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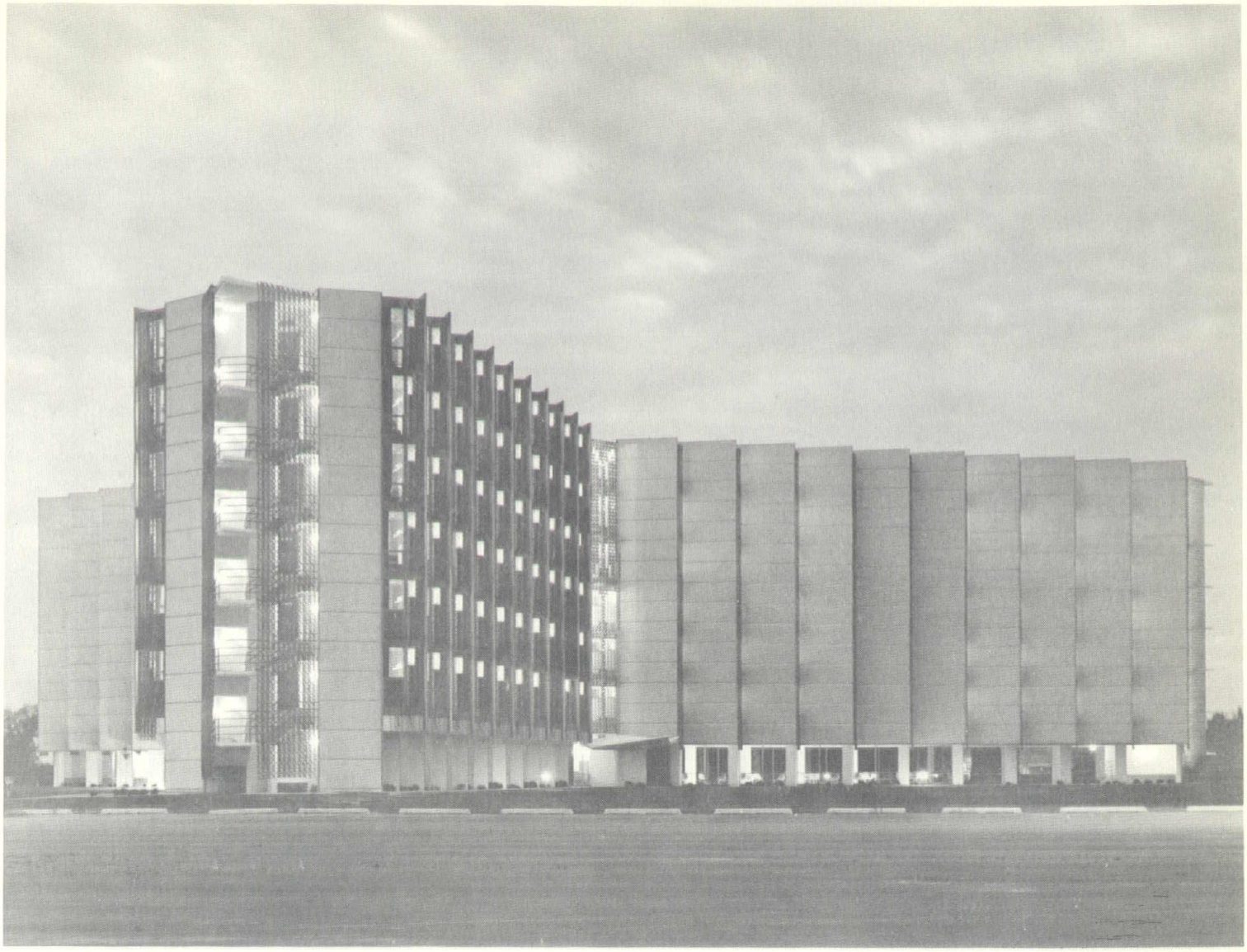

Oral Roberts University, Student Residence Hall, Tulsa, Okla.
Architect: Frank Wallace, AIA

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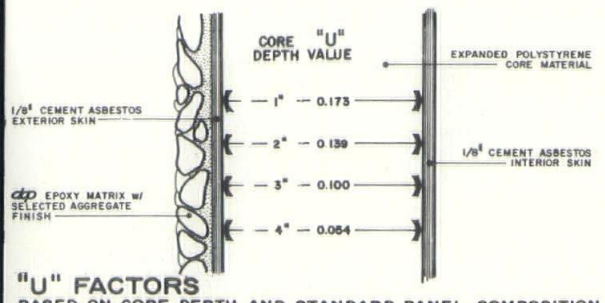

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The Louisiana Architect

Volume VI

Number 8

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Legislative Election Time

CHOOSE YOUR GOVERNMENT

The first step toward good state government is the election of qualified and responsible representatives, and it's no news that the decisions of our legislature seriously affect the growth and economy of Louisiana and the practice of architecture. Therefore, it is both a public responsibility and professional duty for Louisiana Architects Association members to take an active part in the current elections.

Because of the re-apportioned legislature, you will this year be given a chance to gain a stronger voice in State Government. But you can take advantage of this opportunity only by familiarizing yourself with the long list of candidates and throwing your support behind the most qualified.

To architects who play, or should play, an active role as a community leader, good citizenship should mean more than casting a ballot and complaining about the ills of government. It should mean personal work for a good candidate. This admirable exercise of your responsibility will make your role many times more effective than that of the average citizen.

In a Louisiana primary election a vote of 77% of the qualified voters would be ordinary. In most elections the margin of the votes between the winning and losing candidates is not more than 5%. Thus the average Louisiana House member, who is alone in his district, represents 31,000 people, but faces only the 37% who are of voting age and are qualified by registration. An average of 77%, or 8,832 of these who are qualified actually cast ballots. The 5% who represents the winning margin are only 442 in number, or .014% of the Representatives total constituency. With these facts in mind the man who swings the votes of a half dozen friends is indeed powerful.

Plans are now underway to start LAA members off on the road to an effective role in choosing their state government. A number of the Louisiana AIA Chapters will hold open forums at which local legislative candidates will be invited to briefly present their credentials, and their views on a piece of proposed LAA Legislation. You should take advantage of this opportunity to acquaint yourself with the candidates, and to let them know that architects are interested in playing a meaningful role in government. Determine now to be one of the .014% of the population who will exercise the margin of control in this year's election.

TABLE OF CONTENTS

COVER

Named after French inventor, C. E. Minie, the minie ball is a conical bullet with a hollow base, expanding when fired to fit the rifle. This particular one, found by workmen during the restoration of the Pentagon Barracks, will be given to Governor John J. McKeithen as a memento of the historic structure.

