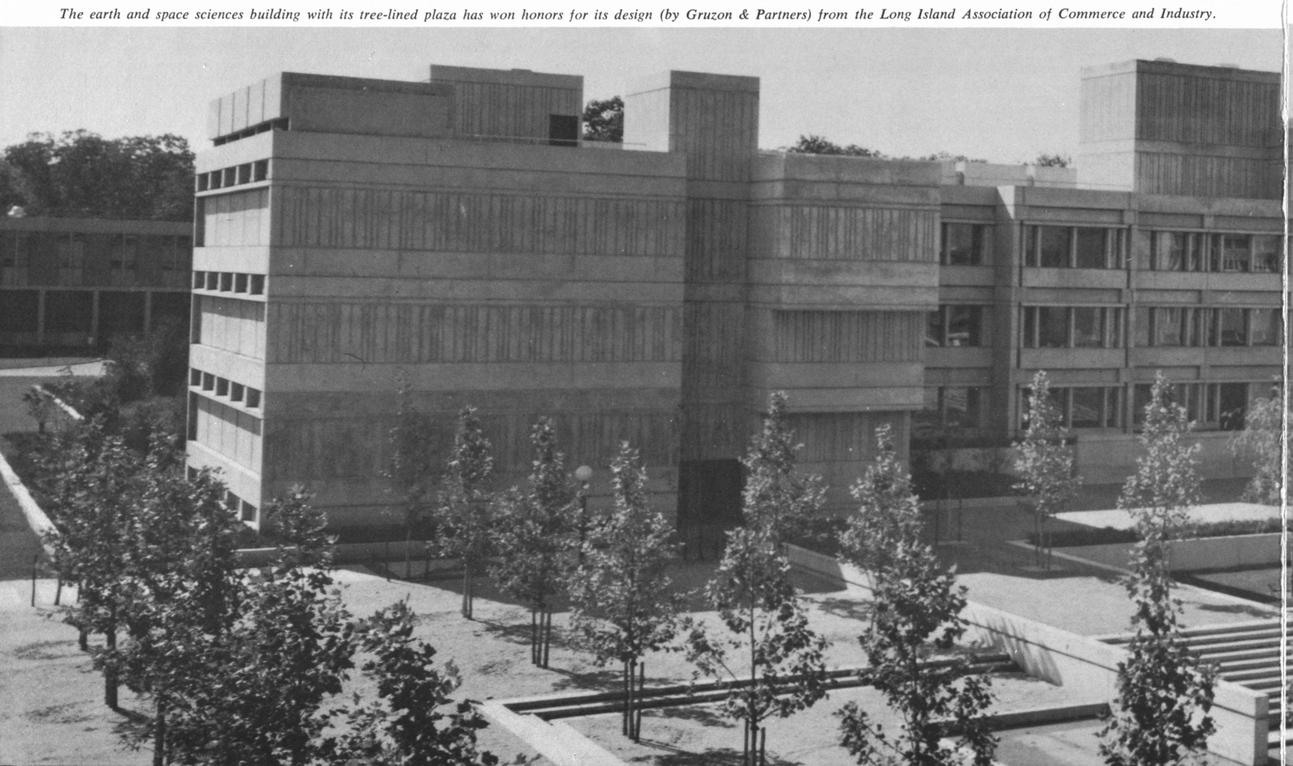
The earth and space sciences building with its tree-lined plaza has won honors for its design (by Gruzon & Partners) from the Long Island Association of Commerce and Industry.



THE CAMPUS Today

Stony Brook Architecture:

A Bright Future After a Dull Beginning

by Dr. Albert Boime
Assistant Professor of Art

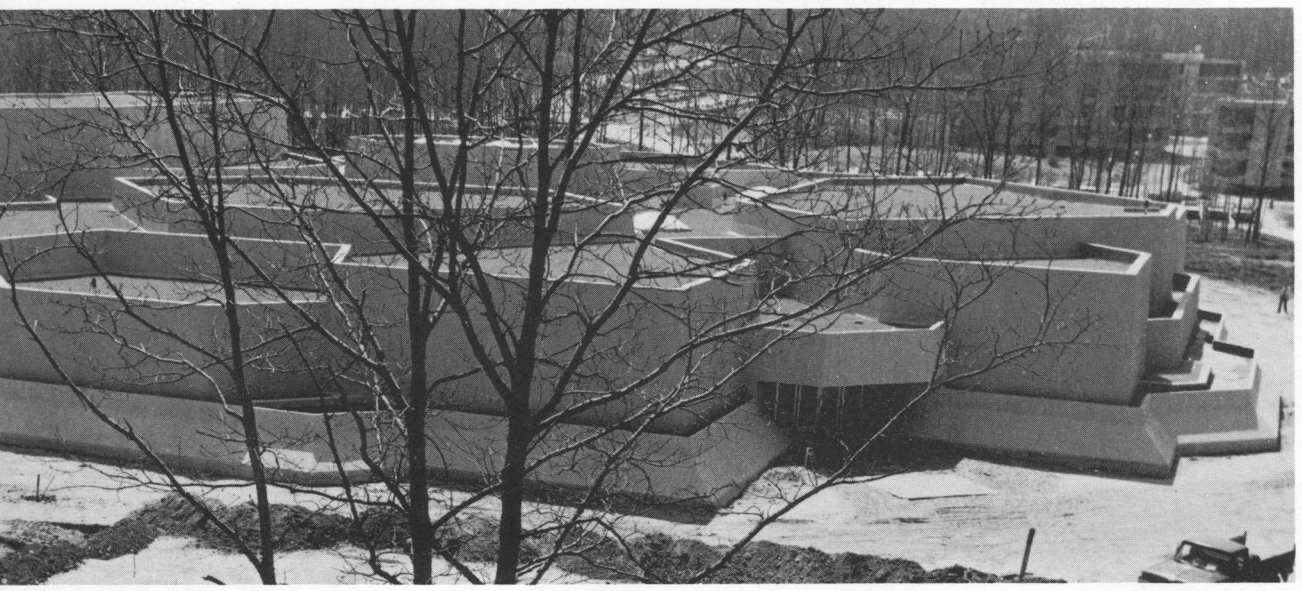
The creation of a whole new campus presents a singular occasion for architectural developments of vast scope and significance. An approach exhibiting enlightened awareness and the guidelines established by the present administration hold out the possibility of a genuine architectural achievement. The most advanced architects have been called upon to establish the visual harmony and identity crucial to a university's sense of community. The master planners are committed to "a campus which will teach, by its own example, a lesson in environmental planning and design."

It may, however, be lamented that Stony Brook's original planners were prevented from recognizing their opportunity. The initial architectural campaign was hampered by shifting definitions of Stony Brook's role, commitment to an outworn stylistic prototype and financial complications. The use of stereotyped rectangular buildings of red brick applied on a relatively large scale appears tragically out of tune with the spirit of contemporary campus life. The rigid symmetries and two-dimensional facades, together with the stark red brick pattern, call to mind chilling analogies with army barracks and penal institutions. As a result, the later architects felt compelled to create buildings that could partially camouflage, or at least minimize, the impact of the red brick structures. Pursuing this course, however, leads to another risky situation: so long as these concessions are indulged the architect is responding less and less to the requirements of the site. Perhaps a simpler solution would be to face the red brick with a veneer of textured concrete or mosaic decorations.

The present Master Plan—always in the process of being revised—has eliminated many of the earlier problems. It calls for a dense campus core, centrally marked by the library from which five pedestrianways will radiate. These are the "five fingers" of the Master Plan leading to the projected districts of the liberal arts, health sciences (via a bridge across Nicoll Road), engineering, physical sciences and non-academic facilities. The dense core area, analogous to recent urban designs, will be organized to grant students easy accessibility to classes during break periods.

Until now, great attention has been focused on the shape of this "urbanized" zone, including a proposed tightening of the spaces between buildings and maximizing the ground coverage. In this context, towers, such as that expected to be part of the future humanities complex, would add vertical accents to emphasize the campus core. A more recent tendency is to avoid defining the central area in terms of "shape," and instead to conceive of the campus in terms of "sectors," to study the relationships between the urban core and the peripheral areas containing the residential units. There will be more emphasis on landscaping and on preserving the natural environment beyond the inner core. Thus, an ecological complex of urban and suburban areas will be established on the "five finger" plan.

The Lecture Center, designed by William Kessler and Associates, Inc., has been selected by College and University Business *magazine as a winner of its 1970 design competition.*



These notable advances in the conception of the campus were made possible by the establishment in the early 1960's of the State University Construction Fund. Adequately financed and no longer dependent on the Department of Public Works, the University brought in a number of talented architects. The firm of Damaz, Pokorny and Weigel was designated to revise the original Master Plan and act as consultants to the various architects (Damaz worked with Le Corbusier on the United Nations Building). The change is visibly marked in the social sciences structure, which may be considered a transitional stage in the campus architecture. While still retaining the conventional rectangles of their red brick buildings, Smith and Haines here substituted the dark brown brick and concrete features for the earlier materials and achieved a more pleasing exterior effect. The rectangular masses of the two-building complex were also articulated more refreshingly by the concrete-framed fenestration marking individual floors. A dominant horizontal emphasis is accented by the concrete cornice strip and helps scale the building to human proportions.

The strong horizontal emphasis and flat roof design, and the use of dark brown brick and textured concrete as exterior materials, constitute the general harmonizing motifs of the campus architecture. The two exterior materials provide a delectable contrast, and have been used with imaginative variations in the residential dorms, the heavy and light engineering buildings, and the unfinished Stony Brook Union and administration structures. The Smith and Haines red brick library will be brought into harmony with these buildings by enclosing it in a concrete shell and linking it to the Union by means of the existing bridge.

