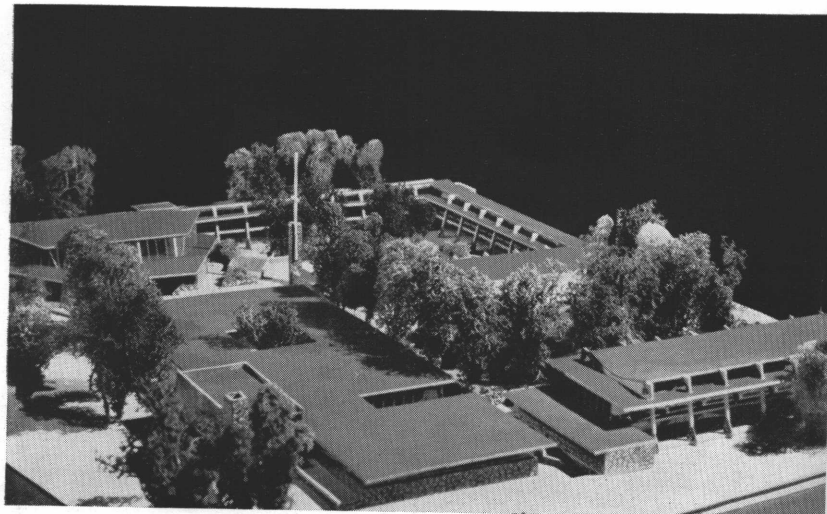
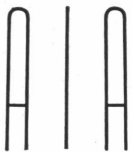


# SOUTHERN ARCHITECT

NOVEMBER 1955



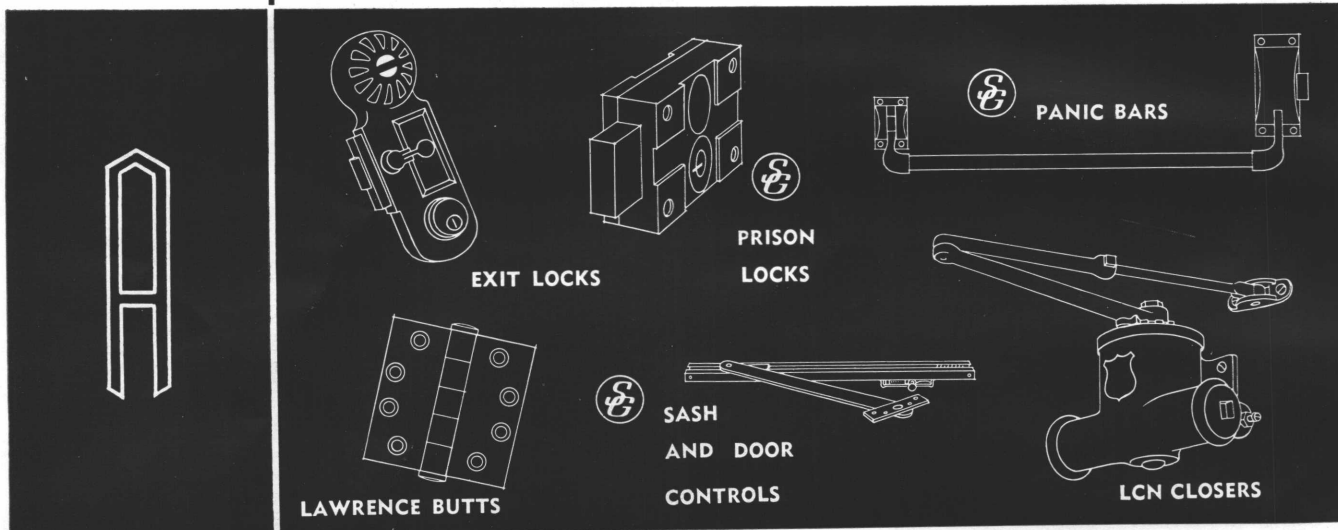
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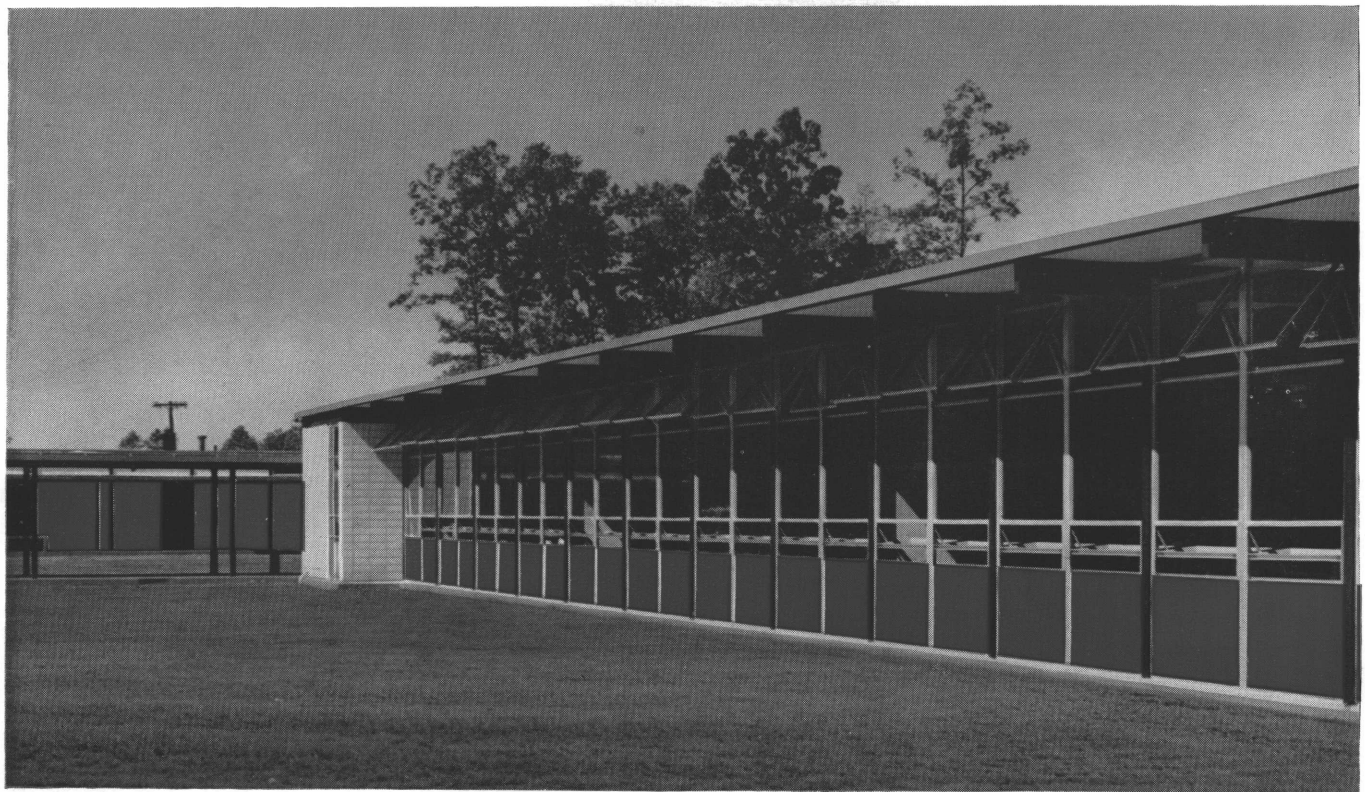
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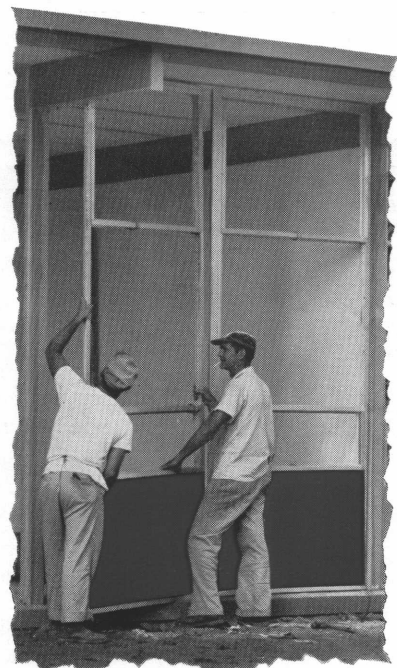
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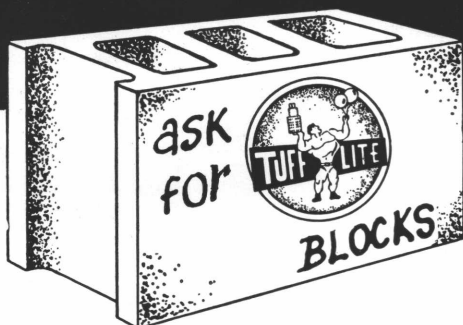
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## ARCHITECTURAL CALENDAR

NOV. 21: Producers Council. Hotel Barringer, Charlotte.

DEC. 1: Raleigh Council of Architects. S & W Cafeteria, Raleigh.

DEC. 2: Guilford Council of Architects. Bliss Restaurant, Greensboro.

DEC. 6: Winston-Salem Council of Architects. El-Cam-Rey Restaurant, Winston-Salem.

DEC. 7: Charlotte Council of Architects. Thackers Restaurant, Charlotte.

DEC. 9-10: Fourth Annual Quality Concrete Conference. North Carolina State College, Raleigh.

DEC. 10-16: International Atomic Exposition. Public Auditorium, Cleveland.

DEC. 12: Producers Council annual Christmas party. Radio Center, Charlotte.

DEC. 15: Raleigh Council of Architects. S & W Cafeteria, Raleigh.

JAN. 26-28: North Carolina Chapter, American Institute of Architects. Annual Meeting. Carolina Inn, Chapel Hill.

FEB. 13-17: National Sand and Gravel Association and Ready-Mixed Concrete Association. 1956 joint convention and biennial show. Conrad Hilton Hotel, Chicago, Illinois.

APRIL 12-13-14: South Atlantic District Regional Conference, American Institute of Architects. Washington Duke Hotel, Durham.

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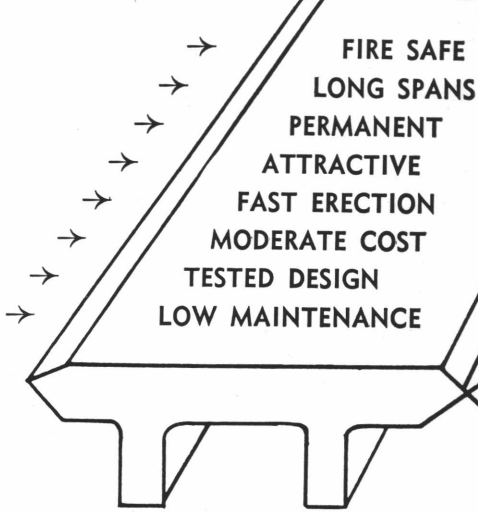


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- McAdenville Recreation Bldg.  
Architect: Paul Snyder, AIA
- Bonded Warehouse  
Architect: C. W. Connelly, AIA
- National Glaco Company  
Architect: Graves & Toy, AIA
- Reid's Warehouse  
Architect: R. Edwin Wilson
- National Guard Armory  
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- Chemical Corners  
Architect: J. N. Pease & Co.
- Park Center  
Architect: J. A. Malcolm, AIA

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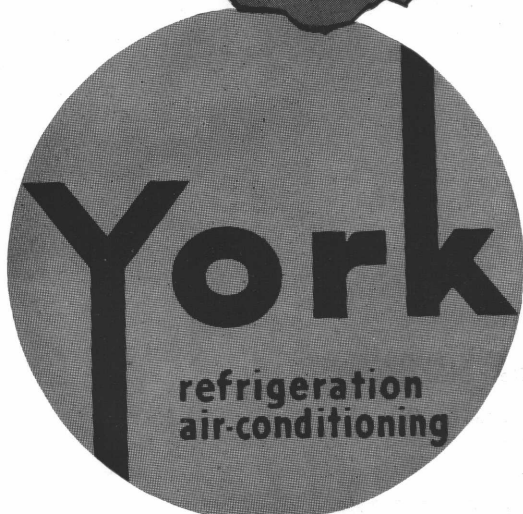
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# Southern Architect

Volume 2

November 1955

Number 7

**Publisher**

Thomas H. Broughton

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**A KEY PUBLICATION**

Southern Architect is the official publication of the North Carolina Chapter of the American Institute of Architects and is published monthly by Key Publications, Inc., 117 East Third Street, Charlotte, North Carolina. Telephone EDison 2-7537.

Address all communications to Southern Architect, Post Office Box 517, Charlotte, North Carolina. Advertising rates on request.

Opinions expressed by contributors are not necessarily those of the North Carolina Chapter of the American Institute of Architects or the Publisher. Reproduction of any articles, pictures, or any other material appearing in Southern Architect is forbidden without the specific approval of the Publisher.

Subscription price: One year \$3.00; Two years \$5.00. Single copies 25 cents. Full name and address shall accompany all subscriptions. Kindly notify Southern Architect in the event of change of address.

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**COVER PHOTO**

Model of The Oratory, Rock Hill, S. C.  
James A. Malcolm, AIA, Charlotte, Architect

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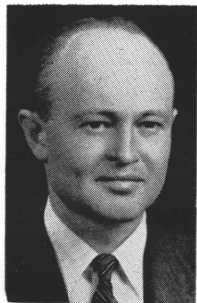
L. Y. WHITE

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## ❖ PRESIDENT'S MESSAGE ❖

It was a pleasure to represent the Chapter at the recent convention of the Carolinas Branch of the Associated General Contractors. Their hospitality was thoughtful and complete. It was recognized and accepted by me as a friendly gesture to Architects.



WILLIAMS

Some observations may be of interest.

There are very few places in this area offering proper accommodations for such a large group, and none in the Carolinas.

Every business seems to have familiar problems concerning relations with the public, with others in the same business, and with government agencies.

Organizations do improve the status and effectiveness of individuals and all organizations have those who guide, those who push and those who ride.

In addition to the obvious social purposes of a convention, there was below the froth evidence of determined efforts to improve service to the public, to develop methods that minimize mistakes and secure a reasonable profit within a highly competitive operation, and in general to continue the successful promotion of the biggest single business in this country—BUILDING.