Concrete masonry is the superior material for all types of wall construction

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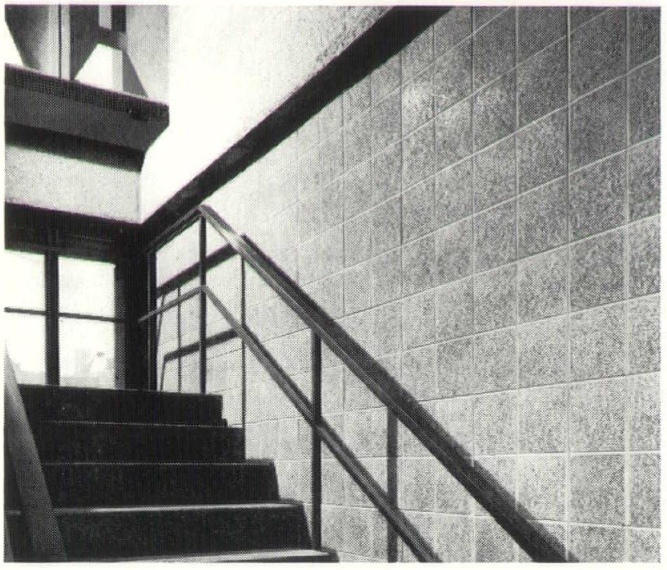
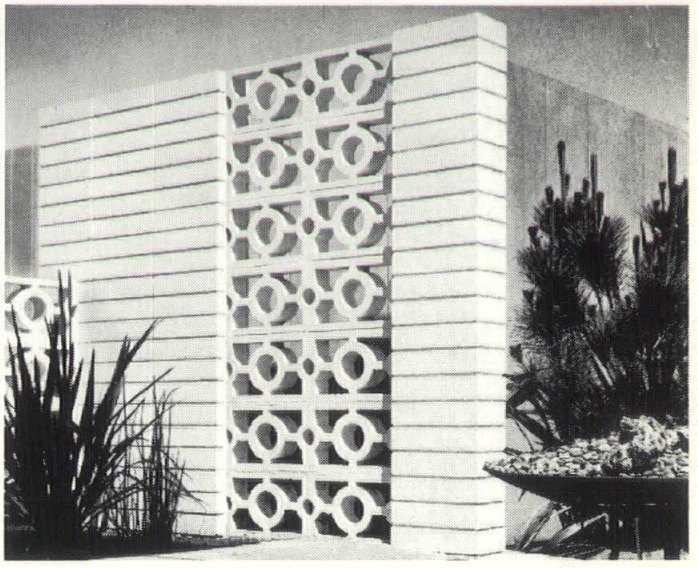


Or decorative garden walls



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The Architect: P. R. Man's Assistant

Noted architect says it is part of the job of the designer to help explain to the community function of a new building

By CHARLES EDWARD STADE

Public fascination with the growth of a new building on the skyline, from excavation to topping out, can be both drudgery and frustration to the public relations people assigned as architectural midwives. Months and sometimes years of conciliatory efforts, imaginative reporting and detailed planning of events must pass before the deep sighs of relief at dedication and open house. Any assistance in these chores is welcome.

The architect of the building, oddly enough, is often the forgotten man when he could prove a valuable public relations assistant. He can conciliate diverse opinions, explain the building to the community, and establish communication with the people who will use the finished structure. These are public relations functions in which PR and architecture can join hands.

The first step, before any effective cooperation can be expected, is to establish a meeting of minds. PR man and architect must spend some time in a kind of mutual indoctrination. Each must understand the goals and limitations of the other's craft. Public relations has no magic button to push to mollify a neighborhood hostile to the new building. Neither can the architect build a cathedral when the budget demands an economical structure with a simple facade. But, working together, compromise can be found and communicated.

The sooner this PR-designer relationship can be established the better. Too often the melding of these two functions is delayed until the plans are completed and ground breaking just ahead. Many a community or corporate uproar could have been avoided if the client had talked intimately and long with employes, customers and affected citizens to learn their aspirations, prejudices and needs. The PR man and the architect could have, and should have, carried much of this burden that could be called preliminary research.

How could one of the nation's big city arenas been completed before it was discovered there was no press box, no radio booth and no platforms for television cameras?

The answer seems to be that no one discussed the matter with the press. Much different are the fine examples of cooperation in which the architect provided glass-lined corridors for plant visitor viewing and built-in facilities for tape recorded messages for self-guided tours.

The building that incorporates a small auditorium or meeting room for the use of community organizations as well as employees is public relations in architecture. So is the exterior design that makes a factory an architectural asset to the community.

Experienced architects and PR practitioners will probably agree on these essential steps for easing a new building into the structural and sociological skyline:

1) Public relations must be involved long before the first architect is invited to submit a proposal. The entire concept of the proposed structure or complex must be thoroughly studied from the viewpoint of both internal and external relations.

2) PR personnel should acquaint themselves with some of the basic tenets, practices and vocabulary of architecture to assure understandable communication. The reading of a few recent issues of such world leading architectural magazines as England's *Architectural Review* and *Japanese Architecture* will reveal current trends and problems of the profession.

3) PR should be represented at every architect's presentation and building committee meeting. Diligent listening and voluminous notetaking can prove of great value later on.

4) A PR critique or proposal should be prepared on the basis of conference notes and study and presented to management and the finally selected architect for consideration. Tentative publicity activities and schedule of events should be appended.

5) Staff members of the PR and architectural teams should sit down together for a thorough discussion of program goals and interchange of ideas. This person-to-person relationship should be frequent and continuous throughout the planning and construction period.

Because the conscientious architect will want to talk with scores of people for information on which to base his plans, there is no better transient headquarters for him than the PR office of the corporation, college, university, hospital or other institution that has employed him.

At a college, for example, he will want to talk to professors and students as well as administrators and trustees. PR can give him names and entree and set up round table conferences as well as individual interviews.

This information the architect gathers will be reflected in his plans for a practical building which must be servant to the people who use it. If students, for example, desire more privacy and quiet and want their sleeping and study rooms separate, the entire interior layout and exterior configuration must conform to human needs and desires and not daydream creativity of an artist.

Public relations can use this same material for articles in internal publications and for newspaper features. More clues to the opinions that are so important to morale and efficiency can be obtained through appeals for suggestions — and gripes — through the institution's periodicals and the suggestion box route. A contest with prizes for the best building suggestions can return profitable dividends.

An architect wisely directed by public relations personnel can make talks to employee family groups and to community organizations. While providing him with still more useful facts, additional publicity opportunities are also created. And when the building project is accompanied by a fund raising drive, everyone's help is needed.

In summary, internal and external communications can be strengthened to support the building project while at the same time laying the foundations for a continuing communications apparatus. Several techniques that have been used include:

1) A letter from the president explaining the need for a new building and reasons for any dislocating move to a new location. A questionnaire can be inclosed to determine reaction and obtain suggestions.

