

## *A visit to Princeton's School of Architecture*

# 'In Search of Architecture for Emerging Problems'

John M. Fenton

THE four-year-old building of Princeton's School of Architecture, a strikingly modern structure of red brick and dark glass window bays set down in a midcampus complex of Gothic Princeton "traditional," moves the visitor to pay it that ultimate layman's compliment: "it fits in so well"—a judgment shared by the School's new Dean, Robert L. Geddes, who, though he had no part in its design, finds it "a good neighbor to the other buildings" in the vicinity and, basically, "one of the pleasantest buildings on campus."

Coming in from McCosh Walk, one enters a large, airy gallery used for visiting exhibitions or displays of student work. There one might have found, this spring, a photographic exhibit of LeCorbusier's works, or carefully crafted plans by graduate students for revamping New York City's waterfront, or a scattering of life-sized cardboard models of modern furniture created as a student project. From the Dean's first-floor office, in the southern wing of the building—where he likes to carry on conversations at a large, circular table—one looks out on a green area surrounded by the more traditional buildings housing other academic departments: English, History, Oriental Studies, Philosophy and Physics. Flanking Architecture on the same side of the court is the new Music Department building.

A soft-spoken man whose inner nervous energy reveals itself in sudden

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**E**DITOR'S NOTE: Two years ago Princeton University announced that its 47-year-old School of Architecture would henceforth have a Dean (it had been headed previously by a Director). Since that Dean's arrival on campus, sweeping changes in the School's curriculum have been announced, a number of new faculty members from the U.S. and abroad have been in evidence, and ambitious new projects have been undertaken—from a far-reaching appraisal of the state of architectural education in the U.S. to a study of a transportation "super-center" for the New York metropolitan area.

To find out the meaning and scope of all this activity, and the philosophy back of it, UNIVERSITY asked John M. Fenton to case the School for us: to talk with the new Dean—Robert L. Geddes, 43-year-old architect, city planner, and forceful advocate of the "total environment" school of design—and with some of his associates, and, over a period of time, to observe the School's busy day-to-day routine. This is his report.

He darts to the large blackboard covering one wall of his office to sketch out one of his "concepts" of environmental study, Geddes exemplifies today's new breed of architect: the man with experience in both the theoretical world of the academician and the practical world of the architectural firm. He was born in Philadelphia, did his

undergraduate work at Yale and his graduate work at Harvard's School of Design, and came to Princeton from the University of Pennsylvania's Graduate School of Fine Arts where he was Professor of Architecture and Civic Design. Well-known as a practicing professional whose major works range from a master plan for Philadelphia's riverfront to residence halls at the University of Delaware, to the U.S. Embassy in Pakistan, he is a partner in the Philadelphia firm of Geddes, Brecher, Qualls, Cunningham. He took over the helm at Architecture in 1965 from the retiring Director, Prof. Robert W. McLaughlin, and was given the title of Dean in recognition of the School's increasing importance to Princeton.

Geddes' chief administrative officer in running the School is a long-term member of Architecture's faculty, Professor Henry A. Jandl, 57-year-old specialist in architectural materials, construction and design, whose office is directly across the hallway from the Dean's—and one observes much two-way traffic across the corridor. Jandl—who received his M.F.A. from Princeton in 1937, studied for two years at Paris' Ecole des Beaux Arts, and joined the faculty here in 1940—is a practicing architect who numbers among his commissions the new Borough Hall for the town of Princeton, a well-received modern structure now rising in the heart of "colonial Princeton" about a block away from the campus.

THE new Dean's aim is, through a variety of approaches, to steer the School into the mainstream of that philosophy of architecture which uses the terms "urban studies" and "environmental design"; which asks the architect as well as the layman to use



a new set of perspectives: to think not merely in terms of individual buildings—the Parthenon, Chartres, a Palladio palace, or a Frank Lloyd Wright house—but in terms of whole cities, whole regions of the country: the macrocosm. And, at the other extreme, to think in microcosm of the design of, say, a window in a particular room, the effect of that window on the occupant's daily life, or the position of the room within a building.

As Geddes shapes new programs for the School and seeks new talent—full-time professors as well as visiting lecturers—for an already strong faculty, he is committed to one overriding proposition: that “the traditional responsibility of the architect as a designer of isolated buildings has been replaced by a broader responsibility for the total environment”—which calls for the architect to be not only a maker of buildings but also a judge of human values, a man who can “build buildings very well, buildings that really answer problems” but who also can “anticipate the needs of people and society instead of just responding to them.”

