

THE ARCHITECT IN ACTION

A collective account, based on contributions from over a hundred architects and presented through the editorial collaboration of Douglas Haskell.

America quite evidently has to be rebuilt. Perhaps the question was put even more accurately by the man who asked: "When are we going to start building America?"

It is a question that reaches right through the present defense effort and beyond. The effect of the past year has been to set a great construction industry in motion. Construction contracts awarded in a single week reached the dramatic high of \$240,000,000, an all-time record; total construction in the 37 states covered by Dodge reports was 13 per cent above the previous year. It is beyond debate that the plant, equipment, and labor put into operation must eventually find their outlet in a broad continuing program.

Meanwhile, on the social side America still suffers from her accumulated peace-time building shortage. In the matter of homes alone, Defense Housing Coordinator C. F. Palmer places the shortage at 4,000,000 dwelling units; other estimates range from 3,000,000 to 10,000,000. Last year we produced a "high" of 525,000 dwelling units; but we still fell short of the annual need, estimated by Mr. Palmer at 800,000 units; we therefore still permitted the shortage to swell instead of diminish!

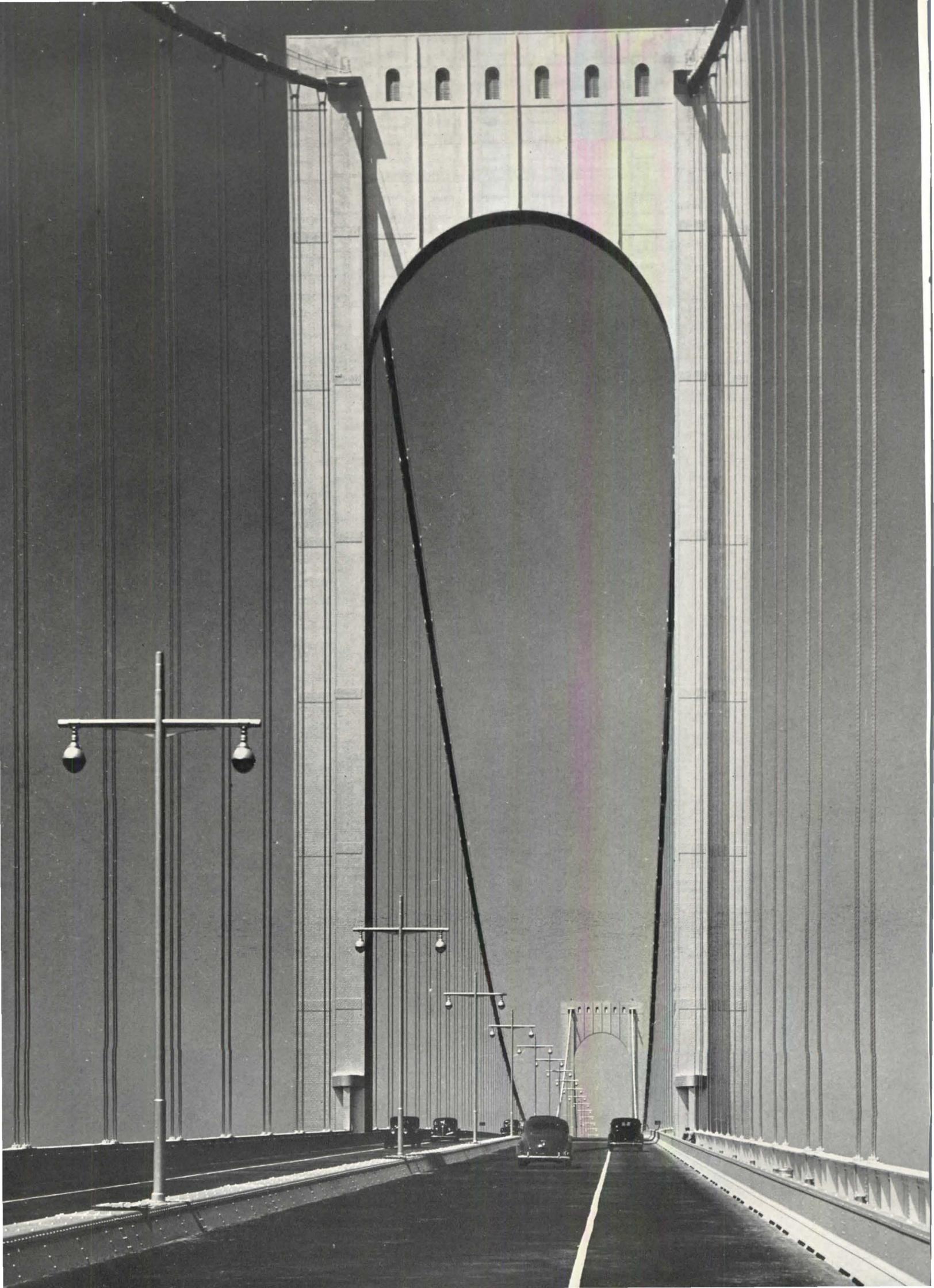
Nor can defense be considered an unrelated enterprise. Call him a "soldier" or "sailor" or "munitions worker," the man inside the shirt and his family are still people, part of a continuing nation. Set under way, perhaps the nation stands before its greatest opportunities.

The architect's part in the essential broad-gauge program was discussed by RECORD editors over a period of months with architectural leaders. Among these leaders there was found no readiness to splurge before the public with great theories or grandiose plans. First, they said, there was needed clarification. The public needed a clearer understanding of who the architect is, how he works, and what he contributes that no one else contributes. Architects, they thought, were interested not only in the relationship of their work to the larger future but in arriving at this future through the present, every-day, actual needs of the public.

The presentation that follows therefore has a double aim. It is hoped that the public may learn something of the architect as he is—not as he was. It will be gratifying if an architect here and there makes the discovery of a progressive method used by a confrere.

Case histories based on proved results have been chosen as the chief means of illustrating the architect's role in different building fields. The results are presented with modesty. Limited space made it possible to treat work done by a very few indeed among the members of a great profession. Nor are all the cases presented necessarily the most spectacular or most "important." Rather, they show the typical case pointing to high average usefulness of architects to the larger future of broad democratic America.







NOT DIFFERENT BUILDING BUT BETTER BUILDING

It is a great boast for a European when he can declare of a building project that it "surpasses even American standards" of size, organization, and vigor.

This situation is acceptable evidence that in the past America's builders and architects have "done her proud." And yet all flattery must be accepted with caution. So European writers, in the very process of comparing big things there with big things in America, have sometimes badly missed what American architecture means to us.