It is not too early to make your plans for our Chapter meeting January 26, 27, 28 in Chapel Hill. We suggest making reservations early. Archie Davis has made arrangements for a greater number of rooms but there are frequently some who are disappointed in not being able to stay at the Inn.

Bill Deitrick and his committee are making excellent progress in their planning of the 1956 Southeastern Regional Conference of the AIA to be held April 12, 13, 14 in Durham-Raleigh-Chapel Hill area. Many not now involved will be needed to assure the success of this important event on NEW MATERIALS AND CONSTRUCTION IN ARCHITECTURE.

Mangum Sloan and his committee on Exhibitions have completed plans for our Honor Awards Program for the January meeting and this will be coordinated with the Regional Conference Exhibit. Plan your participation now. Our response to publication of work in this area is slower than in some, and there are advantages to showing our best work.

John Knight, Kenneth Jennings, Marion Ham, Archie Davis, and I as well as others have participated in a program "Blueprint" on Station WUNC-TV, Wednesday evenings seven to seven-thirty. We hope this is helpful in our Public Relations Committee work.

(Continued on page 29)



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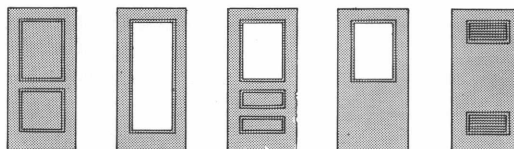
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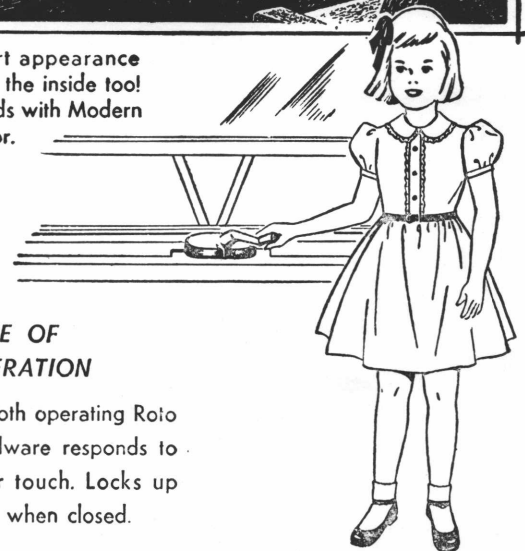
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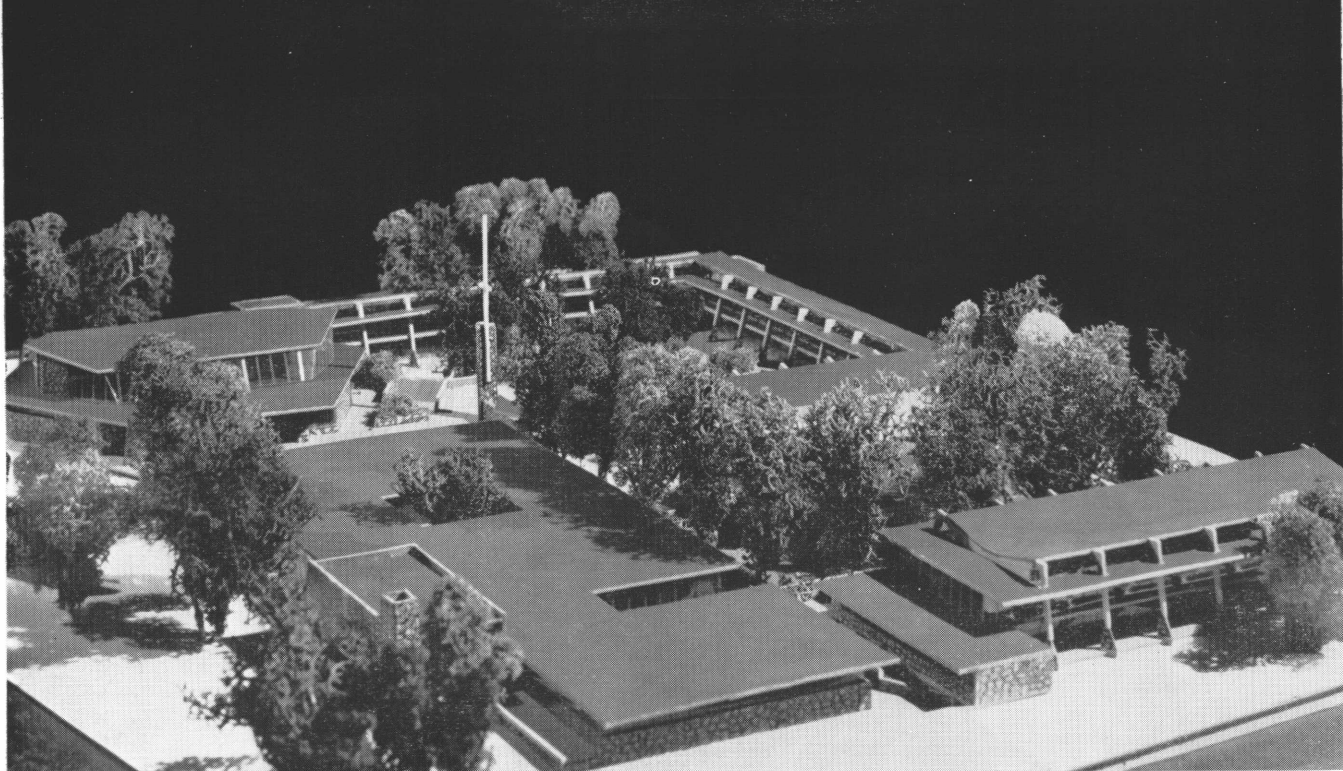


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## THE ORATORY

ROCK HILL, S. C.

James A. Malcolm, AIA

CHARLOTTE, N. C.

The design of a monastery for the Congregation of The Oratory at Rock Hill, S. C., presented a number of interesting and unusual problems for James A. Malcolm, AIA, Charlotte architect.

The limitations of the site itself formed an initial problem for the architect because of the wide variety of activities which must be accommodated.

In addition, the design had to be in keeping with the religious concept of The Oratory, which is a Religious Congregation of the Roman Catho-

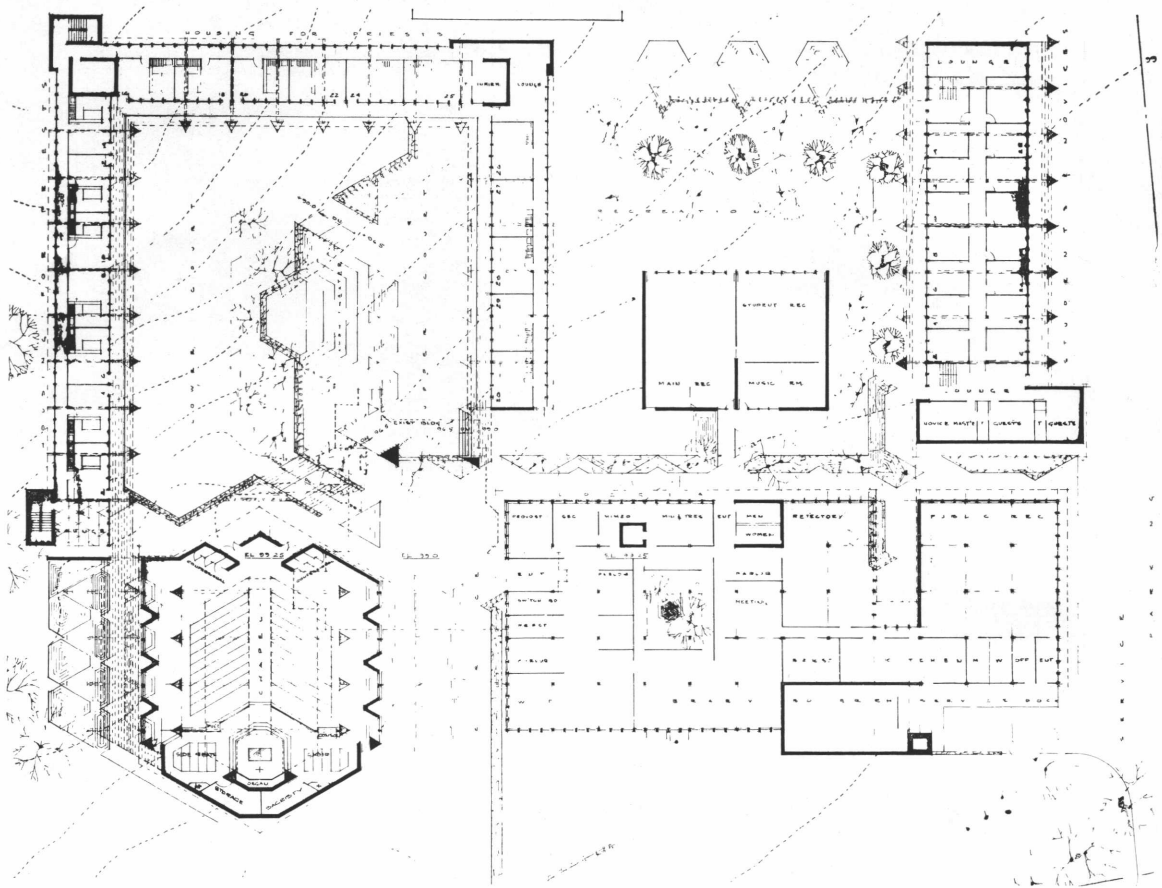
lic Church, made up of priests, students and brothers. The design also required qualities familiar to the southern area in which it was to be located.

Like all other religious congregations, The Oratory concentrates on following the counsels of Christ, primarily in the matters of chastity, poverty and obedience, with the exception that The Oratory is founded on the basis of the free following of these counsels. Since all the external works of The Oratory exist only so that individual men might be converted; either converted to the faith or to a more profound use of the faith they already possess, The Oratory's exercises are built around these three important features: first, their worship of God; second, their own private study, meditation and development; and third, the community exercises, other than worship, of recreation and eating together. Some lay activities, which The Oratory encourages and sponsors, also require the use of library and recreational facilities.

To meet these various qualifications, the architect chose a modified contemporary style of architecture since the basic design must meet with the approval of the people it is to serve or it is less than worthless. The building or buildings must form a contact with them and present in its total expression a spirit which is not repellant to those it must attract.







Floor Plan

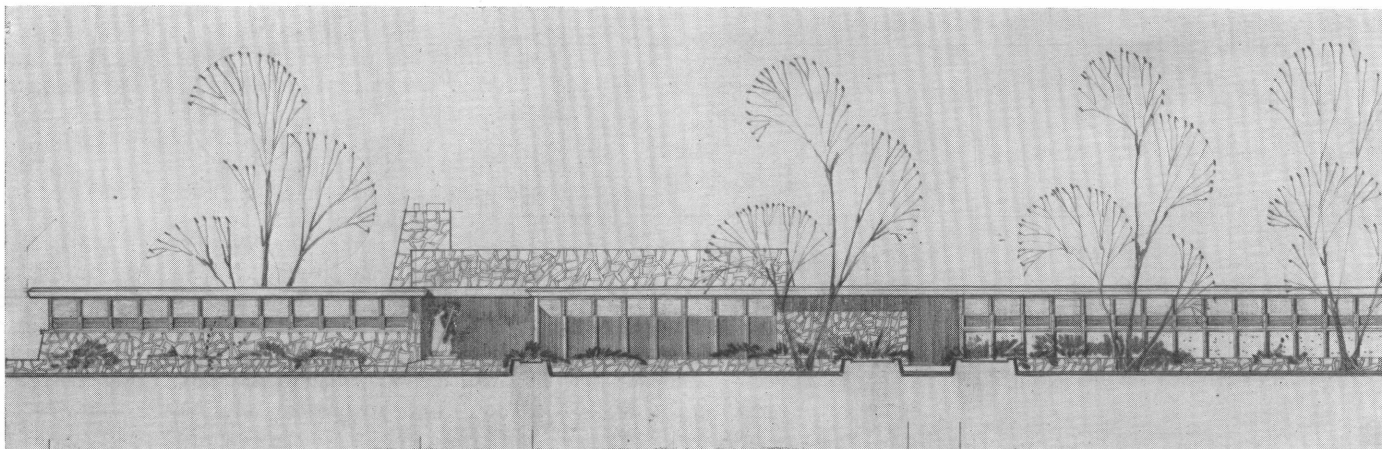
For these reasons, the architect turned to a structural system of wood laminates having qualities familiar to the people of the area, where wood laminates have been a part of the furniture industry and have been extensively developed by that industry over a considerable period of time. The system of gluing selected material for greater strength and the qualities of the finished product are understood by this southern community as is the coarse hard grey-brown field stone found in abundance on farms throughout the south and used in this project to provide a visual contrast and a complement to the warm light tones of the exposed wood laminations.

In addition to the use of familiar materials, the grouping of the buildings was considered from the standpoint of public entry and use. The buildings available to the general community were ar-

ranged on either side of a relatively broad entrance, which is a visual continuation of a primary street approach terminating at the grotto and tower. The architect used the grotto and tower as sculptural focal points to draw the public virtually inside the building group. Arriving at this point, the public finds the entrance to the chapel to the left and the administration building on the right. This latter building includes a library and many social services for the public. Near a separate entrance to accommodate deliveries and off-street parking is the public recreation center offering various activities to keep young people suitably occupied. These make up the public facilities.

The student building contains housing for novices, lounges, study and sleeping rooms, guest rooms and quarters for the novice master.

The chapel seats 250 persons and contains all



Public Recreation

Court

Refectory

Ent

Administration



the normal facilities of a Catholic Church, including confessionals, sacristy, choir, and additional space for storage.

The court around the priest's housing is patterned after the old cloister form to include bell tower, grotto, amphitheater to seat 100, and upper and lower landscaped courts which take advantage of grade changes.

The administration building contains consultation rooms, library for the public with an outside reading area, public recreational area for young people, dining facilities, meeting rooms, parlors, offices, a lobby, and utility rooms.

The recreation building includes a music room, student recreation hall, and a main recreation room for the priests.