One current Geddes project—in his role as practicing architect—shows how the designer can serve both of these purposes. The town of Rockville, Maryland, has commissioned him to turn 46 acres in the center of town into a kind of “mini-center” to rival, in conception, the urban centers of major cities. He is designing the public walks and garages for the complex, while other architects do the various individual commercial buildings, but he is also retained to see that the other designs follow his overall conceptions. He has direct access to the Rockville city council which is serving as the Local Public Agency for the project. In his view, his task in Rockville—where a traditional courthouse is being left as the focus for a modern mall—is to serve as a bridge between policy making and physical design. He believes that the modern architect must stand ready not only to make plans and sketches, but also to offer professional counsel to the decision-makers of society. “The more we show our ability to make judgments, the more society will ask us to become more responsible. Isn't being a judge, after all, one element of a profession? You have to serve long-term values—otherwise, it's not a profession, it's a craft.

“Our environment—our buildings, our cities—influence—psychologically

and even biologically, the way we feel and the way we live, how we manage to cope with this kind of civilization we've got. We are really dealing here with the equipment of life.

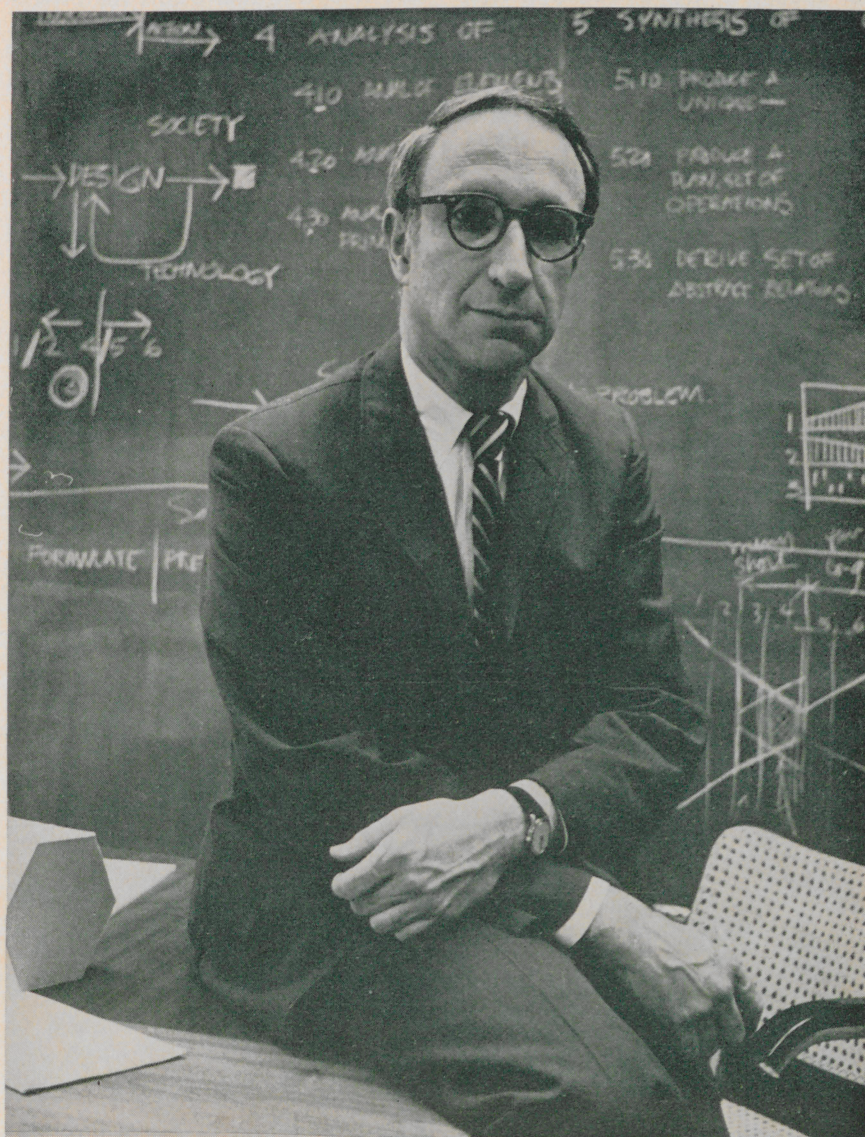
“Our technology is so advanced that we can build practically anything today. We have the tools to build decent housing, schools, and open cities for everybody. But our planning process must be more concerned with what ‘ought to be’ than merely with what ‘is’ or what ‘can be.’ This will involve decisions that are not only architectural but political and economic. Architecture is really a mirror, an autobiography, if you will, of our social and economic institutions; an expression of the whole of human conduct.”