A case in point was the time when the comparison was used by a writer describing a vast public project for mass spectacles only. It was a gigantic setting within which the people could bow down before the power and the glory of the State, a State bent on power and glory through conquest. The nature and purpose of the pace-setting American architectural achievements have not been of that kind. Few of the buildings that have made America great have been dissociated from constructive use. They have not been something before which people bowed down but something through which every one of them might feel himself enlarged and expanded.

Thus the skyscraper "cathedrals of commerce" that used to represent the United States around the world were attempts, somewhat naïve, to glorify the production and exchange through which the people sought for a plentiful distribution of useful goods. With time the trappings have tended to fall off and our commercial structures are more businesslike. Meanwhile the emphasis has shifted. The kind of structure that is likely to give most people a thrill today is very directly related to production and use: the great dams for giant power in relation to conservation schemes; the great bridges as the climax of highways and parkways; large groups of homes making up new communities, and the splendid new hospitals and schools. Less than ever is architecture produced today through a decision to create some "great monument."

Good building is done today when some constructive purpose has been clearly understood and well provided for. Good building becomes excellent, or even great, when an act of understanding has been raised to what an author in these pages appropriately calls an "act of perception." When this point is reached, the very sight of a medical center makes a man feel better about his health, or the way concrete and iron rods have been thrown in the path of some water gives a sudden insight into man's power to harness vast forces in his environment to serve him.

Through their placement and training, architects are more likely than other specialists to bring to building this quality of all-around grasp and perception. Very obviously such a quality—unlike mere symbols of pride such as conquerors rely on—has to be "of the thing and not on it," and this means that architects must share in America's building program at the very first formulation.

"The architect's contribution as the engineer's associate lies not in adding extraneous elements but in ordering and purifying the engineer's prose until it rises into song."

WHITESTONE BRIDGE,
New York, Aymar Embury II,
Architect, O. H. Ammann,
Chief Engineer, Allston Dana,
Engineer of design. Photo by
Richard Averill Smith

TODAY'S SUCCESSFUL ARCHITECT

IN TERMS now generally accepted, the important thing about any building, or any building program, or the whole product of the building industry today, is not how grand it is but what it does. We have said that the great aim of architect and builder together is to create the work-place that really makes it easier and more agreeable to produce goods; the school building that encourages learning; the hospital that hastens therapy; the mercantile establishment that eases the exchange of commodities; homes and cities that are fit and cheerful places for family life.

AS ORGANIZER

Since civilization is intricate, the job of planning and producing such facilities is an infinite problem in fitting things together. And that is the nature of the architect's work today: to organize—organize more precisely, more comprehensively, more flexibly, more perceptively.

Somehow the architect forever finds himself in this work of adaptation: fitting the financial set-up into a plan, fitting the plan to the surroundings—with all the intricacies involved in terrain, climate, landscape, besides the whole plexus of services such as power lines, traffic, water, disposal; and again fitting the plan to the process it serves, and once more to materials; fitting materials to the capacities and habits of the mechanics; and so on through an infinite series, until, if fortune has been smiling, the architect achieves a result that really sings out, and everyone who sees it knows in a flash that it is good.

In this job of fitting together intricate elements, naturally the architect of today finds himself always working in concert with other people of specialized knowledge: government officials, men of finance, engineers, mercantile experts, doctors, educators, and a hundred other specialists.

Architecture today is wise heads around a table.

And naturally the degree of the architect's authority depends on his understanding of the problems of the others. In connection with the building of Rockefeller Center, the architect *Andrew Reinhardt* once remarked that the leader at the table would be the man with the widest range of comprehension, regardless of his title. His title might well be "architect."

Drawings are by William E. Haible and B. Leonard Krause, Research Assistants, Bemis Foundation.



THE PUBLIC'S IDEA of the ARCHITECT AS AN ARTIST. Alas, some members of the profession have allowed that other idea to arise, that the architect is a very high-hat social lion, or again that the younger practitioner is a fellow who tells you what is good for your comfort even if it hurts.

AS DESIGNER

It is shameful that the wholesale prostitution of art should make it necessary to restate what the architect's training in art is for.

What art does for people is to sharpen their perception and deepen their awareness.

In order to keep this matter down to earth, it may be well to tell the story of the architect and his nose. This sharper, more perceptive connoisseur's nose delivered a message to the architect as he was passing a slaughter house. His nose told him that Americans are no longer so lusty as they maybe once were, and that the sight of wholesale butchering may spoil their taste for meat for days to come. So the architect went to the packer and said, "You ought to arrange your offices so that people who come in don't think of you as a slaughterer but as a manufacturer of sanitary, appetizing food." To the question "How?" the architect answered with two expedients known to him through his own experience: air conditioning for the sake of the nose and glass block for the eyes.

Now the packer had a canny Scotch engineer in the packing plant itself whose passion was to keep down costs. For this engineer, at the mention of glass block, suddenly a light went up. In a process involving acid and brine,

IS A MANY-SIDED MAN

here was a material that was impervious and needed no painting. But the engineer had never thought of it before. And since the engineer had been there for years and never thought of it, the implication is very clear that the hard cash saving would have been delayed another decade except for the architect's trained, snobbish, artistic, dilettante, and irrelevant nose.

Seriously, the story is submitted for more than passing scrutiny. It is a minor but indicative example showing that the problem of science is often set by the man of art; and beyond that, showing how specific value may be obtained as by-products of "free" imagination.

AS A MEMBER OF A PROFESSION

But there is still the notion of the "silk-hatter" to dispose of. The silk-hat architect, if you looked at him closely, was simply a fellow who misunderstood what it meant to be a professional man. He fancied the prestige and not the duties. In strict definition, a professional man is simply one who has nothing to offer but his services.

In narrow terms the professional service lies in studying a building or planning problem, crystallizing the program through plans, drawings, specifications, and then acting as the owner's representative to insure proper execution: helping select the builder, supervising construction, protecting the interest of both owner and builder in the matter of payments.

In broader terms, the architect pursues a great many larger inquiries relating to policies of building; yet the professional definition still holds.

In society the concept of professional service has arisen wherever scientific disinterest has been considered indispensable: in matters of health, in the adjustments with the superior power of the state that are the basis of law, and in the heavy and decisive investments implied in building.