The need to provide a suitable atmosphere for the continual and regular development of the life of a priest was facilitated by the fact that the priests themselves stressed the fact that this is not to be a place of reclusion or withdrawal but a living community where men, although constantly striving for a purer life, can carry on normal relationship in an ever active, never indifferent atmosphere. Of course, there was their need for privacy, but always they must be conscious of those about them working and executing their assigned duties lest they develop a narrow or silent indifference to their fellows. This resulted in the rectangular grouping of the priest's quarters around an intimate planted court in order that one can never be entirely unconscious of his fellow worker across the way.

Small lounges were introduced to bring people together for friendly conversation. For more active recreation, a separate building was provided with suitable but private space for such outdoor activities as shuffleboard, badminton, and other outdoor sports.

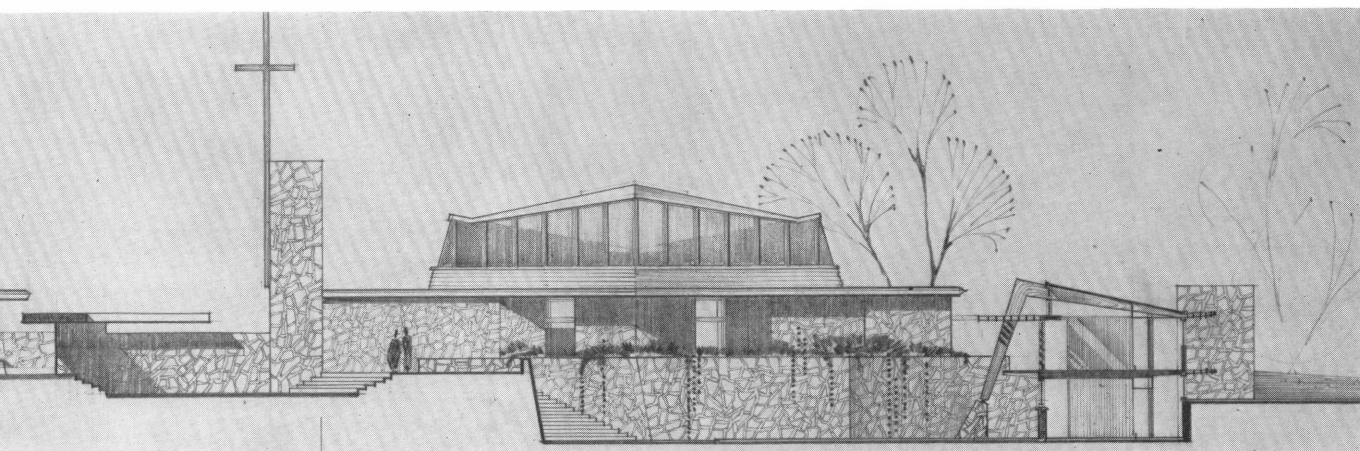
The student group, not yet fully indoctrinated into the monastic life and with duties and general sphere of activities quite different from the priests, occupies a building at one extreme of the building group isolated to meet their needs for privacy and study.

The refectory is located in accord with the set patterns of daily movement and activity, based upon practical as well as ritualistic considerations.

The Holy Trinity determines the triangulated rib supports and errace patterns and the cross is used as the pattern for one long axis of the plan and its form is repeated by the overhead roof lines on adjoining buildings. The fish, a very old Christian symbol, is used as a point of departure in the chapel.

In the third consideration, which is not a separate point at all, the factors of ritual and symbolism are the counterpoint to the first two considerations. Ritual and symbolism are the physical vehicles of the spirit of the church. They are automatic points of departure if not the central theme of every decision.

A continuity of the whole is sought for and an overall character set by using this symbolism as a guide rather than allowing it to be inserted later.

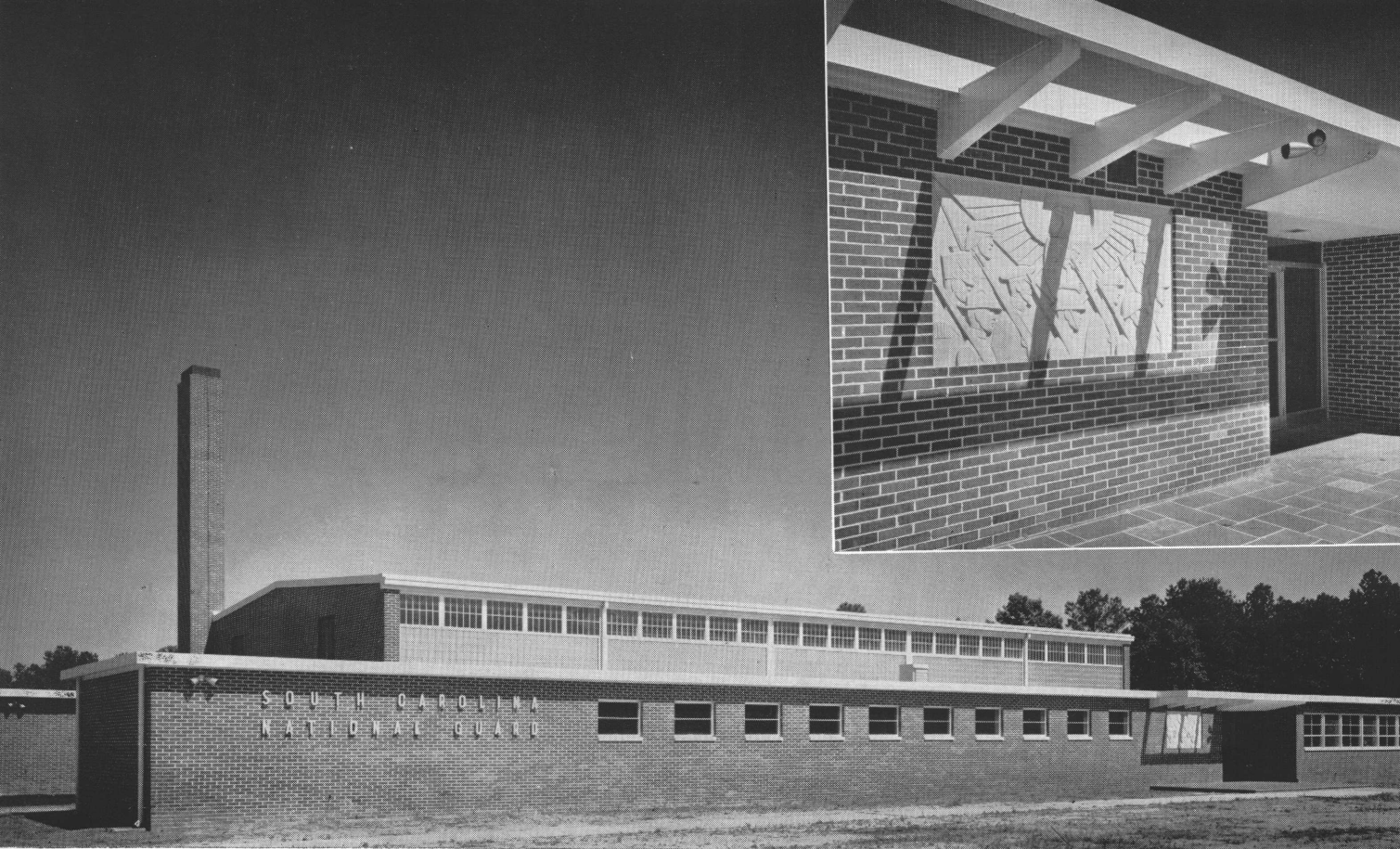


Grotto and Tower

Chapel

Priest's Housing (Sect)





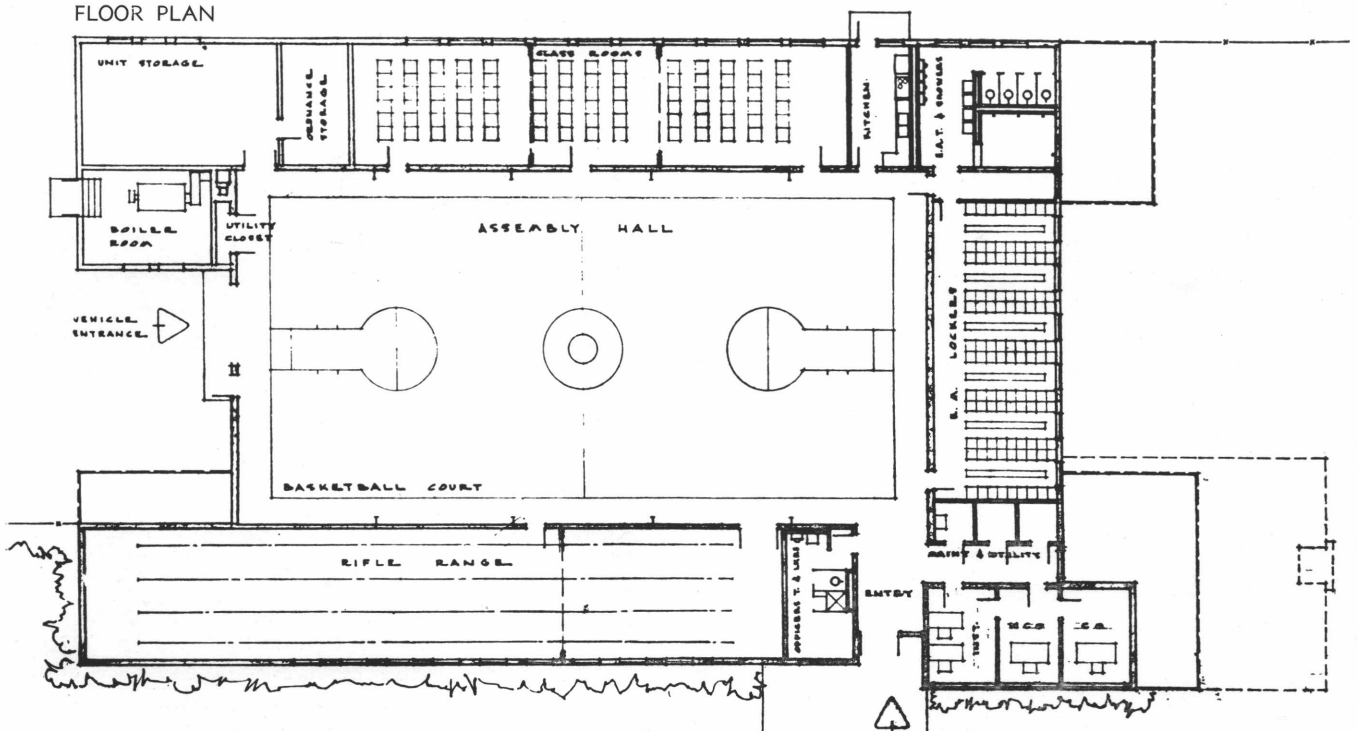
One of the South Carolina's National Guard armories is pictured above. Willard Hirsch, Charleston sculptor, was commissioned to produce the panel shown in the inset for all the South Carolina armories. The panel, cast in composition stone, is set in the face of the armories. The four by seven foot sculpture depicts the American Eagle above a Palmetto tree, South Carolina's state tree. Shown are military uniform types worn by Indian War soldiers and those of the Revolution, the Mexican War, War of 1812, War Between the States, Spanish-American War, Mexican Border Campaign, World War I and World War II. Photos by Joseph W. Molitor.

## NATIONAL GUARD ARMORIES

SOUTH CAROLINA

Heyward Singley, AIA  
COLUMBIA, SOUTH CAROLINA

FLOOR PLAN





Immediately after the reorganization of the South Carolina National Guard, following the end of World War II, the Adjutant General's Office began planning for the construction program for the new armories which would be necessary to house the many new units programmed for South Carolina.

It was apparent that at least 36 additional armory buildings would be required. Consequently, a survey of needs and requirements for the type of units proposed was made. Simultaneously action was started in acquiring armory sites. During this period, temporary facilities were provided for the newly activated units.

After the initial survey had been completed, the Adjutant General employed Heyward S. Singley, AIA, of Columbia, S. C., to plan and design a type of building that would meet all the needs, as well as lending itself to future expansion.

Currently eleven of these buildings have been completed and three are now under construction. Thos completed are located in Gaffney, Woodruff, Mullins, York, Bishopville, Lexington, Seneca, Charleston Heights, Barnwell, Edgefield, and St. Matthews. Those under construction are located in Ware Shoals, Hemingway, and Williamston.

In reviewing the factors involved in the design of the South Carolina National Guard armories, a major factor was the pressing need of a basic planned armory from which additions may be made with the least amount of waste in materials already in place, and carrying through the simple intent of design and a functional plan. At this stage, only single unit armories have been constructed, as follows: Type I—single unit; Type II—single unit with Medical Detachment; Type III—single unit with Battalion Headquarters; Type IV—single unit with Medical Detachment and Battalion Headquarters. The basic plan, Type I, requires only expanding the offices, locker and storage spaces to convert readily and economically to double unit armories, which would have Types I, II, III, and IV similar to single unit. This requires the minimum amount of planning before construction or work after the basic plan has been constructed.

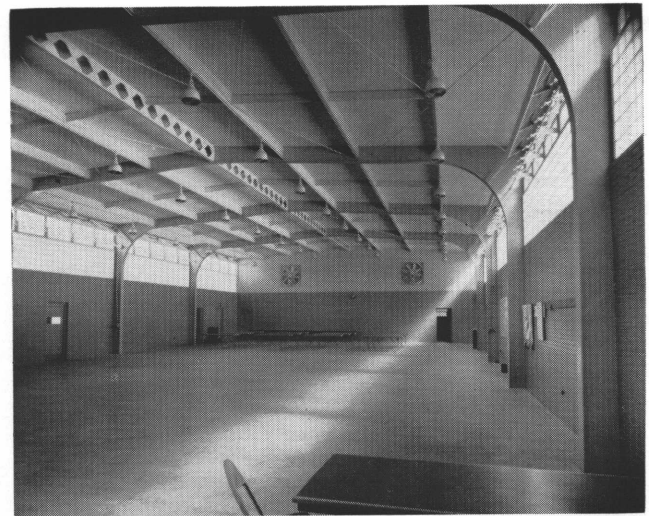
The needs are met in a uniform arrangement about the large assembly work and recreation center. There was emphasis on adequate natural light, and this is provided for in the assembly room by high windows and glass block along entire lengths of both sides. The rifle range with a more or less set requirement in size, with accessibility from assembly room, yet remaining a noise protective distance from both the office and classroom locations. Later requirements from the National Guard Bureau for additional classrooms within the present plan brought the folding door in the rifle range and high windows in the exterior wall which provides two additional classrooms of more than ample size.