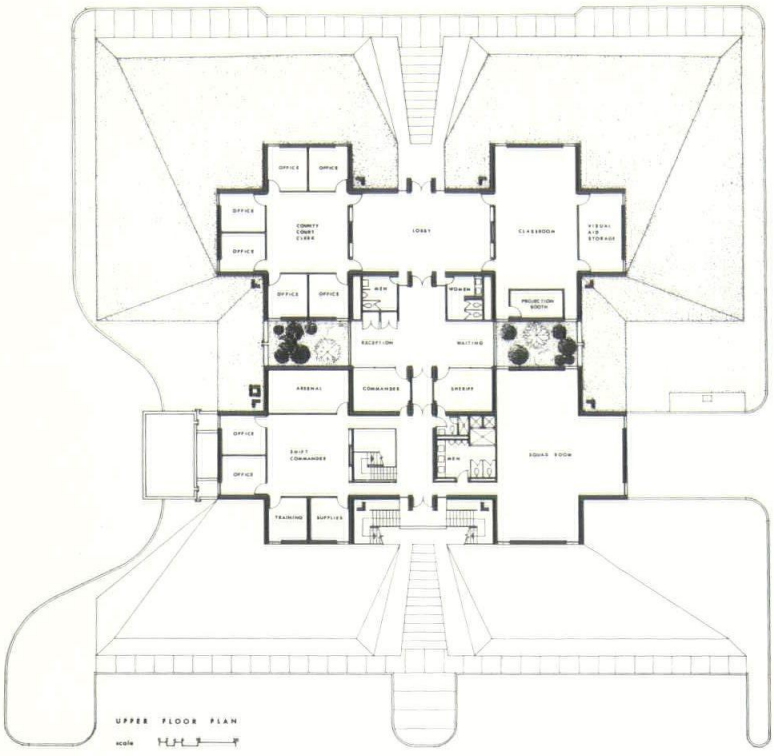
2) A new newsletter or a special column in an existing publication can be initiated to report on all phases of building progress, and the human adjustments always inevitable. This paper or column should solicit letters to the editor and offer to answer questions sent in.

3) The architect should be introduced in assembly or group meetings to explain his methods of procedure for research and planning.

4) The community should be kept advised continuously of the construction project through articles and through interview and panel shows in which the architect or a member of his staff can participate.

5) Where customer, supplier, alumni, parent, philanthropic organizations and others are important to successful consummation of the project, special newsletter and mailings can be crucial.

From what has been said it is hoped there emerges an image of the architect as a practical fellow relating the intricacies of his client's publics to the three-dimensional structure which will shelter them. His own public relations activities in the area of research are in many instances identical to those of the PR professional in charge. Working together they can make each other's lot a far happier one.



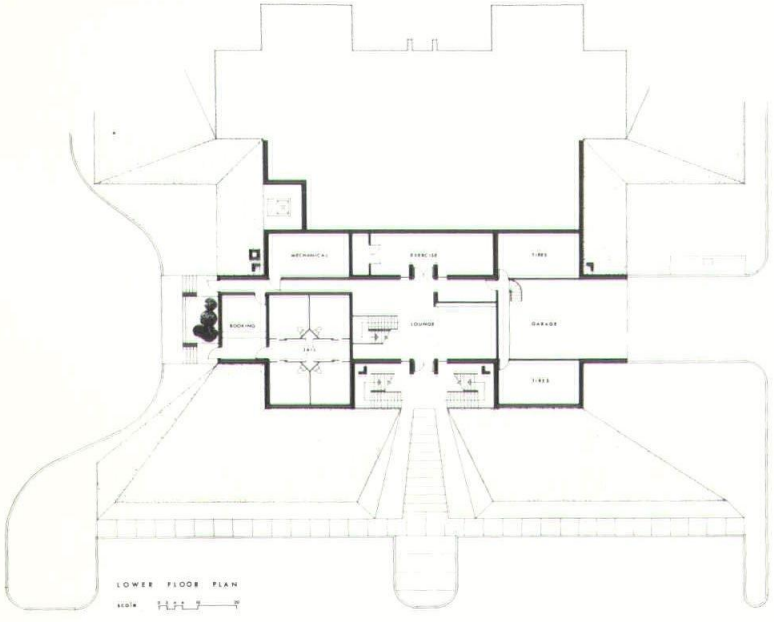
PROGRAM

A building to serve as a substation of the Sheriff's Department located on the outskirts of the city near the expressway. The substation will provide facilities for changing shifts and depositing prisoners without having to drive through the city to the main county jail in the downtown area. Two other county agencies are to share a small portion of the building thus providing a location in the county for the sale of licenses and the collection of taxes. A driver training course is adjacent to the substation and students use the classroom of the substation.

The property has flooded in the past and the floor level height is placed 1'0" above the previous high flood line.

The garage provides space for automotive maintenance and repairs as well as storage of tires for quick change in case of snow. Squad cars are refueled on the site.