AS TECHNICIAN

The architect filled with "insolation" and "orientation" and maybe plain insolence is new. There ought to be tolerance for him, because he is simply carrying good qualities to excess. What lies behind him, and perhaps ahead of him, is simply the idea that good building today depends upon the most thorough, accurate, and rounded scientific knowledge.

Any executive today with a large building project ahead might do well to visit a forward-looking architectural school and observe what a fundamental change has come over the architect's training.

To be sure, he would still find the young architects studying the foundation subjects, mathematics and physics, structure and materials, specification and supervision, history and English, and all the rest. And yet in work done the visitor would find a decisive difference. He would see the young house designer walk over with his house scheme to the "sun machine." He would see the incipient site planner test his results on an actual contour model and fortify them with tables of calculations bearing on such items as street costs, amortization, and taxes.

It would be on the Senior projects, however, that the visitor might find the greatest difference. The projects are nothing if not specific. And if some team at work finds that its solution depends ultimately on the rate of population growth in China, or on the cost of transporting a case of beer one thousand feet by mule power, you may be sure of finding attached the necessary calculation on the Chinese or the bottle of beer.

The great effort, inside school and out, is not to become something *more* than an architect but to become more *of* one, by mastering the problems that underly and surround the architectural one.



"Architecture today is wise heads around a table."

THE ARCHITECT WORKING IN

ORGANIZATION, EFFICIENCY, SPEED

For its example of the architect at work for industry, the RECORD has turned to the preeminent industrial architect ALBERT KAHN. As head of a famous organization of architects and engineers, which has rendered service on nearly a billion dollars' worth of construction located on six continents, Mr. Kahn describes speedy procedure and elucidates guiding principles.

WITHIN THE MEMORY of architects now practicing, "architecture" used to include "museums, monuments, cathedrals and capitols" but not factories. Architects were not interested in places for everyday work. Quite naturally the public took those architects at their word. Architecture was an affair for holidays only. It was a luxury.

Now that the attitude within the profession has been reversed, the public mind still needs to be disabused of that old memory.

The operations of an up-to-date architectural firm lend themselves to dramatic description. Yet the RECORD prefers to confine itself to a business-like description, supplied by Mr. Kahn for this purpose, of the speedy and efficient *regular* procedure:

Our regular procedure, in preparing plans, has been about as follows: Most of our clients wait till the last moment and then must have their plans yesterday. With the Defense Program, decisions to proceed are more prompt, but the time for preparation of plans is, if anything, lessened. It usually requires but a few days to crystallize the owner's wants, especially the manufacturing plant—the office and personnel buildings requiring longer study. We, however, aim to prepare first the structural steel drawings for either lump sum or pound price bids. Four to five days usually suffice for the latter, while for lump sum bids we require seven or eight days. Naturally, for the structural steel drawings, the architectural drawings must be developed coincidentally. For steel bids, we allow as a rule three or four days so that within eight to twelve days we are usually ready to place steel contracts. Excavation plans come next and then follow the architectural. We arrange to let the contracts on the architectural trades while the steel work is being fabricated, and to have the foundations ready by the time the steel is delivered for erection. Depending upon requirements for completion, we plan construction schedules, arranging for overtime work when necessary right from the start. Thereby we avoid controversy and all is properly covered in the contract. We place on the work competent clerks of the works, and with our expediting department at headquarters we follow up all parts of the work ourselves, assisting the contractor in every possible way. Cooperation between architect and contractor is the key to speedy completion of work.

We prefer, on the whole, lump sum contracts based on competitive bids from a limited number of thoroughly responsible contractors. We usually prepare a careful estimate of cost ourselves so that we can let part contracts, and since we aim to have our estimates on the safe side we usually come within the budget set for construction. We always allow ourselves a reasonable sum for contingencies.

As for speed of construction, the Glenn Martin Company plant of some 440,000 square feet was completed in exactly eleven weeks. Another plant in which we made record time was the 12½-acre Eastern Seaboard defense plant finished in 105 days after the order was given to proceed.

Both the above plants, of course, were constructed when steel was still available within five or six weeks; at the present time, steel deliveries are from ten to twelve weeks.

INDUSTRY

Industrial requirements are best served by professional organizations

Organization is the keystone of architectural firms doing industrial work today. In a firm such as that of Albert Kahn, the architects and engineers may be part of a permanent group. This rule is not universal. Frequently architects doing specialized work for industry have called specialists into association for some particular project. There are advantages in either method. Whichever is used, the important fact about either is that its basis is strictly professional. The definition of the professional man is that he has nothing to offer except his services.

In the meantime the complexities of industrial building have called forth commercial organizations of another kind. These may lay stress on supplying materials, equipment, layouts, or indeed a completed building, for which the plans and designs are treated as an incidental item, supplied either at "cost" or without charge. The claim is made that the owner is relieved of dealing with more than a single concern.

Against this procedure, Albert Kahn upholds the strictly architectural and engineering ideal:

The owner who permits his structure to be delivered as a single package, unscrutinized until finished, has lost first of all the possible savings to be had from really competitive bidding on an equal basis.

Most owners would certainly object to having the architect financially interested in the contracting firm. If a single firm designs and constructs the building, renders and checks bills, also determines what is acceptable in materials as well as workmanship, and what meets the specifications, that firm is acting as counsel and judge at the same time. The combination of architect, builder, contractor, supervisor, and cost accountant is not unlike the combination of doctor, druggist, and undertaker.

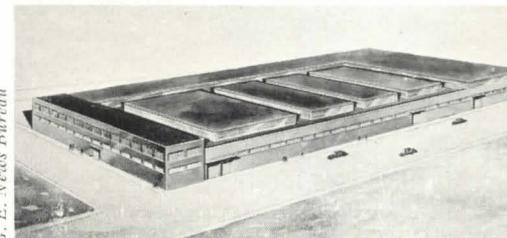
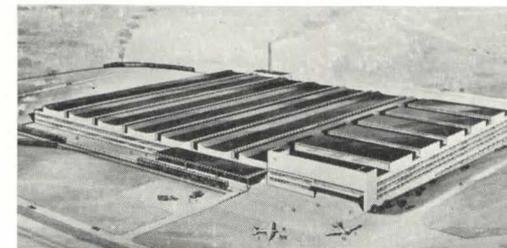
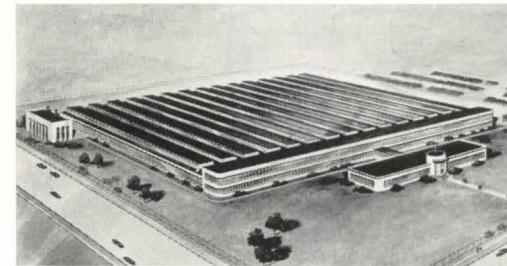
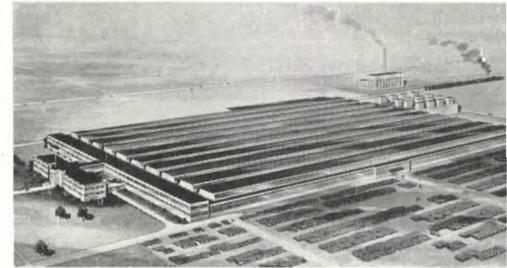
Then, too, no building is better than the *sub-contractor* can produce. The contracting engineer is subject to the temptation to sub-let contracts to the cheapest. The architect has no other interest than to select the best.