The Stony Brook Union itself is an imposing edifice whose cantilevered corners activate the exterior mass and dramatize the entrances, thus yielding a visual hint to its interior functions. Damaz effectively varied the use of the materials by paneling the concrete frame with a dark brown brick infill arranged in a vertical pattern.

The two most daring and extraordinary buildings now in use on the campus, however—Meathe Kessler's lecture hall and Gruzen and Partners' earth and space sciences structure—departed from the general guidelines. Only their frank exposure of the raw concrete relates them to the new buildings. Both may be considered outstanding examples of the "new brutalism," a stylistic concept deriving from Le Corbusier and basically involving a blunt statement of a material's properties.

Kessler had the advantage of manipulating large interior volumes and he more or less allowed their playful character to shape the exterior masses. The resulting trapezoidal forms—recalling pylons and truncated pyramids—rival in audacity Marcel Breuer's lecture hall for the Bronx campus of New York University. The delightful play of the exterior is enhanced by the richly-textured surface effects. The beige-colored concrete and its aggregate of smooth stones and pebbles is imprinted with a diamond-shaped grill pattern formed by a heavy wire mesh nailed to the wooden formwork. The same textural treatment is used on the interior walls of the corridors linking the auditoriums. The interior space is organized around an elongated octagonal core the ends of which radiate outward as the corridors. The auditorium spaces are in themselves magnificent sculptural creations; angulated ceilings and canted walls project a dy-

STATE UNIVERSITY OF NEW YORK

StonyBrook

Campus Plan

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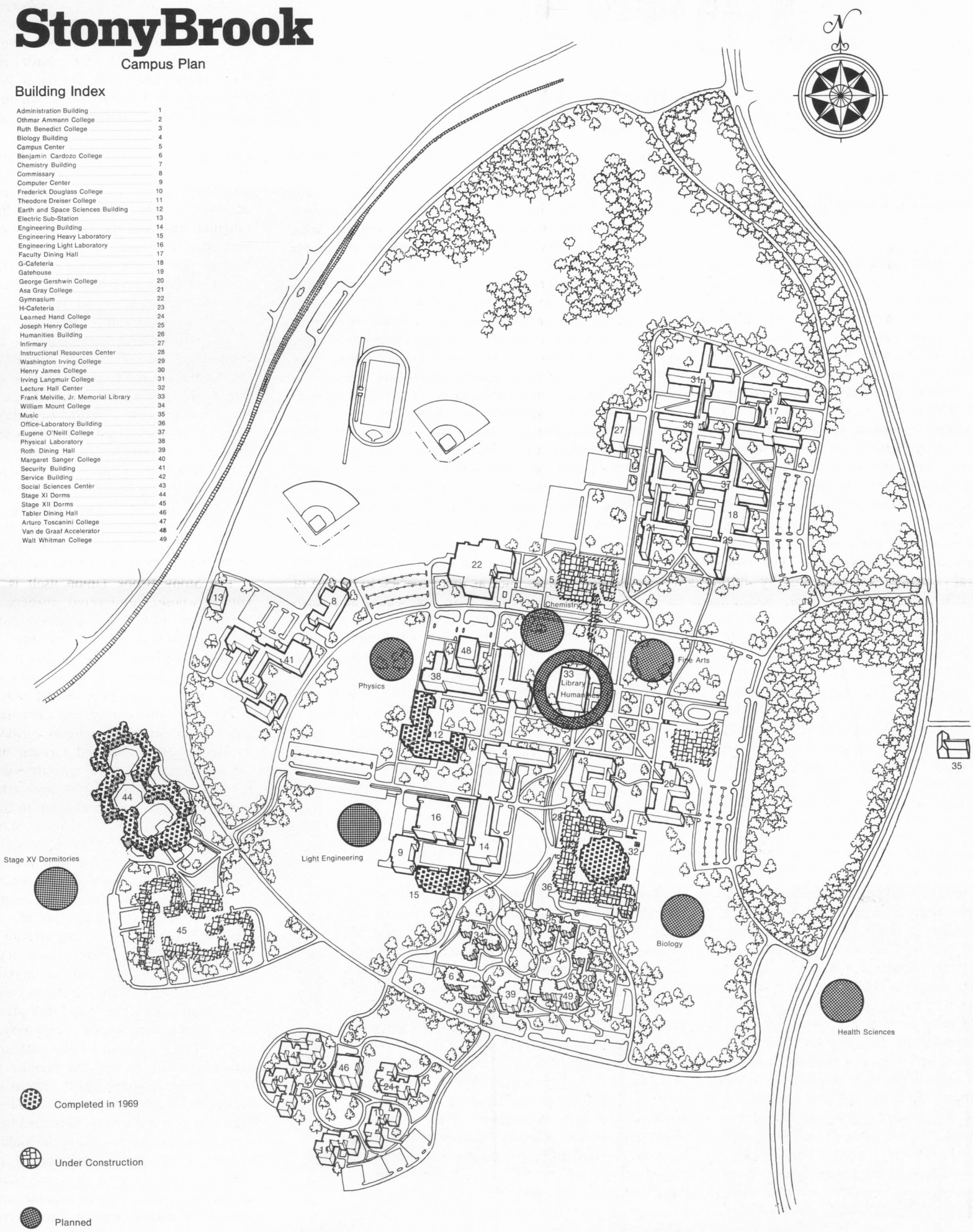


THE CAMPUS TOMORROW

To the right of the new Stage XI dormitories is rising the sixth residential quadrangle to house an additional 1000 students.