**H**ow did he propose to translate this thinking into specific educational terms? For one thing, he said,

he wanted to improve the connection between architecture, with its emphasis on science and technology, and the humanities and social sciences.

“When Vitruvius, in the First Century A.D., began his great book on architecture in which he listed the branches of knowledge the architect ought to be concerned with, he included philosophy, music, and optics.” (The Music Department at Princeton, as noted, is a next-door neighbor to Architecture; Philosophy is just across the courtyard, while Physics presumably takes care of optical laws at the far end of the court on which the School faces.)

At Princeton Geddes sees the study of architecture as being “rooted in the humanities, the social sciences, engineering and the physical sciences.” In such related studies, he feels, architecture can “gain its sense of history,



Robert L. Geddes this spring was elected Fellow of the American Institute of Architects, one of its highest honors. Notes on his office blackboard relate to AIA-sponsored study of architectural education in the U.S. Photo by George Peterson '65.



its definition of contemporary problems, and its basic value structure."

To show the challenge that any architectural school faces today, Geddes pointed out that as many buildings will be built in the U.S. between now and the year 2,000 as have been built here since Columbus landed nearly five centuries ago. He has that in mind as he makes plans and seeks new talent for the faculty.

The majority of the new men Geddes has brought in on one basis or another are practicing architects who have worked in the physical planning of contemporary urban civilization and who have broad experience in the new ways of education for the wider responsibilities of the new architect. They include men from England, Germany, Chicago, Berkeley, New York, and Philadelphia. The majority are young and are ardent spokesmen for the new "environmental design" philosophy.

In the fall of 1966, for example, the Dean had as Visiting Professors two distinguished representatives from

what are perhaps the most experimental and influential schools of design in the world today: Robert Maxwell, a leader in architectural education and the modern movement in England, from London's Bartlett School; and Tomas Maldonado, noted educator and industrial designer, who directs Ulm, Germany's prestigious School of Design. Such men have generated what Geddes terms a "worldwide dialogue about the future of environmental education" at the School.

ONE of the men Geddes suggested we talk with was Bernard P. Spring, 39-year-old Senior Research Architect and Lecturer, who joined the School when the new Dean did in 1965. Spring is a native New Yorker with degrees from Penn and M.I.T. Currently a consultant to a New York architectural firm, he taught at M.I.T. and Cooper Union before his Princeton appointment and is the former Technology Editor of *Architectural Forum*. With Geddes he co-directs the School's ambitious project, funded

by the American Institute of Architects, to study nothing less than a revision of architectural education in the U.S.

We talked with Spring in the Faculty Room of the School, just down the corridor from the Dean's office, on a day that he was "afraid is one of my philosophical ones." We said we had heard a lot of optimistic talk about the new science of urban or environmental design; would he comment on some of the problems faced by the philosopher in this field? What about the problems involved in coordinating the efforts of architects, economists, sociologists, politicians in the interests of "total environment"?

He said the great failing had been that each discipline "hacks away at the problem from its own narrow point of view; can't see it whole. There's been research on urban affairs for years, and very intensively since about 1950, but it hasn't really helped much. The only solution would seem to be more research—to find out what really makes the environment pleasanter, more livable, for the individual.

"We create environments very rapidly these days, whether we think about it or not. And we realize intuitively that this affects the way people live—but we need to know more precisely how, because the environment is so complex today. Universities can help vitally in transforming the way decisions are made—from intuition to a more secure, rigorous basis.

"There has been an awful lot of confusion about just what 'the urban problem' is, and we've been trying here to eliminate that confusion with a multi-disciplinary approach. Around this table, every week, we sit down with people from five or six disciplines—and we all tell each other what we think the problems are from our own point of view. And slowly—sometimes painfully—we emerge with a really rounded picture."

IN terms of, say, housing for Harlem, how should this new decision-making process operate? He began his answer by describing how, in his opinion, the old processes did *not* work.

"For 25 years, government programs have assumed that if you tore down old slum housing, and built clean houses, the social and economic problems would go away. But they haven't. Finally the government real-



A "preceptorial"—Princeton's traditional small-group method of instruction—takes place on lawn in front of the 4-year old School of Architecture building, a strikingly modern structure of red brick and dark glass window bays set down in a complex of Princeton Gothic. Photo by Elizabeth G. C. Menzies.





Around the large table in School's faculty room, from left: Henry Jandl; Michael Graves; William F. Shellman; George Kasabov, Visiting Lecturer from London's Bartlett School of Design;

Anthony Vidler; Robert L. Geddes; Anthony Eardley; Heath Licklider. Portrait on wall is of Howard Crosby Butler, who founded the School in 1920 and was its first Director.

izes you have to have a unified program—employment, health services, a whole range of social services, *plus* the physical remodeling. None of these by itself is going to do the job.