Numerous cases document the fact that the combination of a professional architect and an independent contractor can in practice achieve a lower cost.

Example Number One: The architects and engineers saved a prominent manufacturer \$164,000 on the design of the steel alone. This saving amounted to several times the architect's fee, and the owner had full benefit of service including supervision and checking the contractors' bills, the work being done on a cost-plus basis.

Example Number Two: The first unit of this large plant was designed by a commercial "design-and-build" organization; the second by an architectural one. The second under-ran the first by nearly 27 per cent. In the steel the difference was between 9.7 lbs. per sq. ft. of building and 7.1 lbs., a saving of 2.6 lbs. per sq. ft.

Example Number Three: The contractor bid \$246,000 on his own plans, and then bid again on the architect's plans for the same work, taking the job at \$200,000. The saving to the owner represented four times the architect's fee. The fee is often more than saved in bid variations.



G. E. News Bureau

SOME CURRENT industrial work in the office of Albert Kahn, Inc.

NEW IDEAS THAT PRODUCED NEW ASSETS

An architectural firm with experience in other fields can sometimes bring a fresh point of view into industrial operations resulting in maintenance improvements and better working conditions at no added cost. In this example, the work was by the architectural and engineering firm of SKIDMORE, OWINGS & MERRILL.

A LARGE MANUFACTURER such as the Kimberly-Clark organization, operating an extremely complex scientific process, naturally develops a highly skilled engineering department of its own. With intimate knowledge of the process, such a department can be expected to design new structures and supervise their construction expeditiously at a cost far below the fee of an outside architect. This would seem to leave the outside architect no place.

The contribution of the outside consultant, however, does not essentially lie in trying to improve on the good work already being done. It lies rather in awareness of new and hitherto unconsidered factors. Often this awareness comes to the architect through his work on other problems or even in wholly different fields.

The firm of Skidmore, Owings & Merrill started in as consultants with certain well defined assets. One was the full cooperation of Kimberly-Clark's own engineers. Another was the wide experience with materials and techniques that is gained through work done all over the country on many different kinds of problems. Beyond that, there was some special experience in the field of commerce, where it is recognized that factors affecting psychology cannot be shunted off into a separate compartment and considered irrelevant to economy.

In varying degree, these assets were of the sort that might have been held by any number of firms engaged in general practice. The *working* arrangements, too, were of a kind generally applicable. They involved, eventually, a fixed consultation rate by the hour, day, or month, plus a payment for drafting and design services, when required, at the cost of the draftsmen's time doubled for office overhead. Such an arrangement lets the manufacturer feel that he is paying only for actual service, and impresses him, too, with the fact that his architects want to be paid for saving him money as well as for spending it.

"Machine Building No. Three," which the RECORD presents herewith as the typical outcome of such collaboration, instantly declares its virtues. Anyone at all can see that the huge room is smooth, clean, and "streamlined." Only the owners and architects, however, know fully how much was gained on how many different fronts by the single "clean-up operation."

The walls, for example, are "inside out" and the ceiling is literally a floor upside down. The arrangement of the heavy columns, boxed in brick, flush to the inside instead of the outside, leaves a smooth, easily cleaned surface whose maintenance qualities any factory manager would appreciate. The same arrangement meanwhile provides a channel for all pipes and conduits—not only takes them off the floor but reduces condensation in a wet operation (the manufacture of crepe wadding for Kleenex). Between the

THOUGH STANDARD IN APPEARANCE, this plant for Kimberly-Clark Corporation at Neenah, Wisconsin, is actually turned "inside out." Walls and ceiling are flush inside instead of outside. Skidmore, Owings & Merrill, Architects and Engineers.



Photos by Lortie Fisher

piers the flush walls of glass block over glazed tile are not harmed by moisture either.