The structure employs exposed rigid steel bents to span main assembly room; secondary areas are covered by flat poured roof decking on insulation board with exposed concrete joists and acoustical tile ceilings. The exterior walls are brick cavity, and the floors are concrete slab on grade with asphalt tile, quarry tile, Bluestone, and cement finishes. The heating is by radiant panels in the floor slab.



CLASSROOMS

Photo by Russell B. Maxey



ASSEMBLY HALL

Photo by Russell B. Maxey



RIFLE RANGE AND LOUNGE

Photo by Russell B. Maxey

# SCHOOLS: CAN'T HAVE CAKE ON CORNBREAD INCOME

Editorial from The Fayetteville Observer of October 15, 1955

A crisis which looms just as large as integration and segregation in the North Carolina school picture is the problem of providing the physical plants for the teaching of our fast-growing crop of children.

Experts tell us that we need to spend \$385,000,000 between now and 1960 on the construction of almost 11,000 new classrooms, and that we need to increase our teacher force by 1,000 each year.

Frankly we fear that North Carolina's economy cannot stand the strain.

But there remains with us the moral responsibility of seeing that our children are educated.

That is an inescapable responsibility.

Acknowledging that responsibility, there are two immediate things we have to do:

1. Determine how much additional taxation the people of North Carolina can stand in the support of public education.

2. Determine courageously what economies we can effect in our present educational system.

\* \* \*

In effecting these economies it appears basic that we cannot cut the salaries of the school teachers. If anything they need to be raised.

We are impressed by the advice of F. Carter Williams, President of the Tarheel Chapter of the American Institute of Architects.

"Buildings should be functional," he says. "They should be thought of as tools for carrying out the educational program of the community, rather than following the old-fashioned idea that they should be monuments.

Applying this to Fayetteville we can only surmise how many more classrooms could have been provided in what is now the Junior High School on Robeson Street, if it had been built minus clock-tower, minus decorative pillars, and minus every feature which was not strictly utilitarian.

These things are beautiful, they appeal to the eye, but in education the beautiful and the aesthetic is for the wealthy, and North Carolina, educationally speaking, today is anything but wealthy. It has patches in its pants.

We cannot agree wholeheartedly with Architect Williams' further statement that organizing schools

on double shifts and 12-month sessions with pupils on staggered terms is not conducive to the health and general welfare of the child. We cannot agree that such an organization of schools in North Carolina would not be feasible.

People of North Carolina had best stare the fact straight in the eyes: some such arrangement must be feasible if the state is to continue to maintain its present educational standards.

\* \* \*

Our school authorities must start thinking in terms of time as well as space.

One school building used twelve months a year equals one and one-third school buildings used nine months a year.

One school building used nine hours a day equals one and one-third school buildings used six hours a day.

One school building used twelve months a year and nine hours a day equals more than one and two-thirds school buildings used nine months a year and six hours a day.

If another hour per school day cycle can be saved by a shortening of certain classes and curtailment of chapel period time, or in any other manner we can see that there is the possibility of cutting our projected new construction bill in half—of saving the taxpayers of North Carolina one hundred and sixty million dollars.

\* \* \*

The people of North Carolina do not want to impair the health or welfare of a single child by a readjustment in the school system, so the challenge to our educational planners is not to adopt as a basic truth the theory that the health and welfare of the children will be adversely affected.

Their challenge is to display enough common-sense to readjust the school system in such a manner that the health and welfare of the children will be preserved.

Nothing will be gained by wringing their hands and moaning low: it can't be done.

Nothing will be gained by defeatism.

Nothing will be gained by adopting the principle that the only way out of the school dilemma is to give the North Carolina taxpayers another great big kick in the pants.

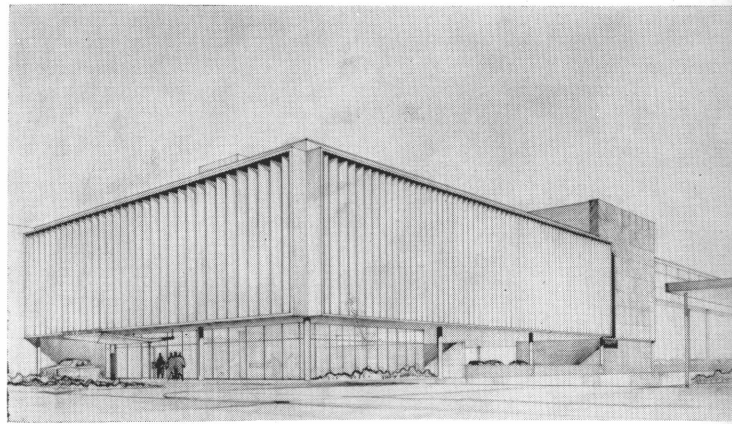
EVOLUTION OF A BUILDING

# THE NEWS AND OBSERVER

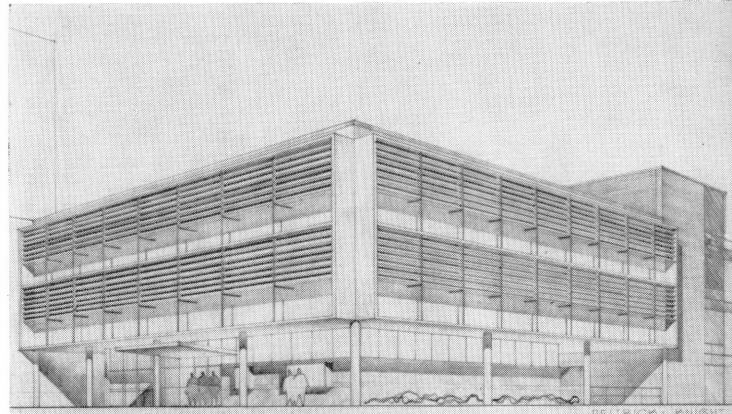
RALEIGH, N. C.

Wm. Henley Deitrick, FAIA  
John C. Knight, AIA  
& Associates

RALEIGH, N. C.

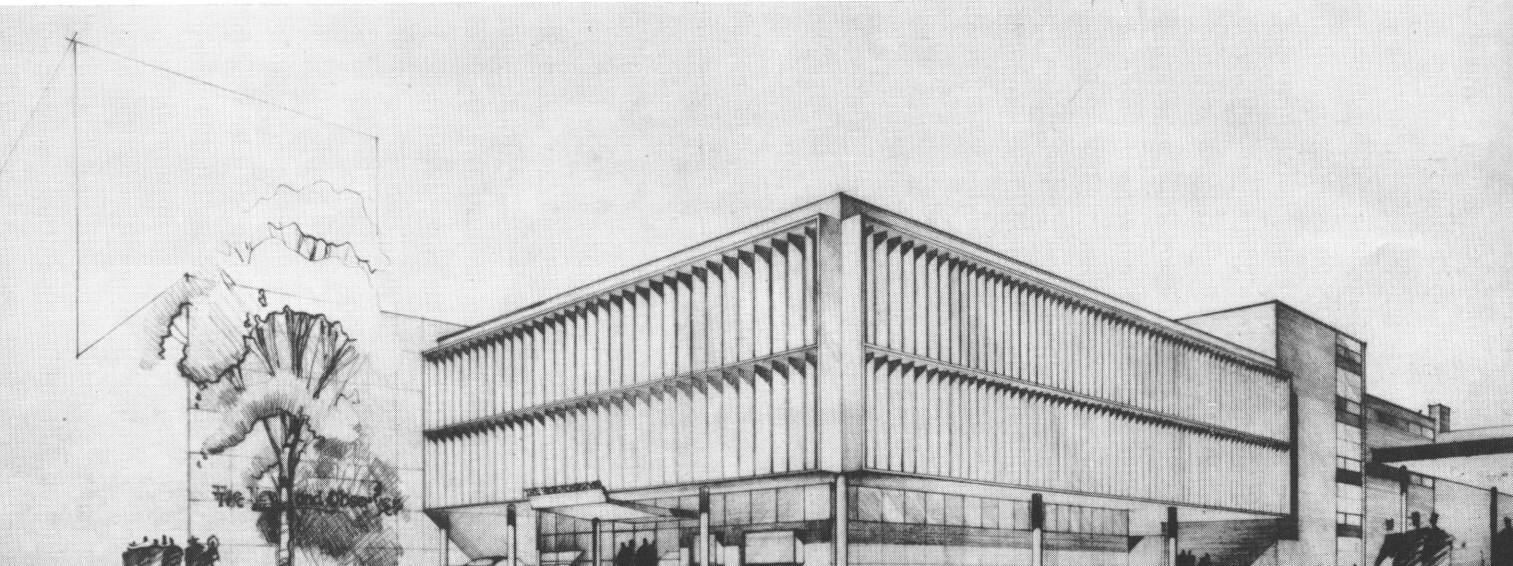


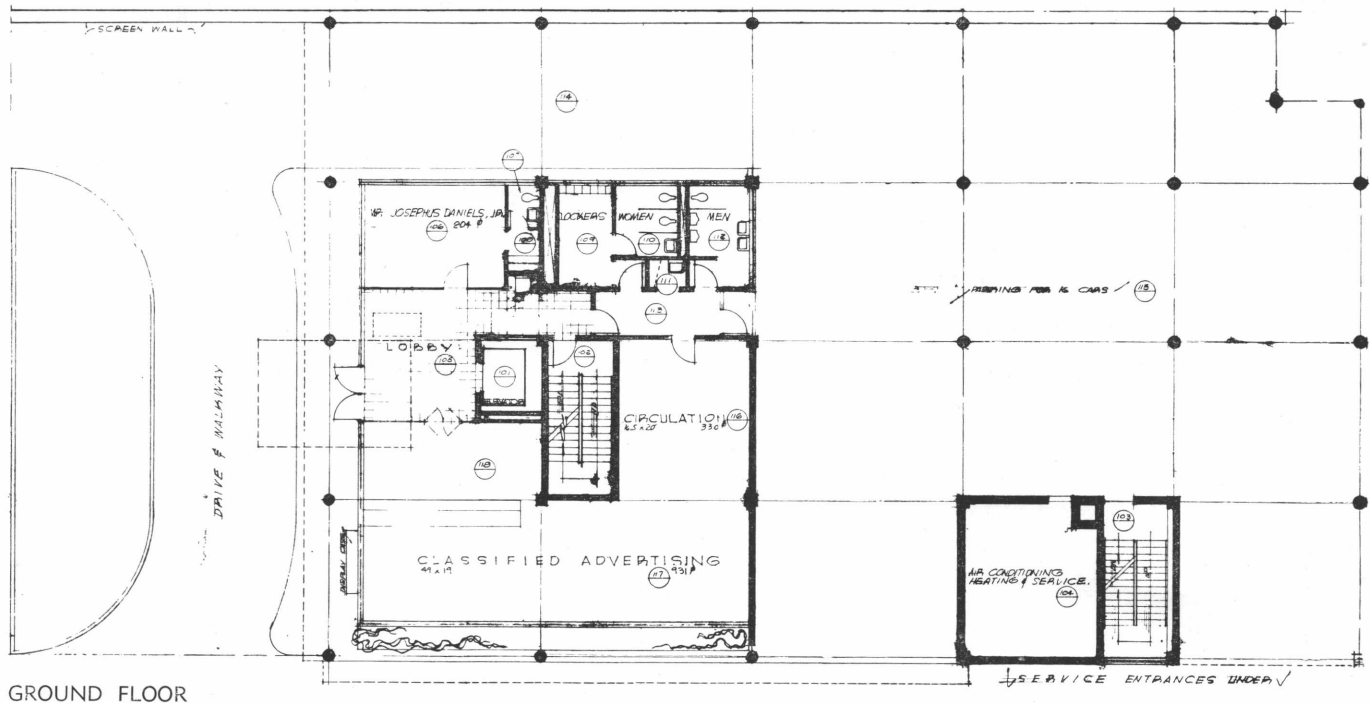
FIRST PRELIMINARY



SECOND PRELIMINARY

ACCEPTED DESIGN





GROUND FLOOR

The News and Observer office building in Raleigh demonstrates the evolution of a building in these studies, with three elevations showing the various phases of its development during the design stage.

The first sketch indicates the appearance through the use of horizontal sun controls. The second sketch demonstrates the use of vertical sun controls the height of the two upper floors. The third sketch was the design accepted by the owner, which has vertical sun controls at the second floor and at the third floor.

The decision to use sun controls at each floor rather than louvers two full floors in height was that provision for a fourth floor to be added at a later date had to be included in the design of the building.

William Henley Deitrick, FAIA, John C. Knight,

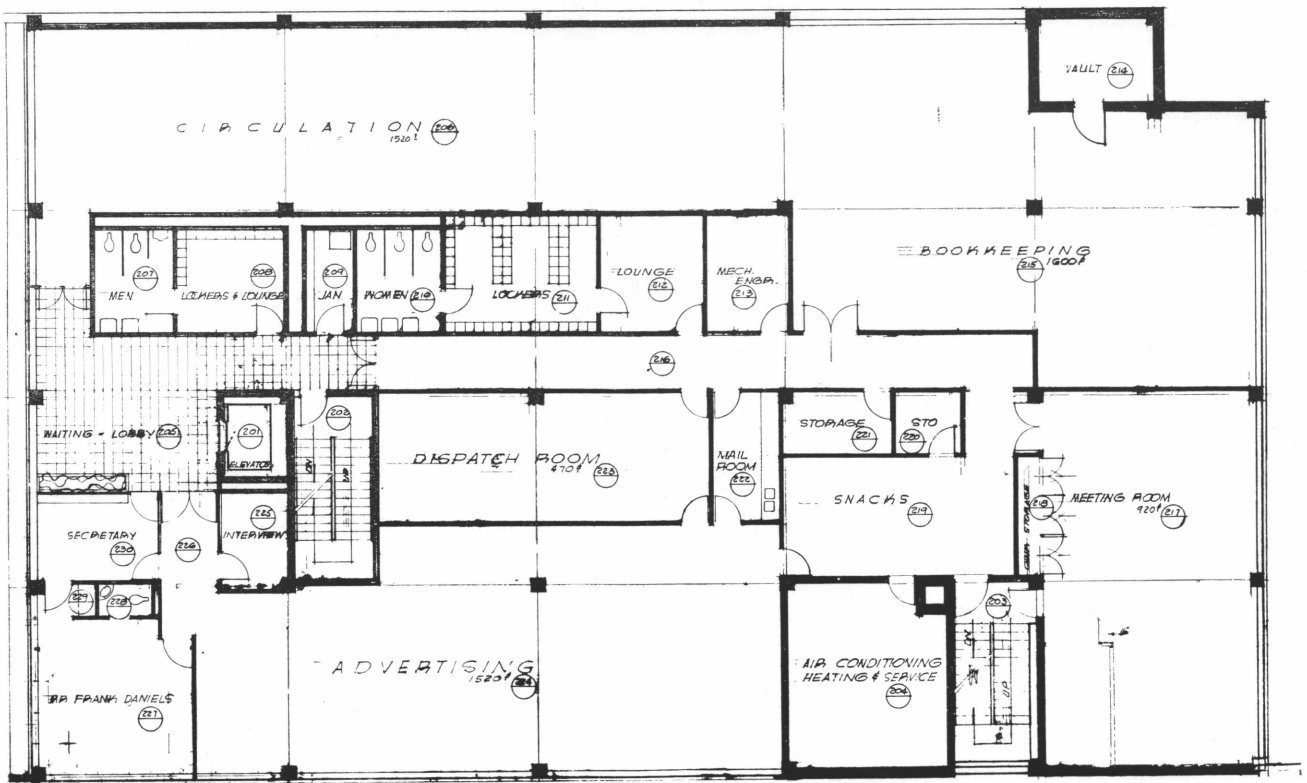
AIA, & Associates of Raleigh were the architects for the building.