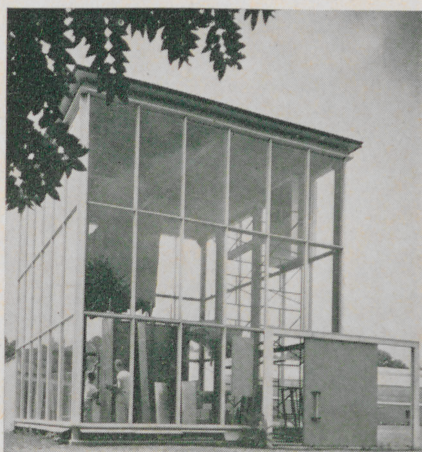
"What we are really doing is shifting from a product orientation to a process orientation. That is, in the old way of planning and designing, all that mattered was that you produced an object—a building—that people liked. Of course, you took some chance of failing, but as long as most people knew what they liked, things went along pretty well. Now—as we develop an educated democracy—there's no longer any general agreement on what end product people will like. So you have to ask what the basis for liking something is. The theory now is that people like something because they're involved with it—it's really a part of their life. And that shifts us from looking at the object that we finish up with to the people we're creating it for.

"We see that we now have involved in the process not just the lordly client, but masses of people—people who can be divided into many groups, each group having its own set of interests and priorities. What we do has to be important to them and satisfy their goals."

**I**N their study of architectural education for the American Institute of Architects, Geddes and Spring have focused on environmental design, and the broad scope of the study had been suggested earlier by Geddes' references to a diagram which filled his entire office blackboard. Mapped out there were the objectives of the new educa-

tional methods—ranging from, on the one extreme, basic knowledge of specific facts which the architect must possess, to what Geddes termed "the highest level of our educational aspirations," the ability to be able to judge and evaluate the total impact of the work. To Geddes, that is the kind of revolution that has to occur in architecture—"from the most tangible to the most intangible"—in order to cope successfully with the problems of designing, or redesigning, a total environment.

Now Spring pointed out that they were preparing a final report on the study, in which they will attempt to offer guidance in educating all of those concerned with environmental design—not only architects, but also engineers, city planners, urban designers,



"Pick and shovel" investigations are carried on at School's Architectural Laboratory, where Associate Prof. Victor Olgay, native of Hungary and Prix de Rome winner, works with graduate students on bioclimatic studies; and David P. Billington, Professor in Architecture and in School of Engineering, conducts structural studies.

landscape architects, and a host of others.

(As if on cue, the Dean came in at this point to ask if Spring would be free the following day to meet at the School with Paul Ylvisaker, New Jersey's newly appointed first Commissioner of Urban and Community Affairs. This involved another School of Architecture project—again emphasizing the intermeshing of disciplines in the planning of the new environment. In this project, with Ylvisaker, Princeton's architect-researchers will be working on long-term studies of New Jersey's housing policies—a study involving coordination of efforts by economists, sociologists, and others.)

Returning to the AIA study, Spring explained that "we have worked with as many schools as possible to try to get them to revise and re-evaluate their curricula—to be more in tune with the real needs of design skill out there in the world today, and in the future. Most programs in the past have been based on an apprenticeship system, and it has broken down. We're trying to work out something to take its place. We have a number of recommendations, and some pretty specific instructions as to what the schools can do.

"When you try to teach a man something about everything—in only four to six years—he may end up terribly superficial. On the other hand, if you only teach him to specialize, he may learn a lot about one subject but can make dreadful mistakes of judgment. We're after a new kind of teaching program that will balance those things out: general education to teach him when, and how, to call on the various specialists; specialization to



teach him how to be a specialist himself—in whatever field. Everybody should have both of these experiences.”

NATURALLY, much of the thinking that went into the AIA recommendations for other schools is reflected, one way or another, in sweeping curricular changes that go into effect at Princeton next fall. At a second meeting with Geddes we talked at some length about these changes.

The aim, he said, was to give the beginning architecture student a broad liberal education, so that, when he began his graduate studies, he would have a widely informed, receptive mind, “a broad experience in the University, and some real understanding of architecture as a liberal art and as a creative process. If at the end of his undergraduate years he should decide not to go into architecture, he would be well grounded in important areas of past and present cultures, and prepared for responsible citizenship in an urban society.”

The new curriculum will offer several new courses for freshmen and sophomores who want to sample the School's fare before deciding to major in Architecture, including:

- “The Man-Made Environment,” an examination of the ways in which men have built their cities, landscapes, and buildings. That course will be taught next fall by Geddes and other members of the School's faculty.