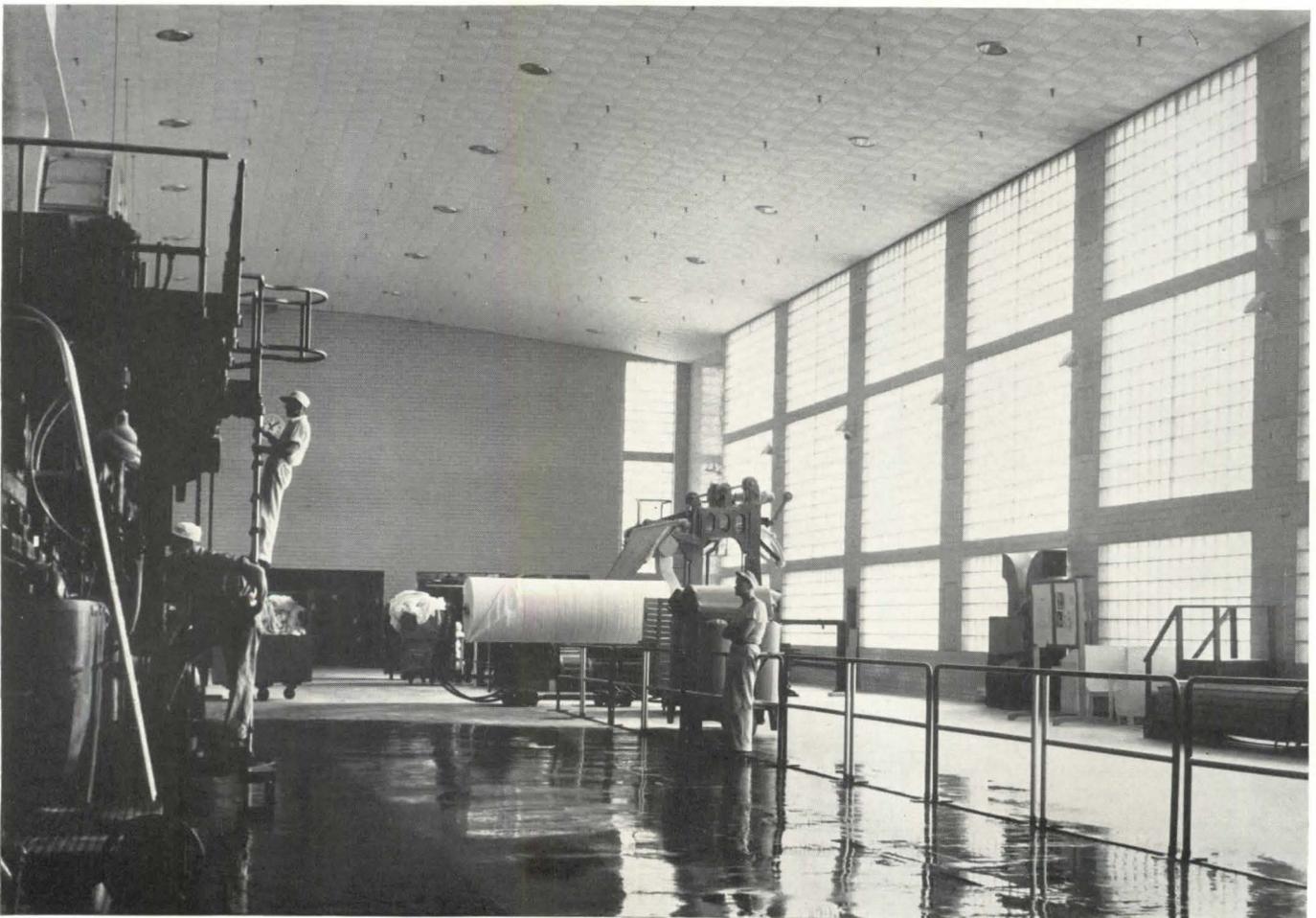
So, too, with the "upside down" ceiling of inverted Robertson Keystone flooring: to begin with, it is dust-tight, a strong factor in an operation in which a small piece of falling dirt can spoil a thousand-dollar run of the product. But the ceiling was also easily lined with acoustical material against a terrific roar; it is curved in a way that reflects daylight so efficiently that no other light is used even on the dullest day, and also reflects artificial light at night in a manner especially agreeable for work.

In addition, the machinery, the crane and other metal parts were given bright, cheerful colors. This, too, has its practical connotations, since color costs no more than white or gray and may considerably increase output; in commercial interiors experienced architects have found that color has the most powerful effect on people's moods. Moreover, for every factory losing output through inadequate lighting there is another losing output through plentiful lighting wrongly directed, thrown against wrong surfaces, colors, or textures, and otherwise ignoring ocular psychology and thus positively creating fatigue.

This example of a factory not too large in itself is described at some length because it involves key elements highly important to any manufacturer with open eyes. It is not simply the new economy achieved through architectural consultation that counts, but rather the uncovering of wholly new resources. At no added cost, perhaps less cost if maintenance and operating costs are credited, the manufacturer possesses something far superior to a structure that keeps out the weather. He has a new asset. He might ascribe his gain to "styling," or boast of "making his construction dollar an advertising dollar." In broader terms he knows, however, what the real point is: all those who work there, and the townspeople, too, are proud of their plant.

So arrangements were made for the architects to work on retainer, and already new ideas have been achieved and are under way.

THE FINE CLEAN APPEARANCE could be viewed as the result of novel economies rather than "art." The tight furred ceiling protected the product against dirt. Its reflection of daylight did away with any daytime need for artificial illumination. The flush walls were easy to clean and the concealed ducts protected pipes against condensation. At no added cost the machinery was given bright and cheerful colors.



THE ARCHITECT WORKING IN

Among the millions spent annually for "packaging," "styling," or "presentation," the largest single amount, \$7,000,000, was thrown into a building—the building for General Motors at the New York World's Fair.

Yet the notion that all architecture is "packaging" is a dangerous half-truth. A building is not something to open in order to reach something else. The building is a part of the operation that it houses. Even the expedients to make a building attractive are chosen by the architect in relation to the way in which the building must work.

Also, the work of a building is continuous. Architectural aid is, therefore, best given not once for all but as a continuing service.

A WIDER CONCEPT OF FITTING SPACE FOR RENT

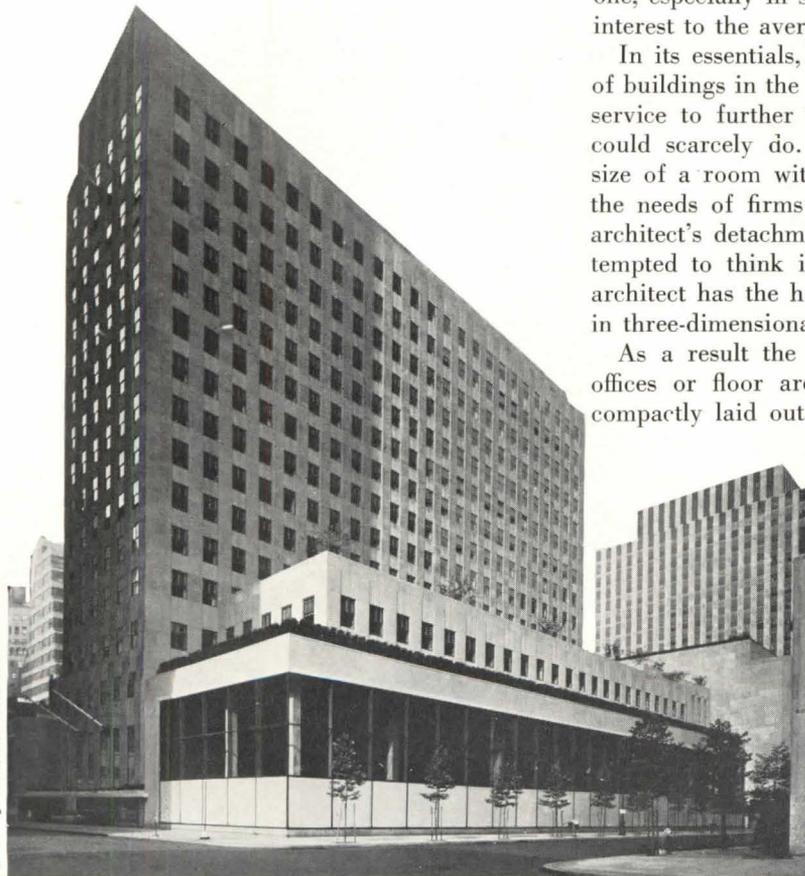
TEN YEARS AGO, the public considered Rockefeller Center one of the most exciting building projects in America. The achievement was considered a wonder of organization. Three different architectural firms managed to combine their forces so as to work through a single office, and the guiding decisions were made, on the other hand, in conference with the many different policy-making heads in an intricate business set-up.