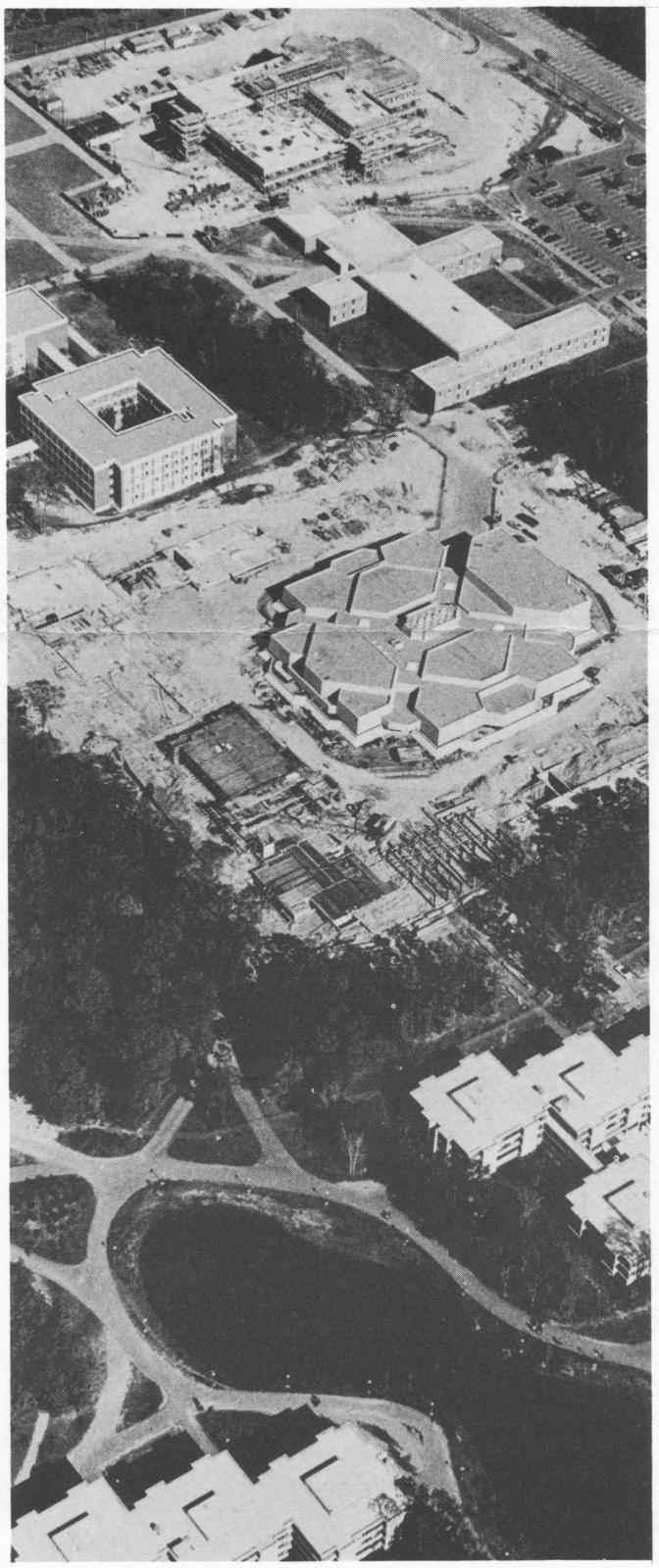
namic feeling, but at the same time provide excellently functional spaces for the housing of large audiences. The acoustics in these spaces are superb and vision is uninterrupted from every point. Mention should also be made of the advanced audio-visual equipment, including rear projection booths. The only noticeable defect of the auditoriums are the faulty heating systems. The gray concrete walls are admirably textured by the wooden formwork, a device that is much more effectively used here than on the exterior of some of the other buildings where the effect is lost in the glare of sunlight.