The 16th Annual Gulf States Regional Conference



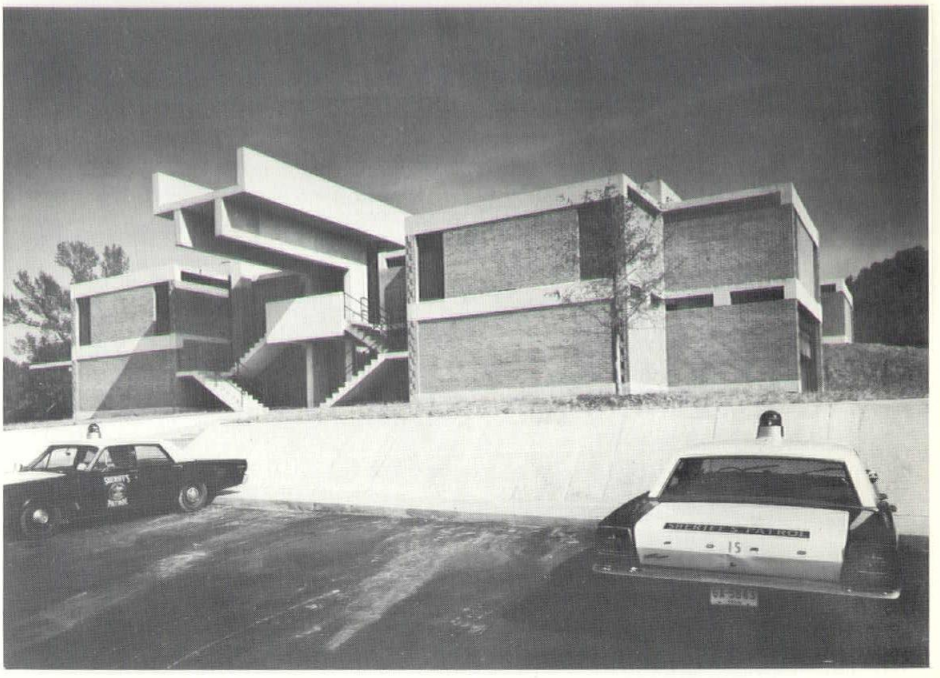
TECHNICAL DATA

Foundation—Concrete Piles
Load Bearing Masonry Walls—Exposed on Interior
Floor and Roof—Combination concrete slab and pan system on flat floor and roof. Concrete slab and girders on pitched roof.
Finish Floor—Quarry Tile
Walls Other Than Brick—Plaster
Ceiling — Accoustical plaster and exposed concrete
Doors and Cabinets — Prefinished Oak
Heating and Air Conditioning—Gas fired boiler and chiller (31.7 tons) with 4 pipe hot and chilled water system to individual unit ventilators for air distribution.
Sheriff's Sub Station
Square Footage—13,082
Cubic Footage—148,700
Cost exclusive of land, landscaping, Furniture and fees but including jail equipment—$305,703.00
Cost per Square Foot—$23.37
Cost per Cubic Foot—$2.06

Honor Award

A.I.A. Architects: Burke and Beaty

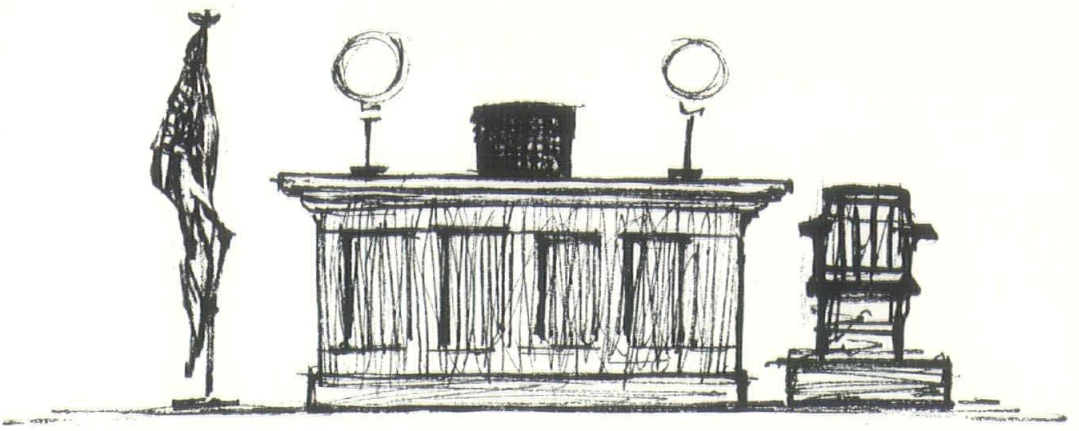
Memphis, Tennessee



JURY COMMENT

. . . Aside from the fact that the entry stairs and canopy are over-designed, the structure as an expression of purpose and location comes off quite well, especially in its relation to parking (depressed) area and surrounding area.

Mr. Rothenberg finds that there is a growing body of cases which apply the principle of MacPherson v. Buick Motor Company to architects whose fault plans are the cause of injuries. There is still some hesitancy on the part of the courts to apply the MacPherson principle in full force to architects, however, he notes, and he lists the five criteria that are usually present when an architect is found liable.



The Architect's Liability

By WALDO G. ROTHENBERG
of the Florida Bar (South Miami)

The Twentieth Century has caught up with the architect. Until the 1950's his malpractice went unpunished when it was the cause of injury to some unknown third person. That is changing rapidly, and the future will undoubtedly see a far higher standard of conduct required, burdensome as it may become to the profession.

It began when a defective automobile wheel collapsed, injuring a Mr. MacPherson. The resulting decision, *MacPherson v. Buick Motor Company*,[1] was the intellectual godchild of Judge Benjamin N. Cardozo. With its tightly reasoned holding that a manufacturer could be liable to the ultimate user of his product, many years of stabilized law evaporated. At the same time the case set in motion a chain of juridical development the end of which lies far beyond the visible horizon.

The law that had been adequate for the horse-and-buggy days no longer sufficed. Under the earlier decisions, privity of contract had to exist between the manufacturer of an article and the injured party for there to be any recovery. Since such privity was rare, the shoddiness of the product was an issue only between the manufacturer and his middleman. The ultimate user, if injured by faulty construction, had no remedy, because the storekeeper never assembled the product.

After 1916 this changed. With one powerful stroke of his pen, Judge Cardozo swept privity aside. Privity was no longer the capstone; the new test was foreseeability. The foreseeability test was simple, at least on the surface. When the manufacturer put his product on the market, he knew purchasers would use it. That was, after all, the reason for which it had been made. The product therefore had to be safe for them to use. A breach of this duty to furnish a safe product, whether or not personally known to the manufacturer, gave rise to liability. An automobile, in 1916 as in 1966, was made to be driven on the highways, and if any parts were defective, the entire mechanism might be dangerous. A collapsing wheel then as now might cause a wreck.

Judge Cardozo's forthright opinion was soon followed by courts throughout the United States. For the better part of a generation, they applied it to sundry products —mechanical, chemical and food— but not to the construction industry on any large scale. In part, this was because of the prevailing nineteenth century rule that the contractor was relieved of responsibility as soon as the owner took possession, the theory being that the contractor ceased to exercise any control over the situation, while the new owner maintained the dangerous condition. It was often argued, also, that the building industry involves larger outlays for materials than other businesses. Behind these excuses, however, lay the real reason: an extension of such liability as the *MacPherson* rule allowed would, it was thought, unduly burden the construction industry.

This reasoning, of course, was fatuous. The contractor building a house or an office building was, presumably, trying to benefit himself economically like the automobile manufacturer. The possibility of a third party's being hurt through faulty work was as real in the one case as the other. Fair-minded people soon recognized this, and in most state courts they brushed these arguments aside and allowed recovery when the builder had been negligent.

Once the dam was breached, the trend to include others in this general category of the industry became inevitable. Although there were efforts to hold the architect for negligent performance, courts were generally reluctant to go along. For various reasons they excused him until in 1957 the New York Court of Appeals applied the *MacPherson* rule to those who "plan and put up structures on real property."[2]

1. MacPherson v. Buick Motor Company, 217 N.Y. 382 (1916).
2. Inman v. Binghamton, 3 N.Y. 2d. 137 (1957).

In that case an action had been brought against the architect, among others, for injuries sustained by a child who fell off a porch, allegedly because there was no protective railing. The court, while applying the *MacPherson* rule, pointed out that since the defect was not latent "and the danger hidden," there was no negligence. Unlike the defect in a wheel, the fact that there was no porch railing was clearly apparent and to ignore the danger was negligence.