Rockefeller Center is virtually completed in structure today, and yet it still has a continuing architectural story. The story is a rather unexpected one, especially in so far as it sets a pattern that is basically of considerable interest to the average man in the average town.

In its essentials, the Center may be described as the largest single group of buildings in the United States built for rent. And it now uses architectural service to further this purpose in a way that real estate brokers unaided could scarcely do. An architect engaged in this service learns to tell the size of a room within a few inches at a glance. And his job is to analyze the needs of firms which might be tenants (or who already are) with an architect's detachment and special skill in planning. Where others might be tempted to think in paper terms of areas and prices per square foot, the architect has the habit of visualizing people and things standing or moving in three-dimensional space.

As a result the Center has been able to offer many clients not merely offices or floor area coupled with prestige, but a special space sequence compactly laid out for utmost convenience and efficiency in that particular client's operation. There was, for example, the case of the U. S. Rubber Company. It was occupying some 135,000 square feet spread through 22 floors. In the building at the Center which now bears the company's name, it uses only 100,000 square feet on 11 floors with increased efficiency for the same operations. And that is only one among dozens of similar examples.

Quite obviously the same kind of use could be made of private architects in a thousand smaller towns. Few offices of any size are so simple as to fit without further ado into any kind of room. Few brokers are so trained in space arrangement that, having found the general accommodations needed, they can work these quarters out to the very best use. In remodelling, as in new building, the architect's skill is called on; the example of Rockefeller Center shows that it can be productive when applied to just "moving," too.



"Less space with increased efficiency"

COMMERCE

A NEW BUILDING THAT TRANSFORMED AN OLD STREET

THE ILLUSTRATIONS are of an office building at Bakersfield, California, by the architects Franklin and Kump. Combining offices and stores, the structure is characterized by the unusual balconies along the street. Technically, these serve to give shade against the strong sun to the continuous glass fronts which, in their turn, are used in a mild climate to give the offices uninterrupted light and view. Visually, the balconies dominate and transform the street by their strong horizontality, and the people who walk occasionally along the different levels are said to give the building an unusual appearance of animation. The full-height glass panels forming the outside wall are interchangeable, making it possible to run new partitions with ease when rearrangements are made in the interior office space.



Balcony detail



Office Building, Bakersfield, California. Franklin and Kump, Architects



PERRYSVILLE, PA.; Press C. Dowler, Architect EAST BERNE, N. Y.; F. A. Ward, Architect

FITTING A SPECIAL OPERATION TO LOCAL CONDITIONS

Few owners of commercial buildings have central operating requirements more strict than the famous Bell System has. Yet an enlightened policy permits the System to avail itself of the unique knowledge and skill of the local independent architect

PRESIDENT *Walter S. Gifford*, of the American Telephone and Telegraph Company, is an executive with a high appreciation of what architects do for pride and morale in a company and in a town. He says:

“Structures large and small are erected to care for the service requirements of the nation’s rapidly growing telephone system. In their design and construction, these buildings reflect the policies of the Bell System. Modern in conception, they also reflect in their substantial character and careful planning something of the System’s stability and its regard for the comfort and convenience of its customers and employees. These buildings contribute toward the achievement of the communities within which they are located and exemplify the progressive spirit which has made possible modern telephone communication as it is today and will be for years to come.”

The statement leaves no doubt that the building policy of the Bell System is characterized by breadth, nor can there be any doubt that the imposing group of telephone buildings is widely held in very high regard. And yet the chief interest in this building policy resides perhaps less in the results than in the methods. More than other “chains,” the System has been aware of a certain duality in its problem. The technical problem of a telephone exchange is specialized and the technique must everywhere conform. On the other hand, if buildings are to be designed with awareness of the community, then every community is different and there are matters of custom as well as climate or geography which a full solution must take into account.

The interest lies in the way the System has sought to solve these two problems in combination.

In practice, the technical requirements are quite fully and clearly outlined by the System’s building engineers. In the New York headquarters of A. T. & T. is a building engineer with a few assistants, and the regional companies also have building engineers of their own. The size of the total engineering staffs is insignificant when compared to the design bureaus of far smaller country-wide chains that do their designing themselves. The heads are nevertheless fairly convinced that they command an accumulated body of building experience, so that suggested departures carry a sizable burden of proof.

On the other hand, the System makes extensive use of local knowledge in the possession of the architectural firm in the region where building is to be carried out. Local architects help, whenever possible, to choose the parcel of land, besides adjusting the space requirements to its shape and, above all, seeking to relate the building to the surroundings and community.

Thus the System seeks to provide for its technical requirements, which are necessarily uniform throughout the country and therefore best coordinated from central points, in structures that nevertheless take account of special conditions and regional differences. Because of the smallness of the various groups of engineers there is an element of personal responsibility



LONG DISTANCE BUILDING, NEW YORK CITY; Voorhees, Walker, Foley and Smith, Architects



SPRINGFIELD, ILLINOIS; Holabird & Root, Architects

in their decisions. There is a single architectural critic, *Ralph T. Walker*. Many of the "regional" differences have thus far been chiefly stylistic; and yet the general approach is significant because it suggests a way of holding open an important door to progress.

The more complete, specific, and exact the study becomes, the more closely local variations have to be taken into account. It is only by maintaining skilled architects at work, building and gathering ever more exact data all over the country, trying out the combinations that occur to their many different minds, that large operators can underwrite the steady growth of the building art, as the Bell System has done.

ARCHITECTURAL SERVICES MADE CONTINUOUS

Who could do better keeping a building workable and attractive than the architect who made it so? This illustrative example is out of the experience of THIELBAR & FUGARD, Architects.

IT BEGAN WHEN THE ARCHITECT was called in to look over a shabby old store. The few suggestions he made opened such possibilities that the owner decided to go still further. He decided to do a complete job; to reverse the whole skimping policy and keep the place "spruced up."

When the remodeling work was finished, the owner was delighted. He said: "You are more than an architect: you do us good in a business way. We want to retain you permanently to help us keep that store where your specialty has now put it."