The new structure is scheduled to be completed early in 1956 and will provide space for all editorial, news and business offices of the daily newspaper.

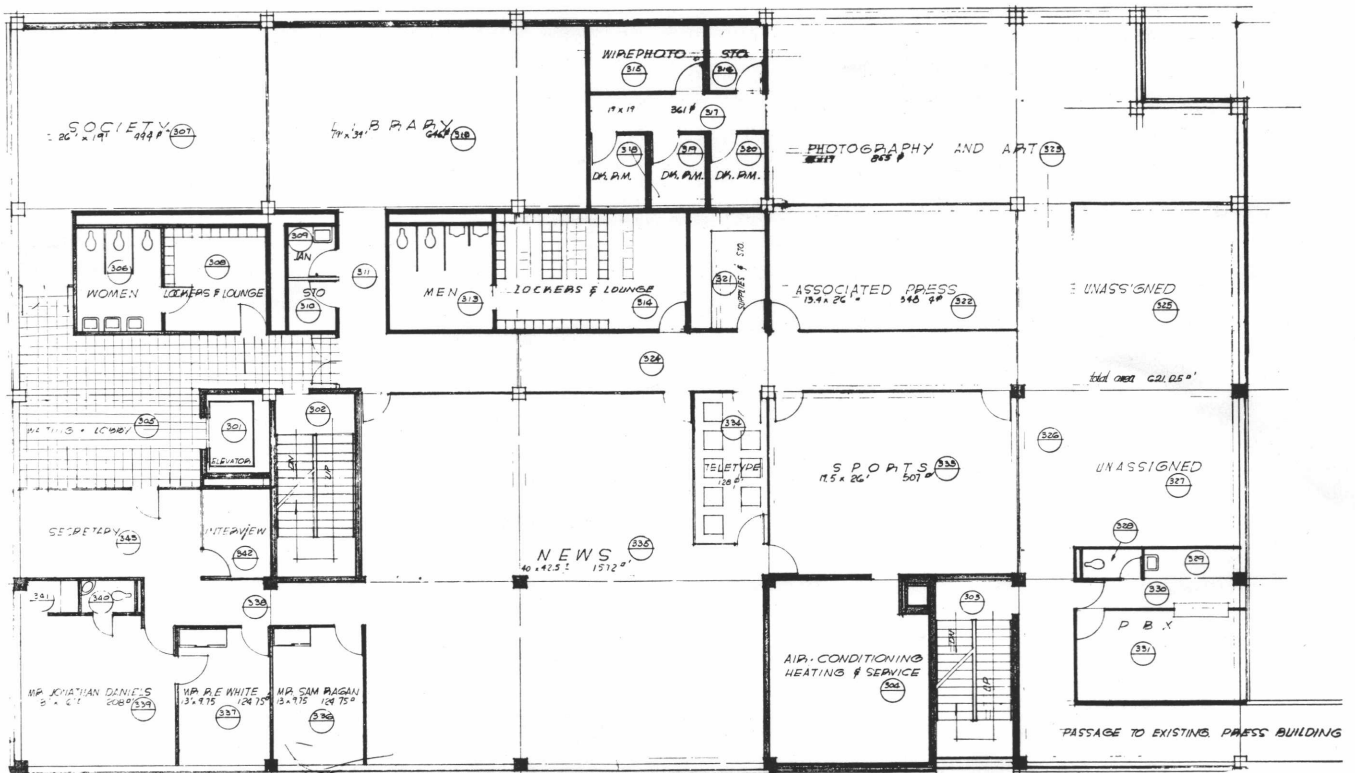
The ground floor of the building will be used for the circulation and classified advertising departments of the newspaper, with the remainder of the first floor being used for parking.

All offices and other departments are located on the second and third floors, with access to the nearby building housing the press and printing facilities. The basement houses boiler room, storage rooms, and paper storage facilities. Each floor has its own air conditioning equipment.





SECOND FLOOR



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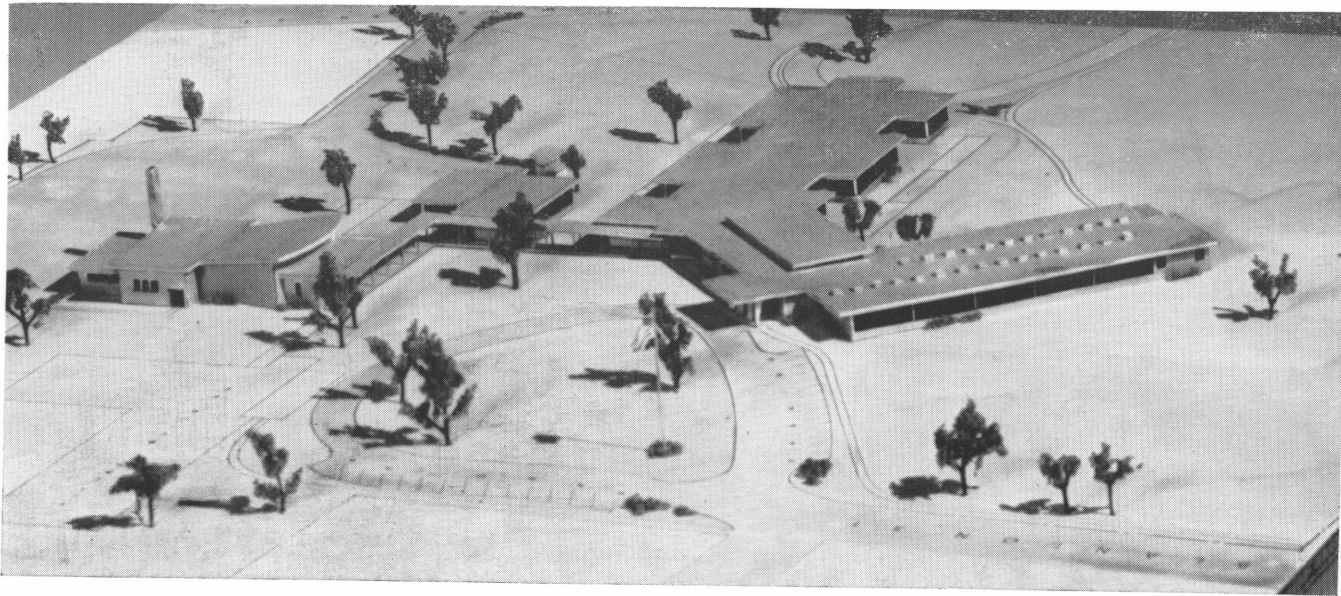


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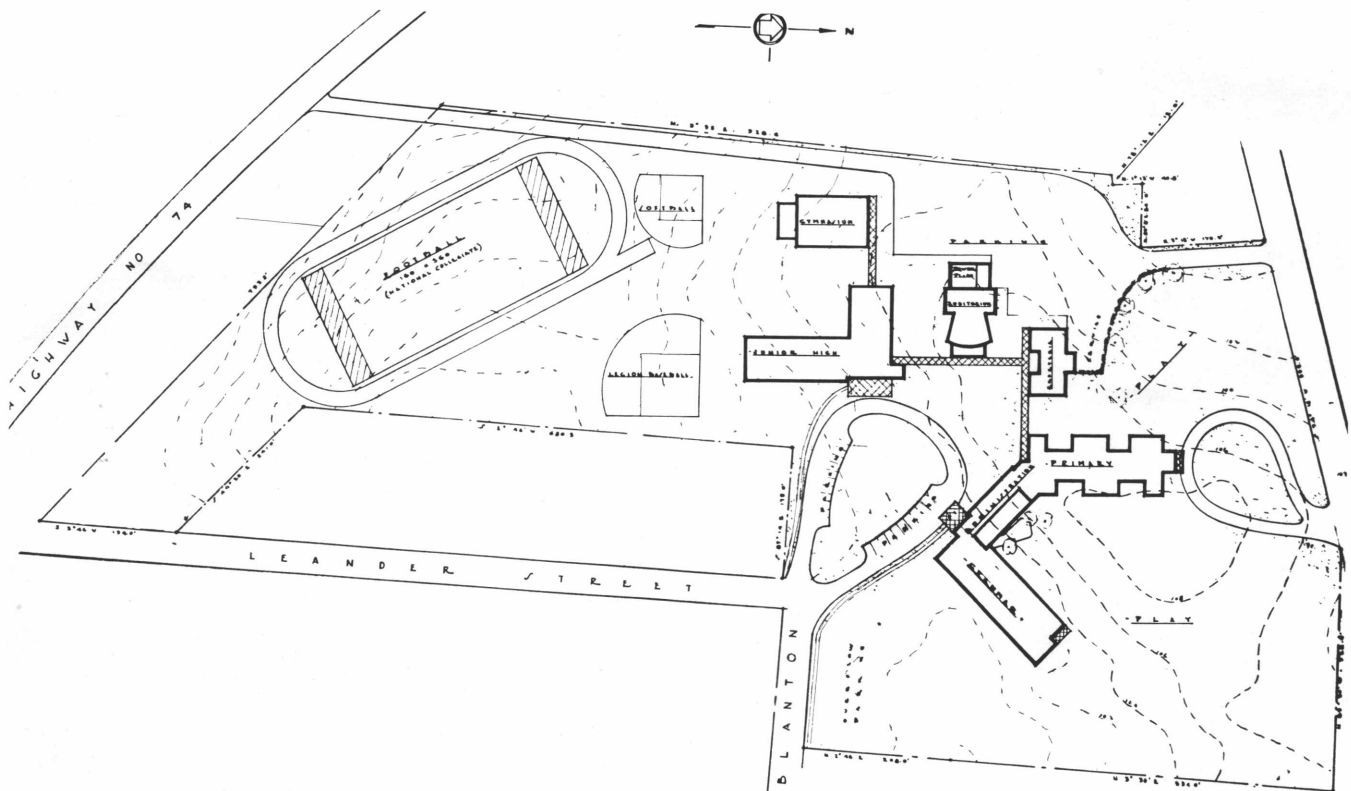


## GRAHAM ELEMENTARY SCHOOL

SHELBY, N. C.

Breeze, Holland & Riviere, AIA

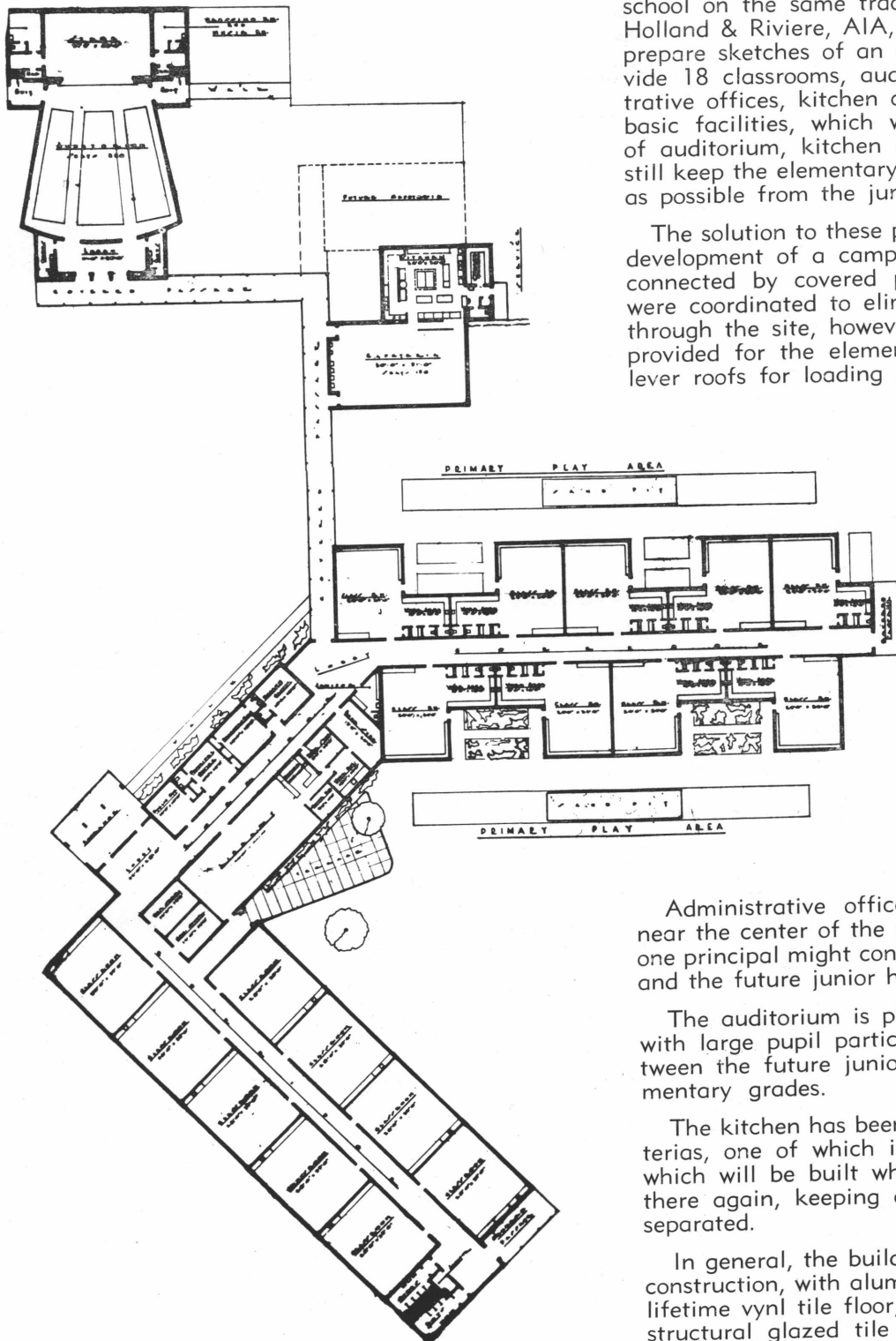
SHELBY, N. C.