- “Values, Concepts and Methods,” a study of the theory of methods of design in relation to human social needs. Giving this course will be Heath Licklider, a specialist in the theory of architectural design, Associate Professor in the School and a member of the faculty since 1947. Licklider received his M.F.A. here in 1942, was a designer in Richmond, Va., and on the faculty of Carnegie Institute of Technology before returning to the School two decades ago.

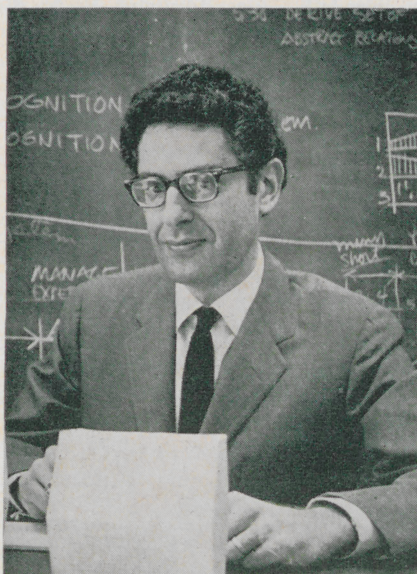
- “Architecture and the Visual Arts,” an introduction to the visual arts as a cultural expression, which will be taught by Associate Professor William F. Shellman, Princeton M.F.A., who has been associated with the School since the end of World War II and has worked with Jandl on the design of buildings in the Princeton area.

At the departmental level—for juniors and seniors majoring in architecture as well as in other fields—emphasis will be on three basic areas: Urban Studies, Building-Science tech-

nologies, and Historical Studies. Courses at this level will involve study of systematic procedures in the rational organization of knowledge and in the methods of design in response to human needs.

GEDDES said the new curriculum would prepare the student for work in many fields related to the building and planning of man's physical environment, not just architecture—though the program will benefit Princeton A.B.'s in architecture in that

Photo by George Peterson '65



BERNARD P. SPRING

they will be able to enter graduate schools of architecture at Princeton and elsewhere with advanced standing. For example, a student going on for professional study as a city planner at M.I.T. would find his Princeton experience a solid base for his advanced work; so would he if he went on to law school to become a specialist in urban affairs, or if, with an eye on today's interplay between urban decision-making and environmental design, he were to do graduate work at Princeton's Woodrow Wilson School of Public and International Affairs.

The very process of developing new courses for the curriculum has already been generating a lot of excitement in Architecture's classrooms, with students encouraged to participate in this process. As Spring put it, “A teacher no longer gets up in front of a class and says ‘Look boys, this is how you do it.’ We want the student to be involved in the search. In many ways, he may have clearer vision than the teacher, who can help shape his effort and give it direction—but we

want the enthusiasm a student can bring to the subject when he realizes he's not just a receptacle to be filled, but is working right along with the teacher. This can make a tremendous difference in the power of education.”

Further light on the matter of student enthusiasm was shed by a young Assistant Professor in Architecture whom the Dean suggested we talk with: Emilio Ambasz, a native of Argentina, who received his M.F.A. from Princeton only last spring—in three years, having entered the University with the Class of 1967. With Anthony Eardley, 34-year-old Assistant Professor, who came to the School in 1965 from England (where he had taught at Cambridge, been in private practice, and had been First Year Master at London's Architectural Association School), Ambasz has been teaching a foundation course for sophomores on the application of models as a methodological approach to the solution of environmental design problems. Through such an approach, Ambasz and Eardley have attempted to develop in students a critical capacity for making methodical analyses of aspects of design.

As a course project, Ambasz gave his students the job of designing a library—not its physical form but rather its operations and functions. “They were asked to define their *idea* of a library,” Ambasz explained, “and to classify all the information they could as to who would be the users, what would be the physical elements necessary for the library. They were supposed to say how one type of space would communicate with another, how they would interrelate—and all of this still in diagrammatic form. No indication, at this stage, of how the library would *look*.”

Ambasz found that the students, in their enthusiasm, went into “fantastic detail,” some being “so thrilled with the method we gave them that they not only organized the rooms, but the furniture in every room, and the elements of every piece of furniture! They got so excited I had to tell them to stop for a while and do something else.”