So the owner turned over to the architect the work of seeing that good arrangement, smooth functioning, and attractive appearance be maintained through steady progress rather than by the usual fits and splurges.

From that assignment sprang others: a warehouse, an office, then an estate involving a number of office buildings besides some stores and apartments. All these types of buildings and more are now operated by a special department in that architect's office in a manner that goes far beyond routine maintenance. In short, the work of styling, rearranging, and renewing buildings to keep up with the times has been placed upon a systematic instead of an intermittent basis. This has involved an expansion of the architect's force into the field; the superintendents on those jobs work for the architect. Remodelling, when needed, is done by the home office.

Superficially it might appear as if the architect had branched into some other business. This is not so, because the specialty upon which the whole enterprise has been predicated is the architect's familiar gift and training for fitting an operation into a space, and keeping it all workable and attractive. The difference is that the architect no longer depends on performing occasional god-like acts of pure creation. In keeping with the times, he fits his services into a continuing operation.



WHERE BALANCED SPACE PRODUCES BALANCED SALES

ON THE SUBJECT of its main objective—sales—the large department store commands many exact and current sources of information. The National Retail Dry Goods Association has a sub-body, the Comptrollers' Congress, that yearly analyzes the sales in department stores grouped by the total volume of business. In addition there are more confidential reports circulated among limited associations of the leading stores.

Nevertheless, it has not always proved that a fresh point of view might not throw new light on the problem. For examples, ARCHITECTURAL RECORD went to Architect *John R. Weber*, who had worked in association with *Miss Eleanor Le Maire* on a number of large stores with the purpose of independent analysis in connection with remodelling or building.

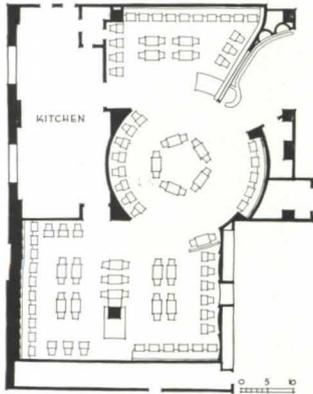
The main worry of managers, declared Mr. Weber, is to keep their stores in balance. And it was therefore helpful to a large northern store, for example, to have the architect discover a whole floor given over to a millinery department that had been a whiz—in 1910! Naturally, it took some time for the management to be persuaded that a once brilliant department had faded; but eventually they were thankful to the architect for gaining seven-eighths of a floor for more productive use.

In general, results are not likely to be so spectacular; but a constant factor remains. The architect, with his almost instinctive sense of space, may be using the same statistical data that others use but with a great range of combinations open to his imagination.

Besides the space problem expressed in sales per square foot, department stores of course have very many others. An architect's analytic statement for a single store can sometimes reach the physical dimensions of a dictionary. Most pressing are the problems, still generally unsolved, of outside traffic. Accustomed to the congestion, merchants have rarely thought of having architects investigate what might happen if the pressure were lifted. It is a problem on which architects might do productive work.

In this department store, the architect's gift for sizing up space relations resulted in releasing seven-eighths of a floor for profit instead of loss. From the records of JOHN R. WEBER, Architect.

TURNED INTO PROFIT



GREENBRIER GARDEN RESTAURANT, WASHINGTON, D. C.
WILLIAMS & HARRELL, Designers; GEORGE FOSTER HARRELL, Architect.

Conceived at first as a mere service feature in a department store, the restaurant illustrated herewith quickly turned into a highly profitable operation.

It also serves to indicate the trend toward inclusive design service. The design firm, in which one of the partners is an architect, prepared every element, from plan and air conditioning layout to furniture, waitresses' uniforms, menus, tray covers, napkins.

Noteworthy in the plan is the treatment in four semi-separate and different areas, all quickly accessible to service; so arranged that no customer faces a near wall. In illumination, practically all light is directed at walls rather than ceiling, to create a "sunlit, expansive feeling in keeping with the garden idea." The tables are on unusual off-set pedestals that eliminate the necessity of straddling.



Photos by Ezra Stoller

WHERE SALES DEPEND ON INSTANT ATTRACTION

In the specialty store, success depends on making an appeal in a flash, and on free movement and easy storage in small space.

In each of three examples from the work of MORRIS KETCHUM, Jr., Architect, new design for the store immediately jumped the sales.

IN THE SPECIALTY STORE more than in any other kind, sales are directly dependent on the store itself. The display must command the attention of the passerby in a flash; in the same flash it must tell the straight story that draws the right customer in; moreover, very compact arrangements are essential with no sense of cramping in the relatively small space.

Taking three stores by the same architect as examples, ARCHITECTURAL RECORD secured the willing consent of the owners to carry the narrative through to its conclusion in terms of merchandising results.

Case number 1. Women's accessory stores: sales tripled

A small store with a sales space approximately 18 ft. square had two tenants. LeBas, the first tenant, sold a well-known brand of silk stockings; Lillian, the second tenant, sold women's accessories such as gloves, bags, perfumes, etc. Previous to the new alterations the store had been losing money over a period of four years.

The problem was to house both merchants successfully and increase the advertising and sales value of the store.

The two clients and the architect studied the store to create an appearance of size, good display from the street, and greatly increased stock storage and sales facilities—all without enlarging the size of the store. The landlord would not permit any changes in the exterior façade and except for the addition of an awning it was left alone. The existing store had separate show-windows which hid the interior from the street. These were removed and the interior re-designed as a half-circular niche, with the result that the entire store became a show-window. The existing window ledges were used for display, additional display being obtained by recessed niches in the interior walls. The sales counter was enlarged and rearranged to follow the new shape of the store. Stock space was doubled by storage of hosiery in the rear of this counter with additional shelving for accessory merchandise in the curved walls. The entire shop was redecorated and the lighting system changed to fit the new conditions. Total expenditure was under \$1,000.

During the first year following the alterations, the store's sales tripled in volume. Following this both tenants felt that the store was too small to allow for further expansion. The first owner, LeBas, retained the store while the second owner, Lillian, (now Lillian Park Avenue) leased new quarters three times as large at a different address and there opened a new shop designed by the same architect in September 1940. Both shops are now successfully operating as separate firms.

Case number 2. Linens find new customers

In his work for Mosse Linen, Inc., the architect was associated with *Paul T. Frankl*. An old established firm with a conservative clientele sought to preserve its identity while moving and modernizing. The owners report of the result: "Our customers like it as much as we do; and many new customers, who had previously failed to use the store because they considered us too exclusive and consequently too expensive, are steadily trading with us now to our great satisfaction."