Forty years before the *Inman* decision, the Michigan Supreme Court in *Bayne* v. *Everham,*[3] faced with an action for personal injury in which a building constructed according to an architect's plans collapsed, held that the architect was "not a warrantor of his plans and specifications". No matter, then, how defective his plans might be, the architect was not negligent if he possessed and used the skills of a standard high enough to meet the minimum requirements of his profession. That the plans used were the proximate cause of the damage was of no moment.

With the coming of later generations and their tendency toward egalitarianism, this rule changed. Paralleling the malpractice development in other professions, standards progressively climbed so that what then was excusable today is actionable.

It was in this light that *Paxton* v. *Alameda County*[4] was decided. There a workman was injured when the sheathing on the roof of a building under construction in Alameda County, California, gave way. After considering at length the testimony and opinions of other architects and engineers as to the soundness of the plans used, the court came to the conclusion that the computations made by the architect were in accord with recognized "standards of good practice in his profession."

The rule applied apparently was that an architect should possess skills at least equal to those of other members of his profession and should perform his work with care and good judgment. If the architect failed to meet these standards, and if his plans were used and their use was the proximate cause of the injury, he would be liable, but not otherwise.

Ten years after the *Paxton* decision, the California court had a change of mind.[5] It had before it a case of liability of an architect who drew the plans used for the design and construction of a stairway in a bus depot. He also supervised the work. A woman descending it fell, allegedly because the handrail did not extend beyond the stairs so as to provide support at the bottom.

The court flatly held the architect liable on the theory that it was his duty to use care in designing the stairway, and he should be responsible for injuries sustained for a flaw in the design that made the stairway dangerous. Under this theory, there is little room for argument. In effect, lack of imagination may be negligence.

In the *Paxton* case there was reliance on the architect's plans, but in *Day* v. *National U. S. Radiator Corporation,*[6] a wrongful death action, the death occurred when a boiler exploded while being installed. The architect had prepared plans, and the plumbing contractor had prepared shop drawings from these plans which the architect approved. The plans were ignored during the installation of the boiler, and so they were not the proximate cause of the explosion, and there was no breach of duty on the part of the architect.

More conservative than California, Florida, nevertheless, adopted the *MacPherson* rule, first in *Matthews* v. *Lawnlite Company*[7] and later in *Audlane Lumber & Builders Supply, Inc.* v. *D. E. Britt Associates, Inc.*[8] The later was a suit for damages suffered as a result of faulty wooden trusses built according to plans prepared by an engineering firm. The court said:

Waldo G. Rothenberg was born in Connecticut and received his education at Yale (B.A. 1941) and the University of Miami (LL.B. 1949). Admitted to the Florida Bar in 1949, he has practiced law in the Miami area since that time.

An engineer, or any other so-called professional, does not warrant his service or the tangible evidence of his skill to be "merchantable" or "fit for an intended use." These terms are uniquely applicable to goods. Rather, in the preparation of design and specifications as the basis of construction, the engineer or architect "warrants" that he will or has exercised his skill according to a certain standard of care, that he acted reasonably and without neglect. Accordingly, the elements of an action for negligence and for breach of the "implied warranty" are the same.

Earlier, in *Leveridge* v. *Lapidus,*[9] a waitress in Miami Beach, Florida, was injured while using a passageway that had been defectively laid out; she sued the builder and the architect. The court held that neither had compelled her to take the risk of working in that area, and having assumed that risk, she could not now complain.

Finally, in 1966 the architect's line of position collided with the trend throughout the United States. *Mai Kai, Inc.* v. *Colucci,*[10] was an action in which liability was found against a restaurant owner and the architect who designed and supervised the installation of a decorative fan, a metal counterweight of which injured Mrs. Colucci. The architect had prepared plans and specifications for a fan without including a counterweight. The fan made too much noise and, without changing the design, the architect added a counterweight. Its unusual length caused the weld to part, resulting in the accident.

That the architect's duties included supervision impressed the court. Whether he intended to change the plans or not was of no moment, for in fact he had changed them.

In 1965, Illinois joined the ranks of states applying the *MacPherson* rule to architects. *Miller* v. *DeWitt*[11] grew out of an action against architects for personal injuries sustained by workmen in the employ of the general contractor. A roof on which they were working collapsed. The court adopted the fore-

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3. Bayne v. Everham, 197 Mich. 131 (1917).
4. Paxton v. Alameda County, 119 Cal. App. 2d 293 (1953).
5. Montijor v. Swift, 219 Cal App. 2d 351 (1963).
6. Day v. National U. S. Radiator Corporation, 241 La. 288 (1961).
7. Matthews v. Lawnlite Co., 88 So. 2d 299 (1956).
8. Audlane Lumber & Builders Supply, Inc. v. D. E. Britt Associates, Inc., 168 So. 2d 333 (1964).
9. Leveridge v. Lapidus, 105 So. 2d 207 (1958).
10. Mai Kei, Inc. v. Colucci, 186 So. 2d 798 (1966).
11. Miller v. DeWitt, 59 Ill. App. 2d 38 (1965).

seeability test, saying that the architect would be liable to anyone injured as a result of faults in plans prepared by him.

With the passage of time, other states will undoubtedly accept this rule. And yet running through these cases is a note of hesitancy about application of the *MacPherson rule* to architects. It is one thing to look for damages to the manufacturer of an article or to the contractor who builds on real estate, but another to hold liable the architect whose only connection with the injury is the plans he drew. The finest drawings in the hands of an inept builder can be worthless. Unlike the finished product, plans must be interpreted. It is also customary for an architect to leave certain elements to be finished by the contractor. Ornamental objects, trees, shrubs and types of windows or shutters are examples. This gives the contractor an opportunity to use his imagination as to specific details. In addition to aesthetics, there are the economics involved. This flexibility allows the builder leeway in packaging his product, since it is just those items that sell a house to the average housewife, the real home buyer.

The analogy of the architects' cases to *MacPherson,* then, is not complete. In the latter, the manufacturer was held liable to the user of the product. In the former, the contractor is the user of the plans, but the ultimate consumer is someone other than the user. After all, Buick Motor Company's engineers were not defendants in the *MacPherson* case.