The earth and space sciences building is equally an impressive landmark. Composed along an L-shaped axis, the four-story gray concrete structure creates a forceful physical presence. While from a distance it looms as a monolithic mass of undressed concrete, a closer view discloses notable sculptural effects established through a dramatic juxtaposition of solids and voids. The alternating forward and backward movements animate the structure and reduce the potentially heavy appearance of so much exposed concrete. The massive chunks of masonry projecting from the ends also contribute to the powerful sculptural impression of this building. The modular fenestration (corresponding to the interior labs) is articulated in terms of an emphatic rhythmic play of rectangular shapes and thick mullions. Together with the narrow window perforations on the sides reminiscent of Le Corbusier, these punctured areas help subjugate the large masses. The window frames are made of anodized aluminum which is invisible from the exterior, conveying the impression that the glass panes are framed by the concrete perforations. One distracting feature on the exterior are the small square blocks between stories which accent the divisions of the precast concrete veneer. It does not hold its place in the basic design. But whatever its occasional faults, the earth and space sciences building is architecturally compelling in its setting. It provides also a true pedestrian environment, and its plaza conveys a sense of excitement through a variety of spatial and architectural experiences.

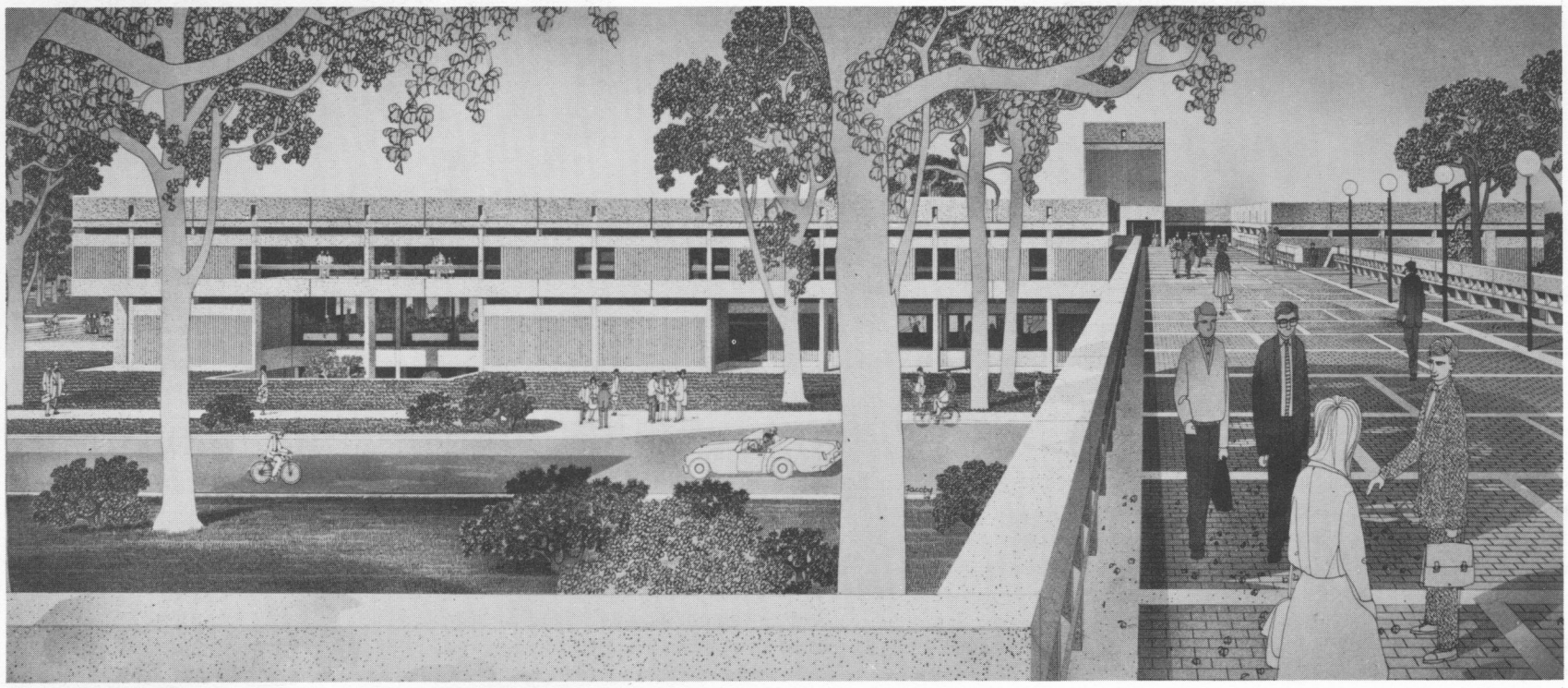
With the exception of the unfinished Stage XII dorms by Gruzen and Partners, the new residential complexes are composed of staggered isolated units whose focal points are the common dining and social hall. The informal grouping provides a more free-flowing exterior space for strolling, and establishes interesting plaza areas. This is especially evident in the Kelly-Gruzen complex, where the twisting axial relationships of the building units are reiterated in the fascinating plaza. Kelly-Gruzen also departed from the dominant horizontal emphasis to achieve a kind of scaled-down high-rise apartment effect. They also used a rougher textured mortar for their bricks which predominate on the exterior, with the concrete used in the terraces as an accent. The Y-shaped structures are also the most animated of the dorms, and both the interior and exterior spaces provide unanticipated experiences. Tabler dorms sustain the dominant horizontal emphasis, with concrete strips separating the stories to reinforce this impression. While their exterior articulation is more regularized, the rectangular units are beautifully proportioned. Visually, the exterior treatment of the Roth dorms is the most exciting; its projections are emphasized and the alternating panels of brick and concrete slabs interlock like a complicated three-dimensional wooden puzzle. Stage XII has the advantage of a hillside location, and promises to be an outstanding building. Its large rectangular mass and series of open terraces are reminiscent of Le Corbusier's designs for Chandigarh, India.