The Graham school is located on a site in Shelby which provides ample room for present needs and any future expansion, with practically level terrain and access from two main approaches and the possibility of a third in the future.

With the idea in mind of a future junior high school on the same tract, the architects, Breeze, Holland & Riviere, AIA, of Shelby, were asked to prepare sketches of an elementary school to provide 18 classrooms, auditorium, library, administrative offices, kitchen and lunchroom, and other basic facilities, which would make common use of auditorium, kitchen and power plant and yet still keep the elementary pupils separated as much as possible from the junior high pupils.

The solution to these problems was met with the development of a campus plan school with units connected by covered passages. Street patterns were coordinated to eliminate roadways or drives through the site, however in and out drives were provided for the elementary children with cantilever roofs for loading and unloading.



Administrative offices and library were kept near the center of the project so that if necessary one principal might control both elementary grades and the future junior high.

The auditorium is planned for small audiences with large pupil participation, and is located between the future junior high school and the elementary grades.

The kitchen has been planned to serve two cafeterias, one of which is being built now, another which will be built when the new unit is added; there again, keeping older and younger children separated.

In general, the buildings are of brick and block construction, with aluminum awning type windows, lifetime vinyl tile floor, terrazzo floor in corridors, structural glazed tile wainscots in corridors and toilets and accoustical plaster ceilings.

The school was built for the Shelby City Administrative Unit by the Beam Construction Company of Cherryville.

# WHY STUDY ARCHITECTURE?

By DAVID D. REED

Professor of Architecture  
School of Architecture, University of Houston

## The Methods

There are two methods used to satisfy the needs of humanity through the use of buildings. One of these methods is the Arbitrary Method which adopts function to the structure. The other determines first the function and then adopts the structure to that function. This is the Analytic Method.

## Historical Background

Both methods are found throughout history and originated with primitive men. The cave dwellers, the first inhabitants of living abodes, gave up the ways of the nomad and became settled; their mode of living was changed; they adapted themselves to living in caves. This is the Arbitrary Method. The American Indian, however, by stretching skin over poles tied together at one end, made a tepee. The tepee was easy to erect and easy to move from place to place; it suited the mode of living of the Indian. The tepee is a structure which was adopted to the nomadic life of the Indian. This is the Analytic Method.

The evolution of buildings is an interesting study. We find one generation producing new materials and new methods based on the technology and economics of the era. When these new materials and new methods are incorporated into a building it results in what we call a Style. The better Styles are a result of the Analytic Method. We also find during the same era that the old methods and materials are still used and fostered. This is the Arbitrary Method. Naturally there is a clash of ideologies.

## The Compromise

Alexander Pope in his *Essay On Criticism*, states, "Be not the first by whom the new is tried, nor yet the last to lay the old aside." Architecturally speaking this is asking too much and is not easy. The compromise is fraught with confusion. So it is with architecture.

The Southern Colonial style, with porches of copied classic columns, was the result of an eco-

nomic system with many servants and with wealthy sons who studied in Europe, returning to build in a semi-tropical climate which demanded wide overhangs. We find today that the Southern Colonial is being crammed on small city lots. The candles have been replaced with light globes that look like candles. The servants have been replaced with gadgets and the whole house is air-conditioned. This is not an easy thing to do. It requires patience and much study to make a compromise meet all the requirements. It would be much easier to duplicate the Southern Colonial as it was, using the Arbitrary Method, or to build anew using the Analytic Method.

## The Arbitrary Method

The Arbitrary Method is the easiest method of building and is the safest.

It has proven itself.

"If it was good enough for Uncle Dud, it's good enough for me."

"If it has stood the test of time it must be good."

"I want one just like the one down the street."

These expressions are the result of a quality—and cost—conscious buying public educated in the ways of mass production. For the person who cannot visualize, or cannot use his imagination, must have something that he can see and feel. If he likes it, he buys it; if he does not like it, he leaves it. This is a very real thing to the person who is buying or investing. It is one of the keys to the home-building industry. If a home is geared to the rapid strides that are taking place in mass-produced products, it becomes speculative and the developer, unless he knows what he is doing, is apt to be a loser. This is all the more reason to rely on the Arbitrary Method; the product has been sold for a profit, here are the drawings, here is the cost analysis and it can be duplicated.

The Arbitrary Method is becoming one of the distinguishing features of the Twentieth Century's

(Continued on page 29)



mass production technology. The machine and automation are producing materials in standard patterns and pieces. These products are fastened together producing masses which are to be used in a could-be manner. "It could be used for a lot of things." An example of this is the quonset hut which was the answer to the Army's needs during the war. It served very well the original need for which it was intended, however we find that it is now housing hamburger stands and cow stalls. The Arbitrary Method can utilize the unlimited possibilities of engineering developments if future builders are trained in technology and engineering.

The Arbitrary Method is part of our architectural heritage. The Basilica plan for churches can be traced to the Basilica of Trajan in Rome. This building originally as a building to house the tribunal and assessors of the Roman practice of law and business. The Christian church occupied the building and instituted its services to suit the building. This is the Arbitrary Method. There have been attempts to break away from the Basilica plan, but it is still the plan most used for church buildings today.

The Arbitrary Method is little concerned with the function of the building, other than to enclose space or to duplicate; the structure is the important part.

### The Analytic Method

The Analytic Method is concerned with the use of space, and the proper enclosure for that space. This requires an analysis of the space requirements such as:

How many beds are required for a hospital and what equipment is needed to service those beds?

How many pupils from a community use the school? This would determine the number of rooms. What method of teaching is used? This would determine the shape and exposure for the class room.

After the space requirements are determined, then the enclosure is chosen to admit light and ventilation and to exclude the unwanted elements such as rain and wind. A structure system is chosen to best solve the space requirements and the enclosure requirements. The Analytic Method requires a mature understanding of the entire building industry, as well as an understanding of sociology, psychology and the other human aspects of life.

### The Building Industry

Everyone who builds is creating architecture. It makes little difference what method he uses, but the methods do point out the need for study in the areas mentioned.

The developer, speculative home builder and financier are influencing the lives of the people

who occupy their buildings. They shape the lives of whole communities through the architecture which they are producing. The area may become a slum or a healthy community. A steady of architecture through city planning will point out the mistakes of the past and prove a wise investment to the financier. A study of architecture will show the builder that heavy timber construction produces a character quite different from platform frame construction. A study of architecture will show the developer that the Cope Cod cottage is not the type of home to build in the south with its humid climate and torrential rains.

(Continued on page 29)

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# GOOD SOUND CONTROL BEATS ANTI-NOISE STATUTE

John C. Knight, AIA, certainly touched on an important subject with his article entitled "The Power of Sound" in the August issue of *Southern Architect*. His suggestion for crusading against undue noise is a good one, too, especially with respect to areas which are already built up with buildings about which little can be done toward controlling sound other than attempt to prevent it.

But on new construction there is a lot that designers can do toward protecting the occupants of a building from outside noises besides asking people to be quiet. And by the same token, in some cases the architect must guard against actually adding to the outside din through his design. Failure in either phase of this responsibility of the designer leaves no recourse except anti-noise legislation or "drives."

Actually, the principles of sound insulation are quite simple, or would be had they not become confused with sound absorption during the recent flair for, and perhaps over accentuation of, the term "acoustics." The fact is that a given material may have excellent acoustical properties from the standpoint of sound absorption and have terribly poor sound insulation properties. Look at velvet, for instance.

Therefore it becomes necessary for the designer to think in terms which divorce the problem of softening sounds generated within an enclosed space from that problem of preventing outside noises from interfering with the comfort and efficiency of the occupants of that space. It is significant to remember in this connection that a little bit of other people's noise is far more serious than one's own. For instance, just a few decibels

from a phonograph in the next apartment or a clacking typewriter in the next office can be far more disturbing than a hundred voices in chorus if you are a part of the latter group!

Whereas sound absorption is primarily a function of texture, sound insulation on the other hand is fundamentally a function of density and mass. That's why surface treatment or finish is important if you are concerned with preventing excessive reverberations within a given room; but the mass underlying the surface treatment is what keeps the sounds from annoying those in an adjoining chamber or vice-versa. (One word of caution: continuation of surface porosity into the mass can knock the theory of relationship of weight and sound insulation into the proverbial cocked hat unless the pore system is sealed up, as with plaster. See footnote to Figure 1.)

In a sense it goes against the grain slightly under today's trend toward lightening structural elements all possible to realize that dead weight can be advantageous, even necessary. But such is the case in designing for comfort with respect to restraining and confining noise disturbance.

At first glance it would appear that the dampening of noise within a room by acoustical (sound absorption) treatment would be of great assistance in preventing infiltration of the noise to an adjoining space. Unfortunately, however, this does not seem to work out in practice probably because the system devised for measuring sound absorption reflects merely the stoppage of reverberations and does not take into account whether the sound energy represented by the noise is de-energized by the surface texture or is left free to pass on into

Figure 1  
Sound Transmission Loss Through Various Materials

Item	Material	Sound Drop, Ave. 128-4,096 cycles (Decibels)	Weight (Lbs./sq. ft.)
1	Aluminum, .025" thick	16	.35
2	Plywood, 1/8", 3-ply	20	.52
3	Glass, 1/8" double-strength	28	1.60
4	Lead, 1/8"	32	8.20
5	Pumice-cement block 4", plastered 2 sides	37	25.30
6	Clay tile, 4", plastered 2 sides	41	31.85
7	Cinder block, 4", plastered 2 sides	42	32.75
8	Brick, 4", plastered 2 sides	46	50.00
9	Concrete block, 12", 2 units (8" & 4")	49	79.00
10	Brick, 8", plastered 2 sides	51	92.00
11	Brick, 12"	53	121.00

Note: Data abstracted from Bureau of Standards BMS 144 to illustrate general correlation between weight and sound insulation value. However, such relationship does not hold for very porous materials unless sealed. For instance, item 5 without plaster had a decibel drop of only 11, whereas item 7 unfinished is reported by other authorities as having a sound transmission loss of about half or less of that shown with plaster.



the area beyond with disturbing influence. This situation is no doubt further aggravated by the fact that only a small part of "other people's" noise is required to attain an intolerable condition as pointed out in the classic example of a group having prayers in a room adjoining one containing a singing class.

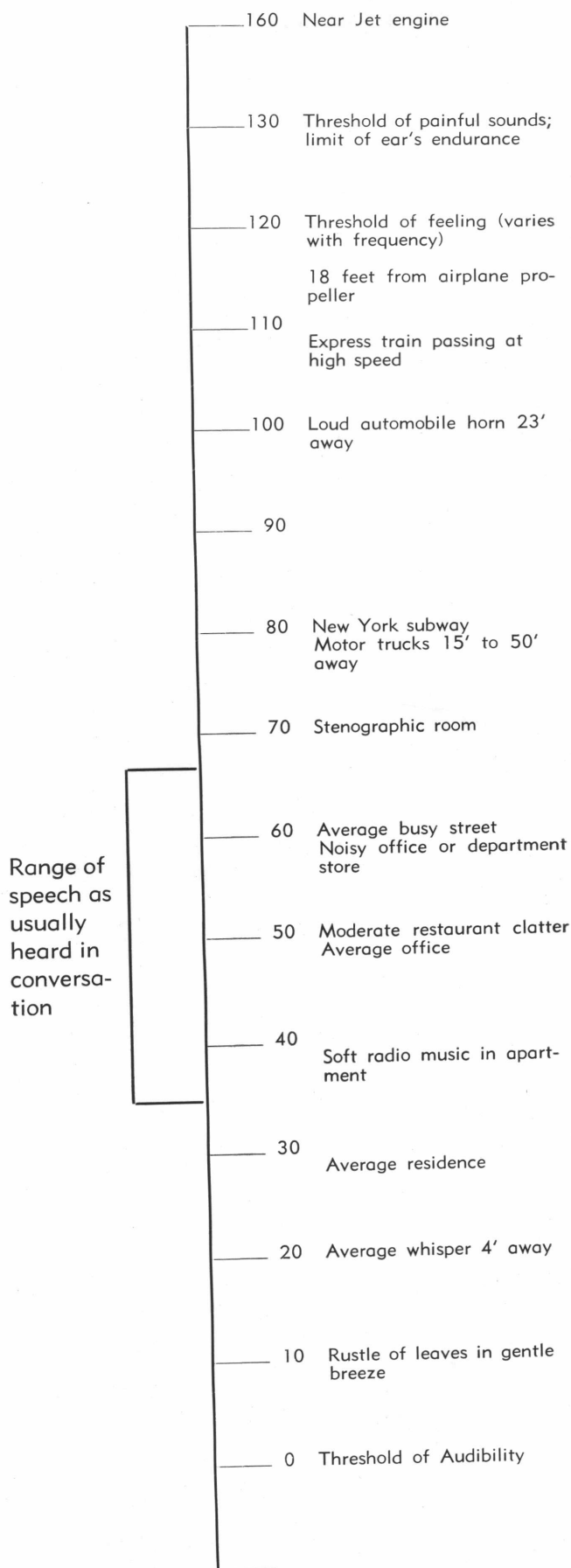
The author once had firsthand personal experience at attempting to solve a situation like the above. The Sunday School part of a church had three classrooms in a row separated by accordion-type folding doors. At times noise infiltration reached an intolerable peak and the writer had the misfortune to be placed on a special committee to take corrective steps.