This hesitancy to apply the *MacPherson* rule to architects, however, is not enough to save the architect harmless. There are five criteria that the courts have noted in finding architects liable for injuries resulting from faulty plans, and when these criteria are present, liability has been imposed:

(1) The plans must be defective, and the defect must consist of more than minor errors, something in the nature of a violation of professional standards;[12]

(2) The plans must be used in the construction;[13]

(3) The situation created must be inherently dangerous and hidden;[14]

(4) The doctrine of *res ipsa loquitur* is used sparingly;[15]

(5) Courts are far more prone to find liability when the architect supervised the construction in addition to preparing the plans.[16]

The application of the *MacPherson* rule to architects has produced problems not foreseen in 1957. Cases from the several jurisdictions show little consistency in their reasoning. Yet it would appear that unless the architect prepared the defective plans which were followed without material deviation and unless that defect was the proximate cause of the third party's injury,[17] the architect should not be held liable. Although this seems obvious, the courts have not always so held. But without such a rule, we shall simply have open season on architects.

In any event, we are developing a body of rules that will offer greater protection to the layman who must depend on the knowledge and skill of the professional. In our complex world, knowledge and skill are too often lacking.

---

12. **Paxton** v. **Alameda County, supra,** note 4.

13. **Day** v. **National U. S. Radiator Corporation, supra,** note 6. **Olsen** v. **Chase Manhattan Bank,** 215 N.Y.S. 2d 733 (1961).

14. **Inman** v. **Binghamton, supra,** note 2; **Leveridge** v. **Lapidus,** supra note 9.

15. **Day** v. **National U. S. Radiator Corporation, supra,** note 4.

16. **Erhart** v. **Hummonds,** 334 S.W. 2d. 869 (1960); **Mai Kai, Inc.** v. **Colucci, supra,** note 10; **Miller** v. **DeWitt, supra,** note 11; **Montijor** v. **Swift, supra,** note 5.

17. **Iacurci** v. **Lummus Company,** 340 F. 2d 868 (2d Cir. 1965).

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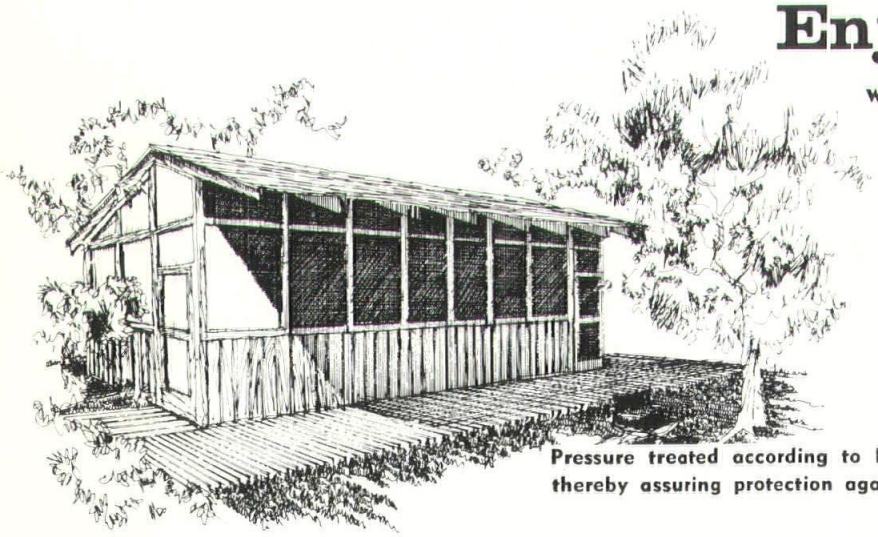

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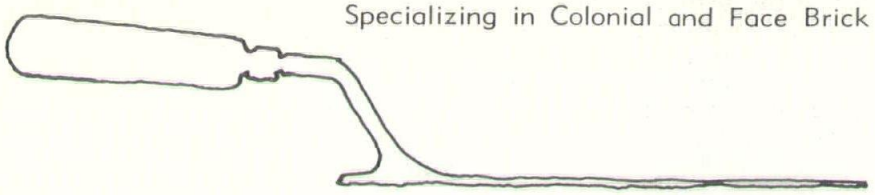

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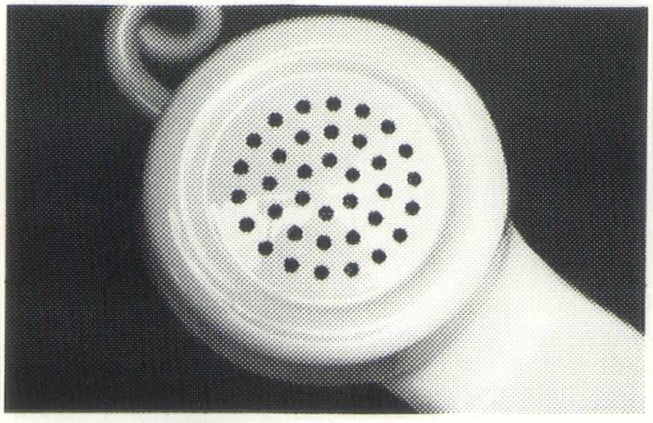

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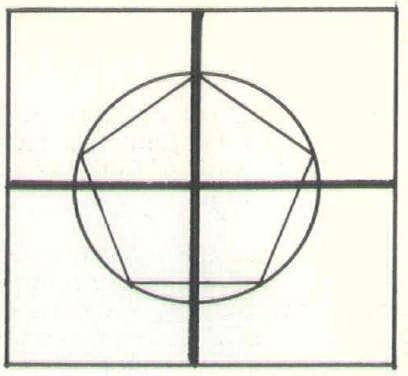

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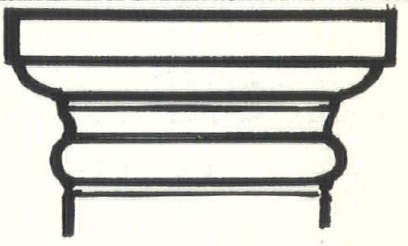

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The Creative Process In An Era of Computer Technology . . .

A RICHARD GEMPERLE, JR.

Architecture is involved in mankind. As an expression of the highest of human aspirations by the humblest of means, architecture is intrinsically involved in the entire complex of factors that constitute the spirit of each age. We shape our buildings, then they shape us. But what are the established forces operating in the second half of the twentieth century, and how are we to go about shaping our buildings in the spirit of this present age?

Now, in the mid-twentieth century, just as we are beginning to think we can understand and control this ERA of Machine Technology, we stand on the verge of a still greater age, the Era of Computer Technology. As the Industrial Revolution extended man's muscle power in the last century, the Cybernetic Revolution promises, or threatens, to extend man's brain power in this century. Our imaginations falter at the incredible powers of this new instrument — the computer—with its fantastic memory, its lightning-quick calculations, and its human like abilities to scan and select, to transform, to simulate and to compare vast quantities of information. The dramatic changes that have attended these evolutionary mutations from the age of Euclidian geometry to the age of Newtonian physics, and now to the age of Einsteinian relativity, have touched all aspects of life, and not the least the process by which buildings are designed—the practice of architecture.