Since the interiors of the dorms affect so crucially the quality of student life, some general remarks on the subject may be appropriate here. The newer dorms have the advantage of greater privacy, but the two- and three-bedroom suites tend also to isolate the residents. "G" and "H" dorms do not suffer this problem, but they lack the kind of interior decor that could establish a sense of comfort and intimacy with the physical environment. The older dorm rooms and lounges are too sparsely decorated and furnished. The problem of making them livable has been complicated by the damage and theft levels in both dorms. More livable furnishings might help to solve this problem by establishing a more intimate rapport between the residents and their environment. Such furnishings might consist of freely-designed forms constructed of such materials as fiberglas and steel and securely anchored to the floor. Even molded concrete furniture could be employed. Greater emphasis on interior decoration in these dorms would, I am persuaded, have an immeasurable effect on the morale of their residents.

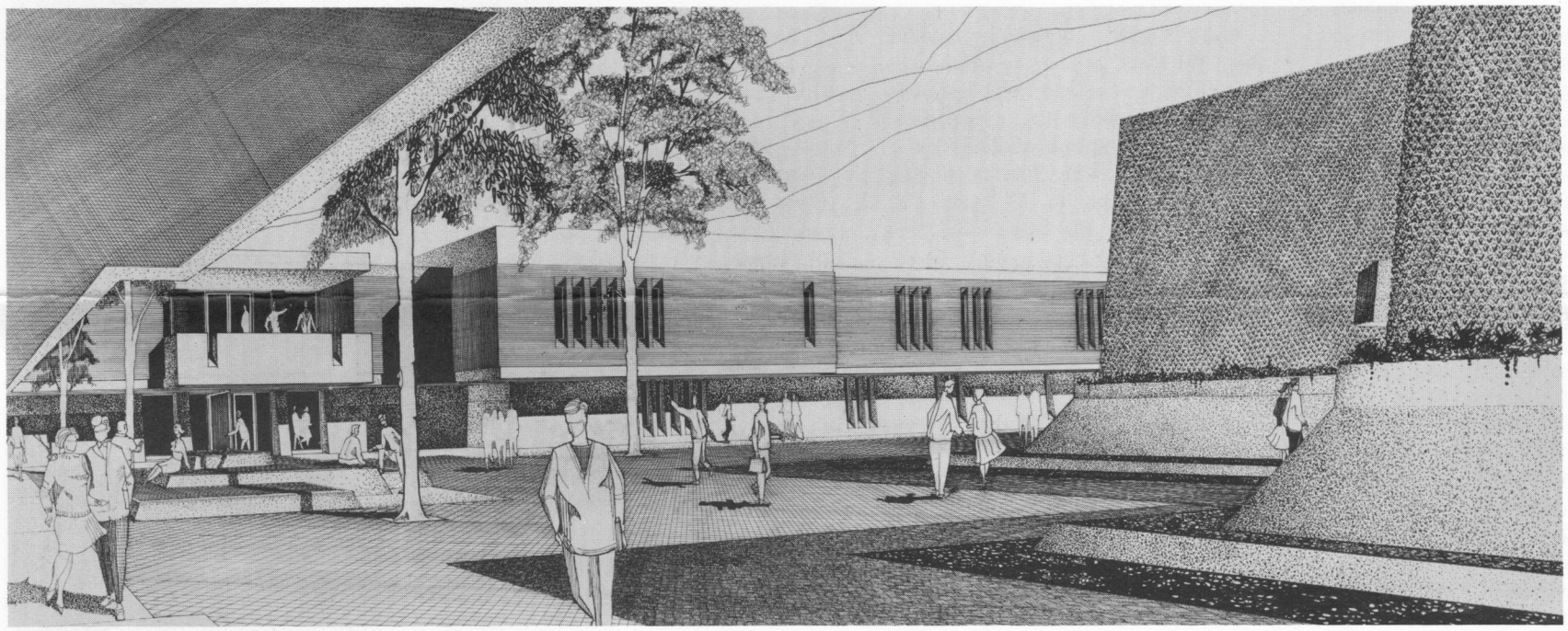
Restoration also could enter into the architectural future of the campus. The magnificent old Victorian barn behind the Tabler residential quadrangle holds numerous possibilities for restoration. It ultimately could become an exciting cultural and recreational resource for both the campus and the community. Such a project apparently would require considerable funding from private philanthropic sources. The barn, with its atmosphere and tradition, might help symbolically establish the link between campus and community that the original campus planners envisioned. □