The logical approach would have been the construction of some massive partitions but this could not be done because of the need for integrating the three rooms into one at certain times, and even if this functional reason could have been circumvented the floor system would not have permitted the addition of enough weight to help. So, as a desperate measure we tackled the sound insulation problem with a typically incorrect acoustical approach. We obtained hundreds of yards of heavy corduroy material and installed heavily folded draperies on each side of each folding door partition from ceiling to floor. Theoretically each layer of curtain has a sound absorption factor of some .50; but we neglected the fact that this pertains to the amount of sound which can be reflected back in reverberation (which was not our problem) and has little or no bearing on stopping the sound from passing through. Net result: partitions of near perfection from the acoustical standpoint, virtually next to nothing from the sound insulation point of view. And here again, it was not our own teacher's sounds which were bothering us because we came to hear him but it was the distracting foreign sounds from next door against which we needed protection.

Figure 1 contains some typical materials with the average sound transmission loss (sound insulation value) for each as measured over a wide range of frequencies by the National Bureau of Standards. A glance at the scale shown as Figure 2 will translate these values into terms readily identifiable. For instance, a wall assembly which gives a transmission loss of 20 decibels could be counted upon to stop the penetration of a whisper 4 ft. away from the other side of the separation, ignoring such factors as the masking effect of sounds originating on the listening side.

Unfortunately there seems to be no fixed rule as to the permissible noise level to guide the designer. Various authorities have offered recommendations, of course, but ideal conditions are not always easy to obtain in keeping with economic, structural and aesthetic considerations as architects so well know. Other things being equal, however, a study of Figure 1 and the parent document shows why it may be necessary to overlook one's natural antipathy toward dead weight when tackling the sound control problem, especially for low buildings where heavier walls and partitions may be had without premium.—(Contributed.)

Fig. 2. Decibel Scale of Sound Intensities.



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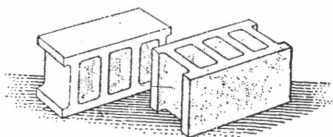
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Cecil T. Lewis (center) is the newly-elected President of the North Carolina Concrete Masonry Association, and James Adams (right) is the new Vice-President. Lewis is with the Greystone Concrete Productions Company of Henderson and Adams is with Adams Concrete Products Company of Varina and Durham. At left is Thomas F. Bradshaw, retiring President, who went on the Board of Directors. Bradshaw is with Point Peter Concrete, Inc., of Wilmington. The annual election was held at a meeting of the Association in Raleigh October 26.

## CAROLINA SOLITE EXPANDS N. C. PLANT

The completion of an additional kiln to the Carolina Solite Corporation's year-old plant at Aquadale, was announced recently by A. Cabell Ford, Director of Sales for the parent company, Southern Lightweight Aggregate Corporation.

Ford explained that "the expansion of facilities of the year-old plant was a case of supply and demand."

This new additional rotary kiln (larger than the kilns now in operation at this plant) will help meet the steadily increasing demands for SOLITE, the manufactured controlled lightweight aggregate used in place of sand, gravel and crushed stone in the manufacture of structural concrete and lightweight masonry units. Solite manufactured at the Aquadale plant is shipped throughout North and South Carolina, Georgia, Tennessee and Florida.

Solite's lightweight structural concrete is 1/3 lighter than natural aggregate concrete, yet just as strong. This is especially advantageous in the more modern techniques such as lift-slab and tilt-up construction; where lightweight concrete greatly reduces the chances of cracking or breaking. Also, the savings in deadweight through the use of Solite structural concrete permits a decided decrease in the amount of supporting trusses, columns and footings. This of course, greatly reduces the material and labor costs.

Solite masonry units are 1/2 lighter than ordinary concrete units. This lightweight feature makes them easier to handle, thus speeds erection and reduces labor costs. Because of the carefully controlled manufacturing process of Solite: these masonry units are fireproof, rust and stain proof, sound absorbing and natural insulators. Nails can be driven into Solite blocks without fear of chipping or cracking.



## WHY STUDY ARCHITECTURE?

(Continued from page 25)

The Traditionalist is apt to get in a rut. The things that people buy are not always the things that they want; as a matter of expediency they have to take what they can get. A study of architecture will show that through the ages architecture is changing.

The modern is revolting against tradition. "In order to be sensational, it must be different," is the theme of some modernists. True modern is often misinterpreted as flaunting tradition. This is not so. A study of architecture will demonstrate that modern is based on tradition and is a step toward utilizing all the past to plan better for the future.

### The Study of Architecture

For members of the building industry who wish to study architecture, most colleges and universities offer courses of instruction which include enough courses in architecture and engineering to prepare them for the building industry. These courses do not lead to professional degrees. They do, however, lead to degrees in other colleges or a university, such as the college of business administration or arts and science.

The person who wishes to become an architect must have a thorough background in all matters that concern human relations. This includes the humanities, language, history, social sciences, mathematics, applied science. In other words, a standard four-year course of instruction at an accredited college or university. Aside from formal education, a practical understanding is necessary. This is accomplished through years of experience as an apprentice in an architect's office. A cultural background coupled with formal education and experience must be added to the technical aspects of the study of architecture. These studies include the study of aesthetics, design, construction and manual skills. Aesthetics is the study of back-

ground influences on architecture, such as history, music, sculpture, and art. Design is the study of the relation of parts and the correlation of elements into a whole. Construction is the study of materials, the mechanics of materials, mechanical installations and building engineering. Manual skills is the study of drawing techniques.

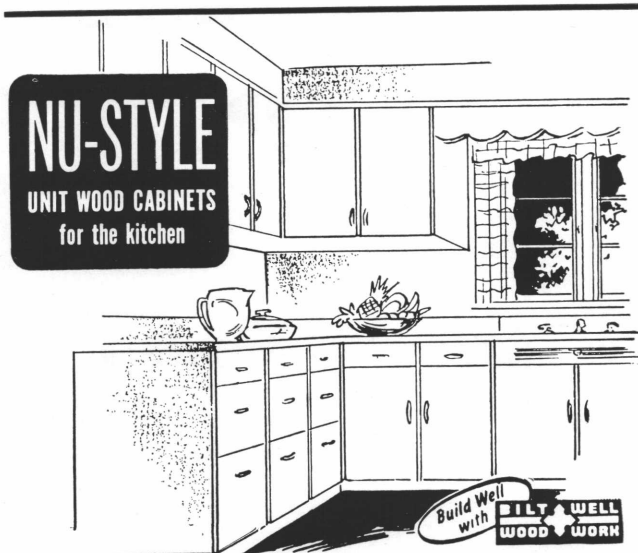
Architecture is the end result of building. The persons who bring it into existence, no matter who they may be, have a responsibility to their fellow men which is serious enough to require an understanding of what they are doing. This can only be accomplished through a study of architecture.—  
Reprinted from The Texas Architect.

### PRESIDENT'S MESSAGE

(Continued from page 9)

There is a need for a clearing center on the performance of the many new materials and methods of construction constantly before us for evaluation. Our effectiveness can be improved by work planned for our Committee on Research under Al Haskins.

A. G. Odell in his work on Publications has been producing a fine magazine, but we constantly need more participation by the members. Send Tom Broughton sketches and items of news as soon as they are available.



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## DEMAREST HEARD BY BRICK AND TILE GROUP

William Demarest, Jr., AIA, Secretary for Modular Coordination in the Department of Education and Research of the American Institute of Architects in Washington, D. C., was one of the featured speakers at a joint meeting of the Southern Brick & Tile Manufacturers Association and the Brick & Tile Service of North Carolina, Inc. The joint meeting was held at Sedgefield Inn near Greensboro on November 17-18.

Demarest's talk was on the subject, "Where Do We Stand on Modular" and explained some of the lesser known points of this architectural concept. According to H. B. Foster, General Manager of the Brick & Tile Service, Inc., an association of North Carolina brick manufacturers, the modular coordination method of standardizing building material dimensions was of particular interest to the assembled brick makers at the meeting.



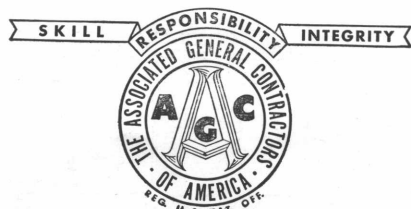
DEMAREST

Demarest holds Bachelor of Architecture degrees from both Princeton University and Columbia University. He also attended the Loomis School of Windsor, Connecticut. He has been associated with such architectural firms as Harrison & Abramovitz of New York; Overturf & Turner of Seattle, and with the same firm under its more recent name of Bain, Brady & Johnson.

During World War II, Demarest served with the U. S. Navy as a Lieutenant Commander in command of a submarine-chaser.

Other guest speakers who addressed the brick manufacturers meeting are Chadwick N. Heath, President of the Southern Brick & Tile Manufacturers Association and Sales Manager of the General Shale Products Co.; E. R. Rankin, President of the Brick & Tile Service, Inc.; C. R. Abel, Field Engineer of Brick & Tile Service; J. W. Stryker and E. F. Walsh, Directors of the Structural Clay Products Institute; William C. Bell, head of the Industrial Experimental Program at North Carolina State College; and James L. Hege, partner of Hege, Middleton & Neal Advertising of Greensboro.

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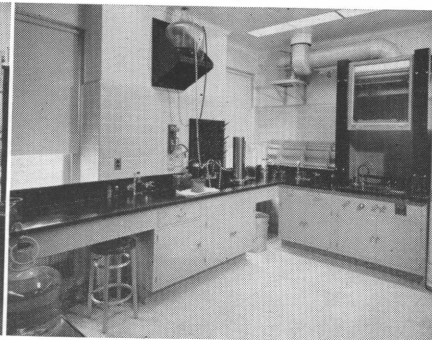
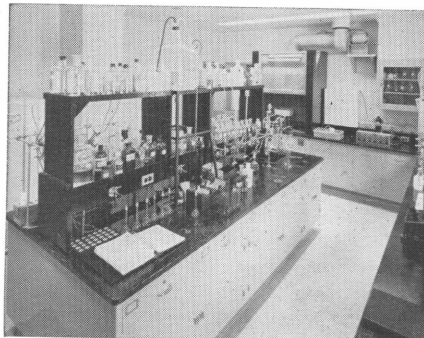
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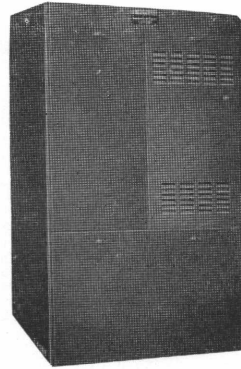
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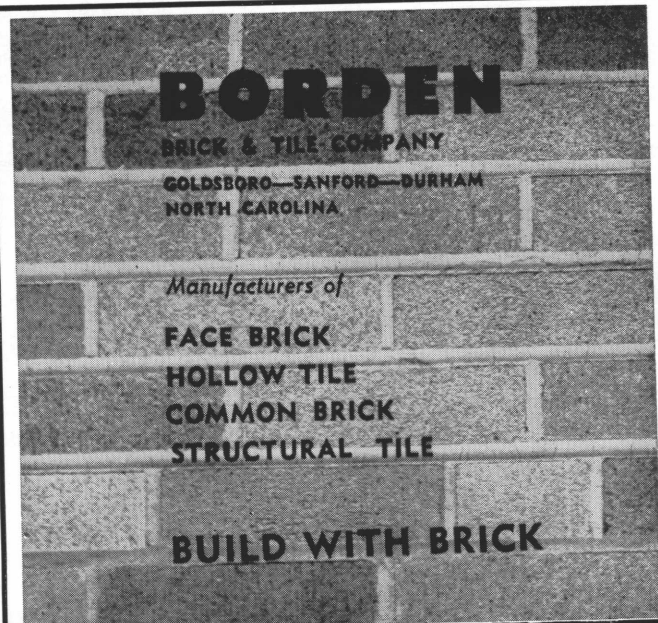
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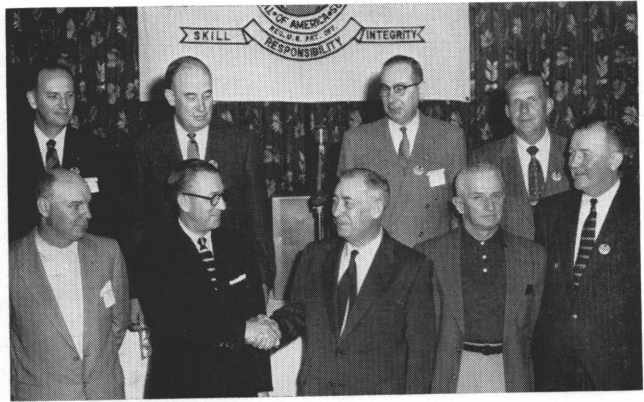
## AGC NAMES NEW OFFICERS FOR 1956

Frank P. Morris of the Morris Construction Company of Greenville, S. C., was elected President of the Carolinas Branch of the Associated General Contractors of America at the annual meeting of the group in Augusta, Ga., October 30 through November 1. Mr. Morris succeeds A. J. Fox of F. N. Thompson, Inc., of Raleigh after serving as Vice-President for the past year.

F. J. Blythe of Blythe Brothers Company of Charlotte was named Vice-President, with Roy L. Goode of Goode Construction Corporation of Charlotte being re-elected Treasurer. Robert Patten of Charlotte was again elected Managing Director.

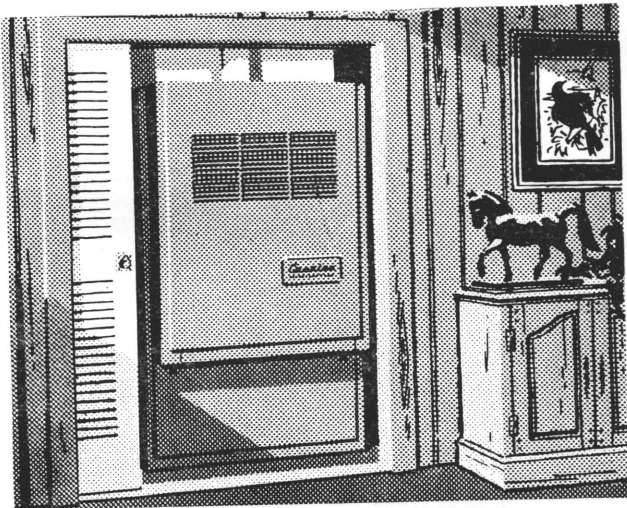
New directors chosen include: Richard Bradshaw of L. S. Bradshaw & Sons of Salisbury, John N. Gilbert of Gilbert Engineering Company, Inc., of Statesville, and Harry C. Reagan of W. M. Reagan & Sons, Inc., of Columbia, S. C. Past President Fox becomes an ex officio member of the board as Past President.