What does all this mean for the future of architecture? For one thing, whole new areas of study are now seen to be intrinsically involved in this process of building a "home for man" on such a gigantic scale. New awarenesses of how people live and how they relate to their environments are being developed into the science of ecology and its related sciences of human behavior—sociology, psychology, anthropology, etc. Extensions of architecture are developing into such related specializations as urban design, city and regional planning, and environmental design. On the "nuts and bolts" side, vital importance often attaches to such disciplines as financing, political authority, law, real estate development, marketing, business administration, and so on. Many more specialities could be mentioned, with greater or lesser bearing on any given project, but the point is clear. The architect, already challenged by the great complexities of modern building, now faces the necessity of mastering and coordinating an overwhelming bulk of highly specialized and ever-expanding bodies of knowledge. The problem is widely recognized. In fact, the architectural profession itself has taken the lead in revealing the very wide-ranging implications of planning for physical facilities, and there is much talk of expanded architectural services. But what to do about it?

Fortunately the Cybernetic Revolution is supplying not only new problems, but new tools for solving old and new problems. Architecture, like nearly everything else, can be boiled down to two areas: problem solving and communication. In recent years, new approaches have developed some very sophisticated techniques in both problem solving and communication, which promise fruitful applications in the field of architecture. The new techniques, which use the computer as their tool, aim to discern order in copious data, and patterns in the juxtaposition of multifarious disciplines, aims which are ordinarily beyond the grasp of any one man's unaided mind.

In general, the process used might be called "second level abstraction." Architectural procedures are already abstracted, by virtue of the fact that they are concerned with something that does not yet exist—proposed buildings. The complexity of this first level of abstraction can be condensed by further abstraction into clearly ordered patterns which, paradoxical though it sounds, are actually closer to the source, the starting point, the level of reality. An analogy might serve to clarify this point. A purely rep-

The author studied architecture at the University of Notre Dame as a Merit Scholar, and took his Master's Degree from Rice University, where he worked extensively with computers. He is currently an architect-in-training, working as a designer with Biggs, Weir, Neal and Chastain, Architects, in Jackson, Miss.

resentational painting of, say, an owl, like a photograph, is a first level abstraction. It is two dimensional, fixed, made of vehicle and pigment, etc., whereas the real thing is three dimensional, mobile, made of flesh and feathers, etc. A modern master, however, would paint an owl that did not look like a photograph, but was what we have come to call "abstract," which is in fact a second level abstraction. In this way he would be able to communicate ideas about the owl that a photographic representation could not. He might for instance express three dimensionality, movement, or featheriness, and thus tell us more about the owl than the photograph does, thereby coming closer to reality through a second level abstraction.

Let us look now at some of the new techniques in architectural design. The backbone of the architectural service is the design process, or the methodology associated with the solving of problems. The recurring problems in the architectural design process are: problem definition, establishment of objectives, systems synthesis, systems testing, and evaluation of alternate systems. The first steps involve the accumulation and organization of data. Because the amount of data now available floods us far beyond our ability to assimilate it. The computer's fantastic memory and immediate, total recall suggest themselves as tools. A Texas architectural firm recently undertook to determine the optimum height for an office building by exhaustively programming every conceivable relevant factor, categorized as variables of (1) construction costs, (2) building efficiency, and (3) return on investment. The computer's verdict was a 35 story building, and just such a building is now under construction.

But on a still more sophisticated level, utilizing the computer's proclivity for dealing with near-infinite numbers of near-infinitesmal increments, the program may be written in a much more pregnant way. In a process outlined by Christopher Alexander in his book *Notes on the Synthesis of Form,* the program of known facts and calculated objectives is broken down into single-sentence statements, each one representing an "event" which must be recognized in the design. There may be hundreds of events in a typical complex design situation. Each event is evaluated as to its interaction with each other event, some reinforcing each other, some tending to cancel each other out, and some totally unrelated. Based on these interactions, called "links," interrelated events may be arranged in a descending hierarchy of subsets grouped according to their functional interdependence.* It can readily be seen that this process of merely "stating the problem" will have great impact on the solution of the problem. In Mr. Alexander's words, "There is a deep and important underlying structural correspondence between the pattern of a problem and the process of designing a physical form which answers that problem."

Existing as it does in a vast network of complex interrelationships, an architectural design problem is seldom solved by a single stroke of intuition. Rather, as in pure science, a type of trial and error process ensues, in which a hypothesis is formed, a method of testing it is devised, and that result is evaluated in comparison with other tested hypotheses. Because no single factor can be evaluated in isolation since each affects others, a Systems Analysis technique is employed, a tool which evaluates the comprehensive workings of the entire system simultaneously. This is best done by means of models. The word "model" is used here not necessarily in the sense of a small scale mockup, but in the sense of an abstract simulation of a real situation. For example, an office's ledger is a model of a series of financial transactions. Thus a model may be verbal, mathematical, graphical, or, in fact, couched in any convenient language of communication, including computer language. In this case, the design program forms a model of context and need against which each hypothesis may be tested. The process of Systems Analysis is repeated, with progressive refinements, until the optimum solution is reached. The building complex is eventually constructed on the basis of this optimum solution, and when it is finished and in operation, we evaluate the workings of the system in real life and apply the findings to the next project. Already objections may be heard to this "computerized approach." Architecture is creative, the work of a man, not a machine.

Both reason and imagination are vitally necessary — without either we'd be lost. What is needed is both more reason and more imagination. The very crucial point of these new techniques is that in one stroke they strengthen the conceptual basis for our actions by factually substantiating every step, while at the same time they organize the factual material in such a way as to facilitate the breakthrough of the creative imagination. By a process of further abstraction than has until now been practiced, we may organize massive date into fruitful patterns that reveal to us the critical points in the architectural design process at which to concentrate our creative-imaginative efforts.

Pentagon Barracks Restoration

On May 28, 1964, Governor John J. McKeithen wrote the following letter to the Louisiana Architects Association:

> "I have read with great interest the excellent report of the Rotunda Study Committee and I am much impressed with this comprehensive and careful study.
>
> I suggest that you might be interested in making a similar study of the historic Pentagon Barracks on the Capitol grounds . . ."

On September 17, 1964, the Louisiana Architects Association transmitted the Pentagon Report to the Governor:

> "Dear Governor McKeithen:
>
> In a communication to our organization dated May 28, 1964, you suggested the Louisiana Architects Association might conduct a study into the possibilities of restoring the historic Pentagon Barracks in Baton Rouge. We were immensely pleased and honored to accept and undertake this assignment. Accordingly, an anonymous committee of seven architects was appointed immediately; its chairman, a Louisianian, is recognized throughout the nation as a leading authority in the field of restoration and preservation of historic buildings.
>
> After careful investigation, consultation, research and deliberation, the committee's findings have been assembled in the attached report which we trust will assist you significantly in restoring this prominent and historic landmark.
>
> Our membership will appreciate very much receiving your comments on this report. Please call upon us should you feel we can be of further service in this matter and in others."