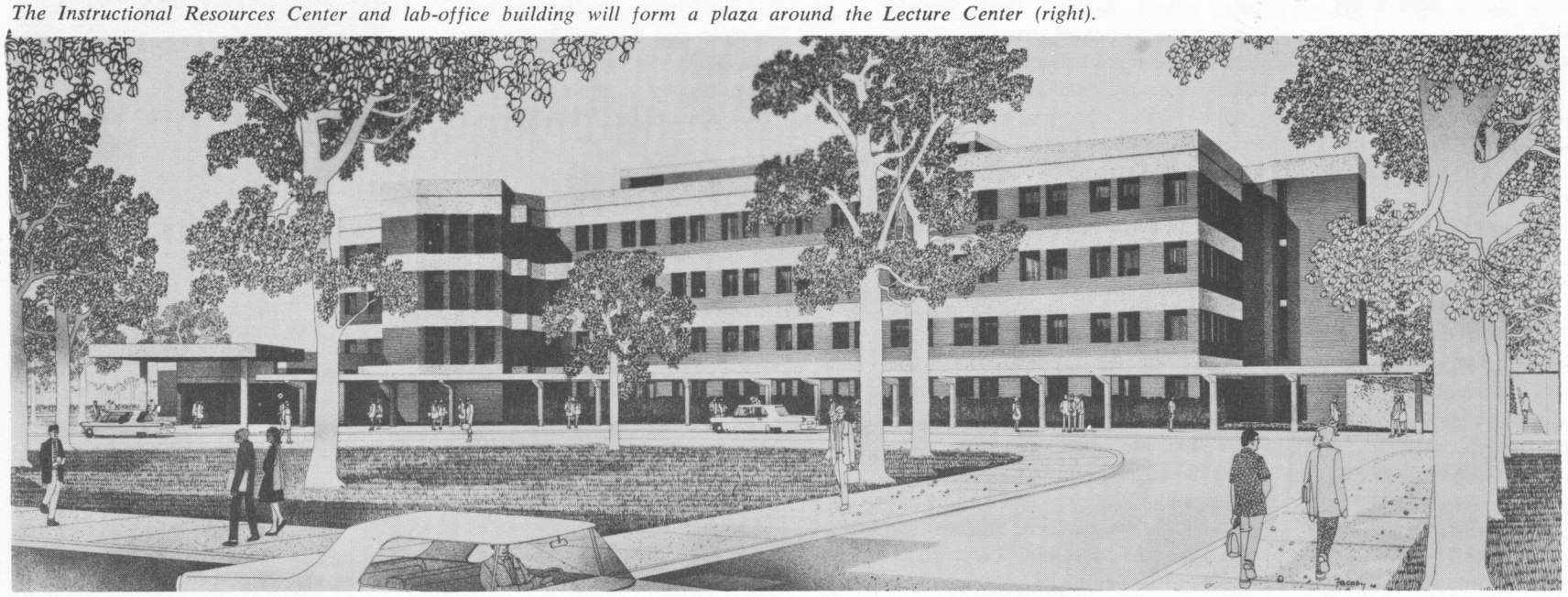
From top to bottom are the administration building under construction, humanities building, social sciences building, lecture hall, Instructional Resources Center construction and Roth quadrangle.



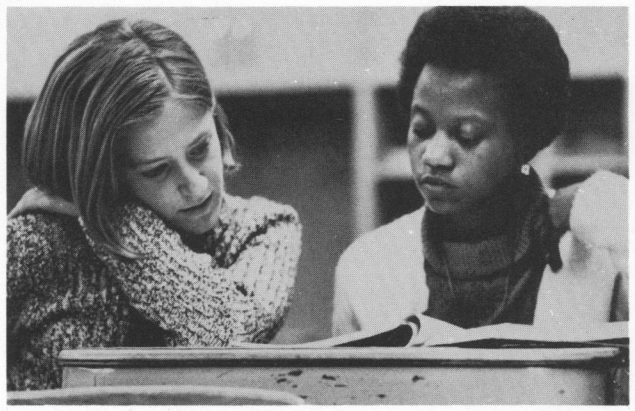
The long-awaited Stony Brook Union will have a formal opening this spring.



The Instructional Resources Center and lab-office building will form a plaza around the Lecture Center (right).



The new administration building should be ready for occupancy by September 1970.



Stony Brook student (left) and Bellport high school youth apply themselves to the solution of a homework problem.

Tutors Experience Frustration,

THEN HOPE

"It's frustrating," said Linda Nash, a junior psychology major. She has been donating an evening each week tutoring elementary and secondary students in Suffolk County since she came to Stony Brook in 1967. "But you look forward to the time when you get a good response, academically."

Miss Nash and up to 30 other Stony Brook students leave the campus each Thursday at 6:30 p.m. for a two-hour tutoring session with about 40 Bellport High School students. With the time needed for the 45-minute bus trip, the excursion involves a full evening of the Stony Brook student's study or recreation periods, all without compensation.