Ambasz took us into the large studio adjoining his office to show us some of his students' work. On the walls were diagrammatic charts illustrating the relationships they visualized in their “ideal library.” Other models, strewn



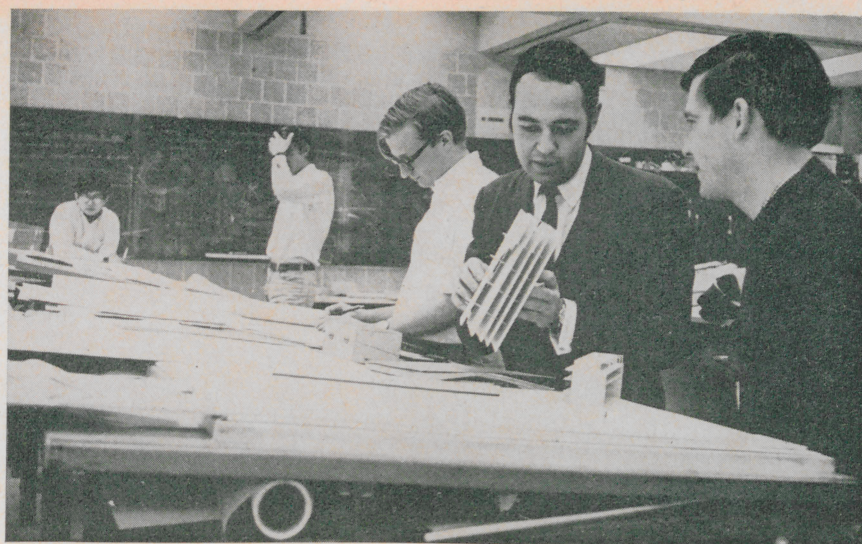
about on tops of filing cabinets, resembled three-dimensional illustrations of molecular structures, while on the rows of drawing tables were cardboard and wooden models for the library the students were in the process of designing.

Ambasz said that "we are trying to teach students to deal with concepts rather than with objects. For example, say they are designing a desk lamp. Previously, they would have looked at a catalogue and picked out the one they thought was best. Now they would look at what makes light, what are the intrinsic characteristics of light. And they may end up designing something that is a completely new definition of a lamp."

Back at his desk, Ambasz said, "Many times, the solution to an architectural problem has nothing to do with the structure you are designing. Let's say an architect is asked to build a bridge from here to here"—the points being two pieces of paper on the desk about three inches apart. "All right, so he designs a bridge"—his hands move rapidly in an arch between the two pieces of paper—"and it's done. Unless he's somebody who *really looks around* and says, 'What's the problem?—can't we just put these two together?'" With a flourish, his hands push the two pieces of paper together. "The important thing is that we've got to develop the professional—the problem solver—who has the imagination to see the thing in this light, and doesn't think only about building that bridge."

**W**ANTING to see for ourselves how students were absorbing this new philosophy, we sat in, one early spring afternoon, on a session at which seniors majoring in architecture were being given a preliminary quizzing by a faculty jury on their senior thesis projects. Before the quiz began, the atmosphere was casual as the students (among them the 6'9" center on Princeton's nationally-ranked basketball team, Robinson Osborne Brown) discussed with each other their individual plans tacked up on the walls.

Senior Critic on the jury was the distinguished, Latvian-born architect Jerzy Soltan, a former associate of LeCorbusier's, who made a special visit for the occasion and will come to the School this fall from Harvard as Visiting Lecturer. Geddes also sat on the jury as did Licklider, and Kenneth Frampton, who was here this year as a



Emilio Ambasz (holding model) with students in one of School's large studios.

Visiting Lecturer and will be returning this fall, on a permanent basis, as Lecturer with the rank of Associate Professor. The former editor of the English magazine, "Architectural Design," a practicing London architect, and the author of numerous critical articles and reviews, Frampton will be developing here a course in the analysis and theory of architecture. Other members of the faculty—Jandl, Shellman among them—drifted in and out during the course of the afternoon.

The senior program under examination was one in which all of the seniors took part: *How to improve the public school system in nearby Trenton*. The project had been under the

direction of Michael Wurmfeld, a 1961 graduate of the School who returned to the faculty in 1965 after a Fulbright Scholarship in Rome; and Michael Graves, Harvard-trained, former Prix de Rome Fellow and member of the School faculty since 1962, promoted this spring to Associate Professor. (An example of Graves' work, a project for New York City's Hudson River waterfront, on which he had teamed up with Assistant Professor Peter D. Eisenman, was exhibited this winter at the Museum of Modern Art which had commissioned the project.)