Holdover members of the board who will continue to serve include: W. E. Tulluck of Wannamaker & Wells, Inc., of Orangeburg, S. C., E. M. Spong of Spong Construction Company of Columbia, S. C., Raymond A. Bryan of T. A. Loving & Company of Goldsboro, R. B. Russell of Ruscon Construction Company of Charleston, S. C., and J. W. Thompson of Thompson-Arthur Paving Company of Greensboro.



Officers and directors of the Carolinas Branch of the Associated General Contractors of America are pictured above as follows: Front row, left to right—J. W. Thompson of Greensboro, Director; Frank P. Morris of Greenville, S. C., President; A. J. Fox of Raleigh, Past President; Harry C. Reagan of Columbia, S. C., Director; and Robert Patten of Charlotte, Managing Director. Back row, left to right—W. E. Tulluck of Orangeburg, S. C., Director; R. A. Bryan of Goldsboro, Director; R. B. Bradshaw of Salisbury, Director; and Ernest Spong of Columbia, S. C., Director. Vice-President F. J. Blythe of Charlotte, Treasurer Roy L. Goode of Charlotte and Directors John N. Gilbert of Statesville and R. B. Russell of Charleston, S. C., were not present when the above picture was made.

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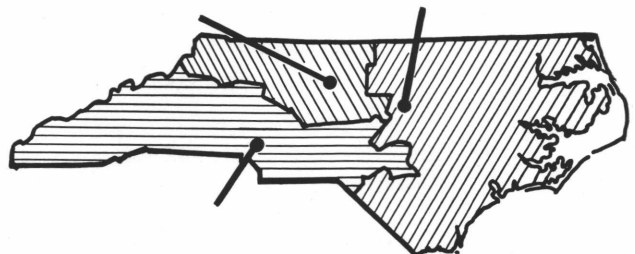
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## NEW PRODUCTS

As refreshing as being halted by a policeman to be complimented on safe driving, a new 12-page brochure, "The Logic of Stoker Heating", doesn't use high-pressure tactics to sell stokers. Rather, it discusses in simple and practical language the logical reasons for considering stoker-fed coal heat as the safe, dependable and economical way to heat. Special attention is given to the problems of heating in schools, institutions and public buildings and the data presented (including an 18-school study) should be of particular interest to architects, engineers, contractors, school executives and school specifying authorities.

Arranged for casual, relaxed reading, text is alternated with photos of schools using stokers, including some very remarkable testimonials.

Copies of the brochure, entitled, "The Logic of Stoker Heating" may be obtained from The Will-Burt Company, Dept. 4, Orrville, Ohio.

**STALLPACK** is a standardized compartment, produced to stock and packaged. It includes a polished Ozark grey veined marble partition, a solid-core, natural finish birch door and a set of chrome-plated hardware. The assembly-line methods are said to have cut production costs far below custom-finished installations. Carthage Marble Corporation, Carthage, Mo.

Suspended ceilings in which steel channels and hangers are completely concealed are possible with Accesso suspension systems. Any size or make of tile and other ceiling fixtures can be used with this system. All services above the suspended ceiling can be reached through any tile or tiles in the ceiling. Accesso Systems, Inc., 4615 8th Avenue, N. W., Seattle 7, Wash.

The **FUL-SPLINE** system can now be used to apply fiberglass acoustical tile to gypsum board ceilings as well as to wood in areas where building codes require a fire rating. Aluminum splines are inserted in the slotted edges of fiberglass ceiling tile and are affixed to the gypsum board by staples which are copper-lacquered for rust resistance. There is no penetration of the tile itself by the staples. Tiles as large as 24 by 24 inches can be used. Owens-Corning Fiberglass Corporation, Toledo 1, Ohio.

A heater which utilizes waste chimney heat to warm damp basements, drafty attics and playrooms, cold garages, is being introduced.

Attached to furnace smoke pipes, the heat saver will raise uncomfortable room temperatures 10 to 15 degrees. Most furnaces provide heat up to 700 degrees but usually only 350 degrees is required to maintain the proper draft on the heating plant. The rest of the

heat literally "goes up in smoke" and is of no benefit to the household.

The **SCOTCH HEATER** retails for about \$149, weighs 40 lbs., and is 10½ in. high, 14¼ in. long, 12 in. wide. It has a small motor, a 150 c.f.m. fan and a core of specially brazed, hollow steel tubes enclosed in a heavy gauge sheet metal housing. Hot gases from the heating plant pass over the tubes made to withstand temperatures up to 2000 degrees heating air blown through the inside of the tubes.

The blower controlled by a thermostat starts operation when stack temperature climbs above 350 degrees F. A safety device inside the heater permits furnace gases to escape if tubes should become clogged with soot. The steel core normally needs a cleaning once or twice a year. To clean simply pull out core by handle and spray with garden hose. Adapter kit is available to attach unit to heat carrying ducts. Micro Scotch Heater Corporation, 22 Jericho Turnpike, Mineola, N. Y.

The **LSA KOOLSHADE SUNSCREEN** is a new solar screening said to provide up to 50 per cent greater glare-shading efficiency than ever before attainable. Installed flush to the outside of a classroom window, it consists of thousands of tiny tilted louvers, spaced 23 to the vertical inch, at an eclipse angle of 24 degrees. Reflectal Corporation, 310 South Michigan Avenue, Chicago 4, Ill.

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A rubber entrance mat which automatically wipes dirt from shoe soles and helps reduce building maintenance costs up to 35 per cent was exhibited for the first time at the National Hotel Exposition.

Identified by the trade name **PARCO-LINK**, the mats are characterized by specially designed 3-bladed rubber links. These resilient blades depress when walked on, spring back when released and thus actually wipe dirt from passing shoe soles. The dirt removed is trapped beneath the mat. This helps prevent tracking of dirt into a building and reduces clean-up costs.

The mats also make possible new concepts in the design of entrances.

Available in 10 colors or in any combination of these colors, the custom-made mats can be designed to blend with any entrance color scheme. They also permit personalizing or identifying the building entrance. Pawling Rubber Corporation, Pawling, N. Y.

A cardboard **SONOPIPE SLEEVE** is a simple inexpensive device for coring concrete floors or roof decks for plumbing, heating and electrical lines. No greasing or sand fill is needed with the wax treated fibre tubes which are 0.125 inches thick and strong enough to withstand the pressure of poured concrete despite their light weight. Available in inside-diameter sizes ranging from two inches to eight and one-half inches, the sleeves also can be used to create drains in bridge decks and weep holes in concrete walls. Two metal ends with built-on anchors are used with the sleeves.

One closure is nailed to the form and the **SONOPIPE** tube sawed to size from a three foot length and slipped over the closure. The other metal end is then inserted in the top of the sleeve and anchored to the form to hold it straight. After the concrete sets, closures are knocked out leaving a neat opening for pipe or conduit. Where sound insulation is important, the sleeve itself can be left in. Sonoco Products Company, Hartsville, South Carolina.

Industrial plant ventilators is the subject of a new four-page bulletin just released by American Steel Band Company. Complete technical data including dimensions,

capacities, sectional drawings and operating conditions are given for power roof, continuous ridge, and round gravity ventilators that meet all exhaust and ventilating conditions. Copies are available upon request. American Steel Band Company, Box 565, Pittsburgh 30, Pa.

Fluorescent luminaires in the new **THIN-LITE** series are available with Corning No. 70 low-brightness lens. The lens has low surface brightness and delivers maximum illumination in useful directions. The luminaire is designed for installation where surface mounting with a bare minimum of depth is desired. Lighting Products, Inc., Highland Park, Illinois.

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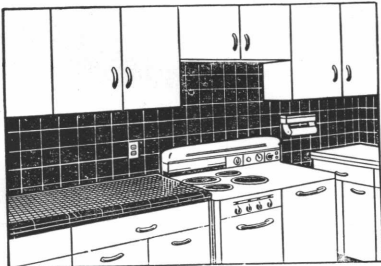
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# ARCHITECTS AND BUILDERS IN THE NEWS

## OFFICERS NAMED

Channing B. Brown of the Duke Power Company of Charlotte was elected President of the North Carolina Section of the American Society of Civil Engineers at the annual meeting of the group in Greensboro October 21. James F. Pou of Charlotte was named First Vice-President, with L. E. Wooten, Sr., of Raleigh as Second Vice-President, and W. F. Babcock of Raleigh as Secretary-Treasurer.

## TIMES EDITOR SEES HOMES

Mrs. Betty Pepis, Home and Home Furnishing Editor of the New York Times was in High Point and Raleigh this month. In High Point she visited the fall furniture show and in Raleigh she spent a day looking at the many modern homes. She commented in Raleigh that she had never been in a city before where

she had been able to see, per capita, as many contemporary homes of such high quality design.

She is preparing a number of stories on North Carolina architecture. The first story to appear in a few weeks in the New York Times Magazine will be on Eduardo Catalano's new hyperbolic-paraboloid house.

## AWARDS JUROR

Henry L. Kamphoefner, Dean of the School of Design at State College went to Baltimore on November 21 to serve as a member of a jury of three to select the entries in an exhibition at the Baltimore Museum of Art on "Ten Years of Post-War Architecture". The exhibition was sponsored by the Museum and the Maryland Chapter of the American Institute of Architects.

## RESERVE TRAINING

J. C. Higgins, Jr., AIA, of Charlotte recently completed two weeks of reserve training with the United States Air Force at Shaw Field, S. C. Mr. Higgins holds a reserve commission of major in the USAF.

## SALES REPRESENTATIVE

Southern Lightweight Aggregate Corporation with main offices in Richmond, Virginia, announces the appointment of Thomas E. Parrish as sales representative for the firm.

Parrish, a native of Virginia received his degree in architecture from the University of Virginia. A veteran of four years in the Air Force as pilot, he majored in engineering and architecture at North Carolina State College before transferring to the University of Virginia.

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### EDITOR IS VISITOR

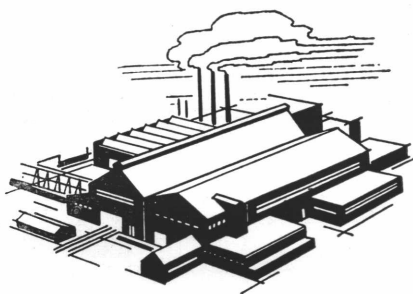
Mrs. Suzanne Gleaver, Managing Editor of House and Home Magazine, was in Raleigh recently to visit the School of Design, the State Fair Arena, the Eduardo Catalano House and the new architecture of the city.

### GUEST SPEAKER

F. F. Steel, Jr., of Winston-Salem, President of Pine Hall Brick and Pipe Company, was one of the guest speakers appearing on the program at the annual convention of the Clay Pipe Manufacturers Association at Sea Island, Ga., November 8-11.

### MODERN ART EXHIBIT

An exhibition of modern art entitled "Elements of Design" will be on display at Davidson College throughout the month of November. The exhibit is located in Chambers Hall. The 24-panel exhibition was prepared by the Museum of Modern Art of New York and introduces ideas basic to all design in dramatic pictorial



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form. Examples of design are drawn from every field, including painting, sculpture, architecture, industrial design and photography.

### BUILDING INSPECTOR

Marion Bryson of Laurens, S. C., has been appointed building inspector of Spartanburg, S. C. Formerly county engineer at Laurens, Mr. Bryson assumed his new duties November 15.

### ATTENDS MEETING

A. G. Odell, Jr., AIA, of Charlotte attended a meeting of the Committee on School Buildings of the American Institute of Architects in Houston November 2-3-4. Mr. Odell is one of 14 members of the committee, being the only member from the southeastern states. The meeting was held at the Hotel Shamrock at the same time as the annual meeting of the Texas Society of Architects.

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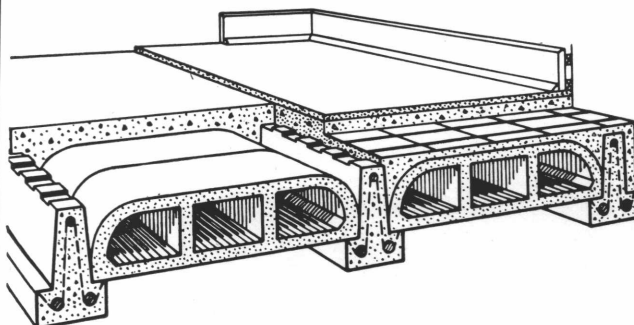
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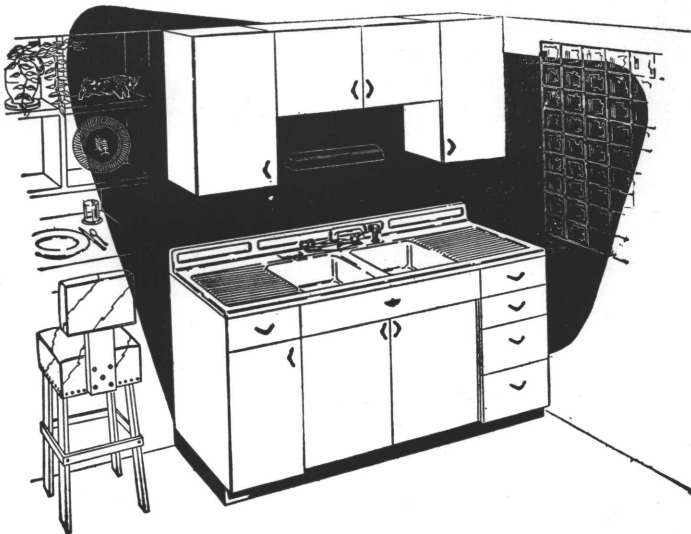
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 Architect: R. R. Markley, AIA, Durham, N. C.



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