"A high school student having difficulty in his academic work, needing individual instruction, will relate better to a tutor with whom he can identify," Roberta Bauer, a guidance counselor for the Bellport, L.I., School District, said. "College students, academic successes, like the students from Stony Brook who come down here every Thursday, qualify."

Why do they come? "I like doing things for the community; the students are motivated to learn and need help; and even because it's my little contribution to changing the world," Linda said.

She is just one of over 200 students who work with Suffolk County children in motivation and remedial programs such as Upward Bound, Wider Horizons and tutoring. They are volunteers, anxious to help, who are brought together with the outside community by the university's Special Projects Office.

Special Projects Office Director Aaron W. Godfrey views his office's duties broadly: "To bring the young people on campus together with those off campus." "The Stony Brook student," he says, "wants to help and thinks he can. Once a particular program is set up, I move into the background. The students can run it better themselves."

Wider Horizons, a program to offer about 80 black as well as white children from low-income neighborhoods a chance to broaden their experiences, involves Stony Brook students on a one-to-one basis with children ranging in age from four to 13 years old. About $3000 of the cost of the program is absorbed by the Stony Brook Student Government.

Upward Bound is a federally funded program to help young men and women grades 9 through 12 do well enough in school to go on to college. They are also assisted in their admissions search. Apart from a few paid Stony Brook student tutors, most of the remedial effort is accomplished by unpaid volunteers.

The tutoring program is an offshoot of Upward Bound. Once the Upward Bound students started to do better in their school studies, their friends wanted the same opportunity. There were no more government funds available so the voluntary program began.

Miss Nash, who has on different occasions tutored in chemistry, mathematics and French, outlines her job:

"First you find out what they are learning in class and where their problem areas are. You go through a sample problem and solve it for them. When they try it themselves, you see their difficulty is with the mechanics of each step, for example, the math in a chemistry problem or the English grammar in a French sentence. Sometimes you are successful. But it is worth the effort because no teacher in a large classroom can afford the time needed for each problem student."

Frustrating. Successful only occasionally. But worthwhile.

— *Vincent Sweeney* □

Dr. Dirac, Famed Physicist, Quietly Perfects Theories

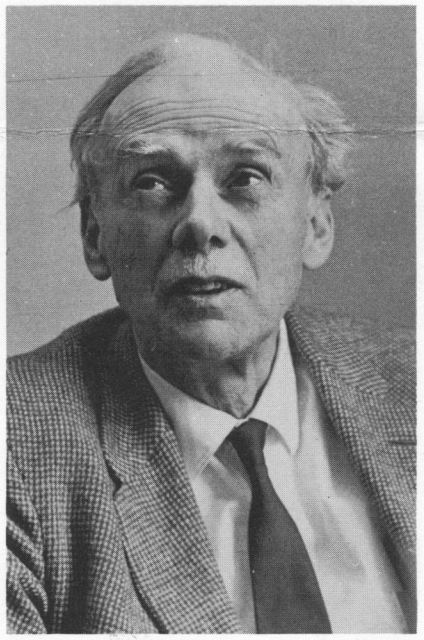
P.A.M. Dirac looks like everyone's grandfather and the fact that he is an internationally renowned Nobel Laureate physicist is overshadowed by his soft-spoken, modest manner.

When Professor Dirac came to Stony Brook this fall, President Toll noted, "We're very fortunate to have Dr. Dirac on campus as a visiting professor. I think he's done more to determine our present knowledge of the laws of the physical universe than any other living scientist. For example, the two major physical developments of the 20th century have involved the theory of relativity and the quantum theory. Dr. Dirac put these together to form the present theory of relativistic quantum mechanics for elementary particles." In 1933 he was awarded the Nobel Prize in Physics, jointly with E. Schrodinger, for his work on this theory. He also derived with Enrico Fermi the basic statistics of elementary particles and has made many other important contributions to science.

One would think that after such impressive accomplishments, a 65-year-old physicist would begin to slow down, but not Dr. Dirac. When asked if he were currently working on any theories, he replied, "I am trying to get a better theory of the interaction of the electron and fields. The present theory doesn't work for very high energies. I'm just not satisfied with it."

Dirac was attracted to Stony Brook by his good friends, Professors Leonard Eisenbud and Nandor Balazs, and President Toll. His appointment was made possible by a grant from the New York State Science and Technology Foundation. His special course on developments in quantum electrodynamics attracts only advanced graduate students whom Dr. Dirac feels are "particularly keen to learn." He also offers colloquia and other lectures. In addition, he participates in research programs with fellow Nobel Laureate, C. N. Yang, Einstein Professor of Physics and director of the Institute for Theoretical Physics.

The father of present-day physics is the father of a family of physicists. One daughter is married to a British physicist and his other child, also a daughter, is a geophysicist married to another geophysicist. With children like that, Dr. Dirac may well become the literal as well as figurative granddad of tomorrow's great physicists. □



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