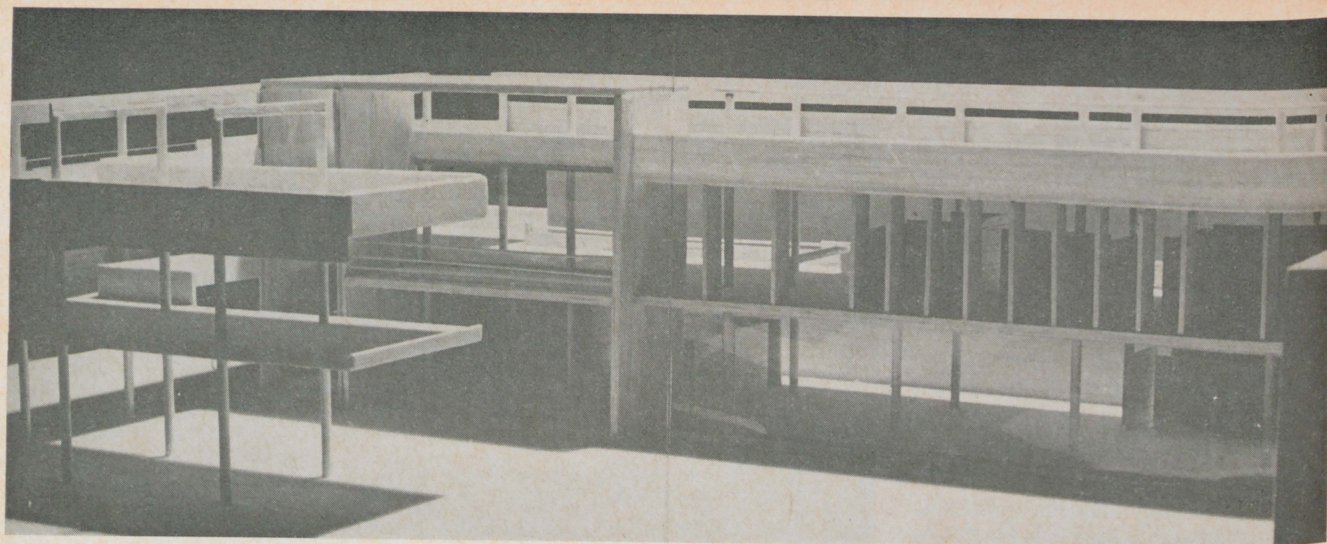
Each senior had selected his own particular aspect of Trenton's school problems, which stem from familiar causes: a tremendous post-war influx of Negroes with resultant ghettos in many areas, *de-facto* segregation in a number of schools, much sub-standard schooling and housing.

**W**HAT impressed the visitor, as one senior after another got up to interpret his project to the jury, was not the boldness of designs (at this stage, in fact, few had reached the final design stage), but the evident concern for social, cultural, and economic factors. One student cited studies he had made of the surrounding area in considering his replacement for an existing junior high school in a heavily Negro area. His presentation, like others, was spiced with the jargon of today's architecture: "filtering through" the building into an area of green space, and "layerings of noise versus quiet." His project drew praise from Geddes for "dealing not only with the empirical, but with social concepts as well." Visitor Soltan



Center stairwell in School. Sculpture in foreground is prize-fighter by ex-prize-fighter Joseph Brown, Sculptor in Residence and Lecturer in Architecture.





Model for Trenton pre-school and community center submitted by Thomas C. Pritchard as part of senior project. His concern was with social and economic factors, not only design, and he sought environment to encourage "development of each child."

also found "something excellent in your beginning where you did." His chief request—and this said much about the philosophy of architecture today—was that the student should "now define what education should be for us as designers."

The next student did perhaps *too much* defining of education—"I've read a lot of subversive literature on the subject"—and said too little about architecture. He had conceived a radically new school, one whose students would be allowed to choose what their activities would be on any given day. As he developed his plan, shortcomings emerged, unanswered questions about land levels and other practical matters. The project held the jury's interest, but Soltan said at one point, "That is fine, but you must be practical. I *have* designed, and I once had the misfortune of having a major sports palace start moving down a hill."

Other presentations that afternoon included a Day Care Center (programmed down to such details as laundry facilities for parents waiting for their children), a community center in the heart of a "black belt," a new elementary school added on to an existing one, an imaginative school set on the boundary of one of Trenton's wealthy white areas adjoining a heavily Negro section (this with a ramp leading—Ponte Vecchio-like—across the canal separating the white area from the black at that point).

At one point in the session, Geddes went up to study more closely the plans for the Day Care Center, then said to the student: "You could end

up with a building that only works because of the signs you put on the doors—and ignores the way people would *naturally* move through the building."

The work with schools is only one project being carried on in Trenton and in other nearby municipalities as the School reaches into what Geddes calls the "fantastic laboratory" of the Philadelphia-New York corridor to find practical research problems on which the young architects may cut their teeth, meanwhile helping the municipalities to help themselves: something Geddes calls "urban extension."