The report gave a history of the Pentagon Barracks, exhibits from sources such as the national archives, early plans and elevations, recent photos, early maps of the section of Baton Rouge on which the structures stand and recommendations on restoration. The committee concluded its report with . . . "The Committee, appointed by the Louisiana Architects Association to prepare this report, believes that the restoration and preservation of the Pentagon Barracks are an important project for the State. Such a project will not only preserve a valuable asset as a tourist attraction, but will also provide the State Government with well located and highly desirable office space in close proximity to the Capitol.

The cost of such a project cannot be determined until a survey has been made of the office and other use requirements of the buildings, and

a set of floor plans obtained from which the total square foot area can be made. This Committee feels that this restoration can be effected within a reasonable cost."

The Governor must have been impressed with the LAA report because he soon after announced that William J. Hughes, AIA, had been commissioned to do the work. The Bond and Building Commission allocated a budget for the project.

Hughes immediately retained Samuel Wilson, FAIA, widely known for his preservation background, as a consultant.

Work on two of the four buildings is now completed. The result is clean, bright, modern offices, and apartments for high state officials. The two other buildings are under construction.

The State of Louisiana has been wise to restore and preserve for posterity this reminder of a colorful heritage, and the Louisiana Architects Association is pleased to have been a catalyst.—(Ed.)

One of the Departments enjoying the "New" Pentagon is the Department of Occupational Standards, administrative agency for the State Board of Architectural Examiners. Here, H. D. Ruffin, Director of the Department, converses with Lena Woody, Administrative assistant who works with the State Board.

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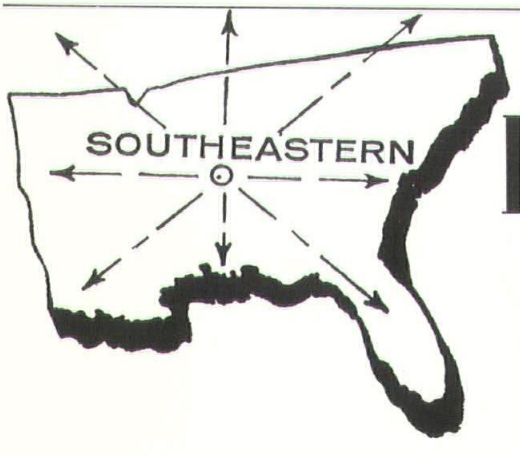

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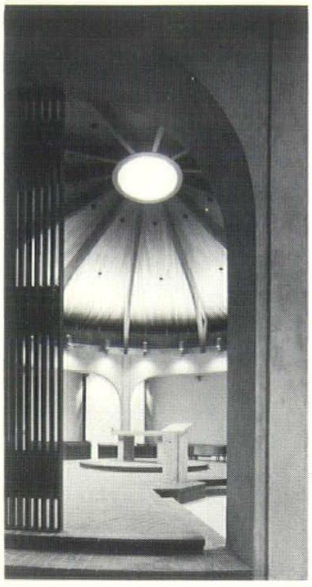

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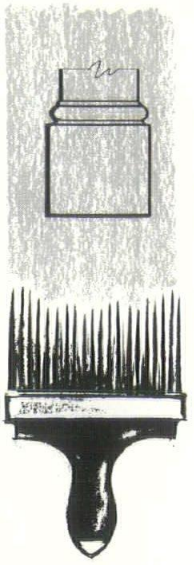

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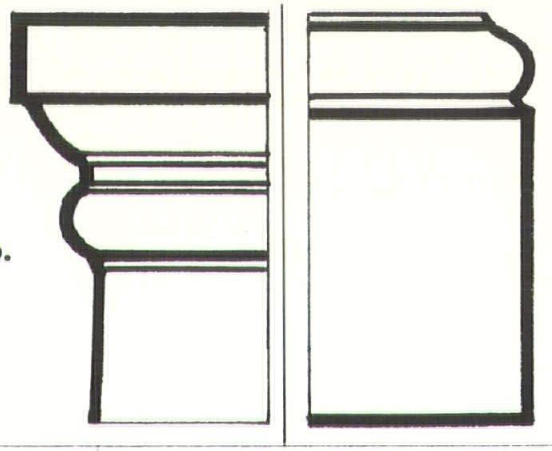

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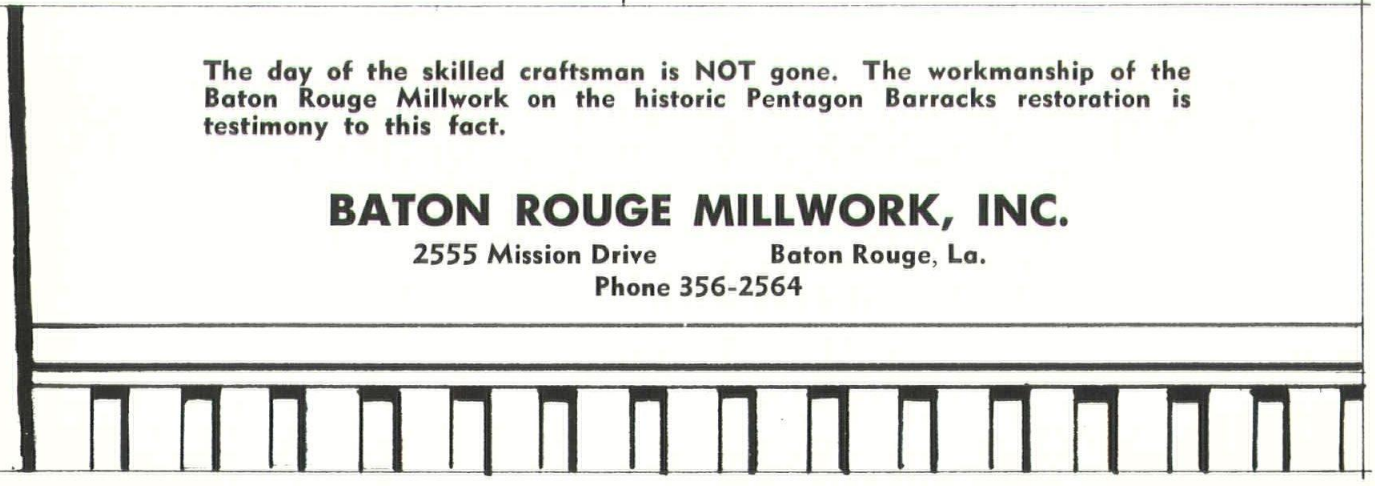

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