In Trenton the students looked into the decision-making process that went into the construction of several municipal buildings, first studying the process itself, then suggesting ways in which better decisions might have been made. They dealt at times with the United Progress Inc. program—



Architecture graduate students testing structural concrete beams at Engineering Laboratory in Engineering Quadrangle and acquiring "basic knowledge of specific facts which the architect must possess."

part of the Administration's "war on poverty"—and Spring noted that UPI may be able to use some of the information the students dug up to help shape a new information system for the city government. The work with UPI this summer will be directed by Assistant Professor Anthony Vidler, a 25-year-old graduate of Cambridge University where he was a research assistant before coming to Princeton in the fall of 1965. Vidler, who has had professional experience both in England and this country, will be giving a new course on architectural analysis this fall.

**S**PRING also spoke of the project, begun early this year, for a central New Jersey Mass Transportation Center in New Brunswick, involving a team of faculty members and graduate students from the Princeton School of Architecture and two units of Rutgers University: the Center for Transportation Studies, and the Bureau of Conservation and Environmental Sciences.

"It's both a research and a teaching project," Spring said. "We came upon it because we had happened to take Middlesex County (of which New Brunswick is the county seat) as a study area. There was the opportunity for a very important transfer point for different kinds of transportation facilities—high-speed rail, low-speed rail, bus, and so on.

"We are looking into the possibility of using a new kind of aircraft for urban transport—a short take-off-and-landing aircraft. You can land them smack in the middle of the city on a





Seniors defend their presentations for senior theses before faculty jury including Geddes (center), Vidler (left), Jandl (right). "A teacher no longer gets up in front of a class and says 'Look boys, this is how you do it.' We want the student to be involved."

small deck. New Brunswick seemed an ideal spot for this possibility—you could have the high-speed rail and low-speed rail all coming together at one point, and how in the world can you accommodate this madhouse of activity in a way that will make it a good experience for people?"

As currently envisaged, the low-flying commuter airbuses would land and take off from an airstrip on the roof of the center, which would also serve as a station for all forms of land travel. The Princeton team will work on requirements for the transportation center.

"This is a beautiful example of where the intuitive method of solving problems breaks down. This problem is so complicated, has so many elements, so many built-in conflicts, that no one man's intuition is good enough to encompass it. What we're trying to do—and it's an absolutely fresh piece of work—is two things: First, come up with a solution, but, second, keep track of the various ways that we have tried to get at this solution.

The new center, Spring noted, has all kinds of potential—including bringing New Brunswick within fifteen minutes of Manhattan. "Just think: a quarter of an hour away from Wall Street. That puts it as close as Fifty-ninth Street!"

THE project is not purely theoretical but one with meaningful, practical possibilities, according to Spring; with a real chance of being accepted. "One of our principles is that all of our projects should have both theoretical and practical values. In the

past there has been a schism between research and practice, and we're trying to bridge it. We have a start, because many of us who are doing research in the School are also in practice. The big job is to build bridges between us in the University and professional architects outside. They, of course, are worrying more and more about the meaning of what they're doing. Their interest in research has grown tremendously, but this interest is not yet understanding. The connection be-

tween practice and research is a hard one to make.

"We, the researchers, can't just generate consumer goods for the professionals—that is, provide answers to the questions they come up with. They say to us: 'I'm designing a new housing project—how many people per acre should I have in order for them to lead a good life?' Well, we'd have to say: 'You're asking the wrong question. We have strong suspicions that it doesn't matter how many people per acre—other things are more important to people's response.' I suppose, really, that our problem in research is to find the questions that they *should* ask."

One question we, as a layman, wanted to ask was how the researchers proposed to get public acceptance of the new world they were moving toward. Most urban environmentalists, for example, call for an end to the clogged transportation systems of our cities. But how would they deal with the American feeling that "everybody has a God-given right" to drive a car into the city? Spring said, "People will change their minds about that when it becomes an uncomfortable experience and not until then. We can't, as planners, tell them, 'You don't have any right to do this.' It's for them to say 'Driving a car has become painful and unpleasant.' Then we can offer alternatives for them to choose from, so they can make an intelligent choice and not just blunder into something. We must be able to say precisely what those alternatives are, how much they'll cost, what kind of new laws and public policies will be needed."



Louis I. Kahn, Class of 1913 Lecturer in Architecture at Princeton, during recent visit to the campus. One of the most important living American architects, Kahn for the last decade has been Professor of Architecture at the University of Pennsylvania, where one of his faculty colleagues was Princeton's Dean Geddes.