Case number 3. A jeweler doubles his sales tables

A well-known firm of English jewelers, specializing in imitation jewelry and cultured pearls, decided to open a Fifth Avenue branch. Here there was created a circular exterior lobby, with 80 feet of special jewelry display cases and a mirrored wall inside to increase the apparent size of the sales-room. The store quickly took its place in the front rank of the trade, and during the first year and a half of its existence it has been necessary for the store to double the number of sales tables.

The merchandising gains listed were ascribed by the merchants to the work of the architect in collaboration with them.



Evra Stoller

"Sales tripled, and the store space soon afterwards was doubled." See "Case Number 1" at the right.

WHERE SALES DEPEND ON ECONOMIC HEALTH

In planning SHOPPING CENTERS or other group merchandising facilities, the question what to provide for calls for a scientific answer not based on rules of thumb. The classical shopping center study of CLARENCE S. STEIN and CATHERINE BAUER was distinguished by its sensible approach, based on performance records.

IN THE GREAT COMMERCIAL FIELD of retail selling, there is an unmistakable trend toward broader planning. Apart from the growth of chain stores, branch stores, mail-order stores, super-markets, drive-in markets (each in itself a remarkable field for architecture) there is consolidation within these systems themselves. Chain stores included in a survey by *Chain Store Age* closed more units last year than they opened, but spent more per unit (\$4,638 in 1940 against \$3,512 in 1939) for new stores and remodeling.

What then of the independent store? The trend is to seek effectiveness through careful grouping. Initiative is necessarily in the hands of landlords, especially the large-scale operators engaged in housing complemented by planned shopping centers.

The planning of such centers is an architect's opportunity. He needs to be an analyst; it is of utmost importance to know *what* to ask.

Because they considered carefully *what* to ask, the architect *Clarence S. Stein* and his assistant, *Miss Catherine Bauer*, some years ago made a classical shopping center study.* Its importance as a pattern of inquiry persists undiminished, especially since other studies continue to appear that show little awareness of the great change in basic approach.

The accepted method, said the report, was to solve the question of what to do in terms of what had been done. The basic change proposed was to provide only for the kind and number of stores that could succeed in operation. It was the difference between a landlord providing space for the storekeeper to sink or swim and the landlord using the architect's skill to insure the continuing health of his stores in his own self-interest.

Put differently, the change in approach was from that of a chancy speculation to that of a calculated operation.

As for the ineptness of the "average" frontage method as a basis of calculation, the study left little doubt. Turning to the Census of Distribution and other studies, the authors found an appalling record of failure, under "average" conditions, for independent retail stores.

Assuming that the landlord could far more profitably "get a certain rent regularly from 10 healthy stores than the same rent irregularly from 25 marginal stores doing the same volume of business," the authors set up a basis of planning:

"Not front footage,

"Not existing ratios between stores and populations, but

1. "The total sum likely to be spent within the community for different kinds of goods, and
2. "The most efficient volume of business needed for success in each category."

With regard to the total sum likely to be spent in the center, two methods were set up as checks against each other: the first, analysis of retail expenditures in neighboring towns with allowance for their special character; and second, an estimate of the purchasing power of the community, the incomes and the probable expenditures in that center by the inhabitants.

As for the volume necessary in each kind of store to insure survival, the authors turned to the chains and others in command of actual operating figures. All authorities agreed, for example, that a food store under usual conditions must do \$50,000 a year to be a permanently paying proposition; this against an actual average, across the United States, of only \$17,000 for the independents.

The study left many problems in relation to shopping centers open. Yet it opened up a new point of view—essentially the point of view of the large-scale store operators applied to the neighborhood store—a viewpoint used by other architects in subsequent developments with outstanding success.

*The Planning of Shopping Centers. ARCHITECTURAL RECORD, Feb. 1934.

THE ARCHITECT IN THE

A cluster of fundamental institutions foster and serve American life. Apart from government, these embrace such interests as religion, education, health, welfare, recreation.

The buildings that serve these interests are fitted to complex programs by architects working in close collaboration with the institutional heads.

Beyond making the buildings work, it is the architect's province to make them reflect the community's pride in its health, strength, and wisdom.

ARCHITECTURAL RECORD chooses its illustrations from the field of public education, stronghold of American freedom.

Eaton



INSTITUTIONAL WORLD

ARCHITECT AND EDUCATOR WORK TOGETHER

IN FEW REALMS have architects so intimately served another profession as they have the educators of American children.

First cities grew big and school buildings grew colossal. Too huge for the educator, these buildings began to split up—so that many a city high school today has a campus larger than that of a small college. Education was differentiated and vocationalized and forthwith new school buildings were differentiated and specialized also. Educators decided to lend their schools as democratic community centers, and architects built a new kind with convertible auditoriums and other community facilities. Education was expanded down to the nursery school age, as mothers at work found themselves no longer able to leave small children in the care of large families—and architects developed the modern nursery school. The problem of rural education became acute; architects helped educators meet it by means of the bus and the consolidated unit. Rural education for itinerant workers begins to be met with facilities conceived in relation to transportation.

Similar transformations inside the school involved improvements in equipment, such as new illumination, seating, storage; on the other hand the more important changes in educational method entailing visual and auditory instruction or the attitudes that created the "activity classroom."

Making no effort to unravel the whole architectural complexity, the RECORD presents an up-to-date architect's code of co-operation with the educational client. The following five-point policy was set up by *Roy Maynard Lyndon* of Lyndon, Smith and Winn, Detroit, a firm of architects known for its successful collaboration with educators in the design of school buildings:

1. *Determination of the requirements* by detail discussions: This necessitates a wholesome respect for the layman's thought at this point, regardless of its architectural consequences. Many times the client has definite ideas which he has no way of expressing except in terms of things he has already experienced or in terms of things which seem impossible "architecturally." A careful search of the elements that prompted these suggestions, along with intelligent analysis, sometimes brings forth amazing possibilities which the architect might easily miss because of preconceived prejudices.

2. *Complete organization* of the separate elements determined as part of the problem. This usually is done by means of diagrammatic charts showing circulation between and access to separate elements and their inter-relation in terms of their functions. At this point such a diagram should be without regard for architectural composition.

3. *A building design* developed from the organization diagram.

4. *Refusal* to submit even preliminary sketches until each element has been analyzed in detail and the designer is convinced it belongs there. The scheme must be "workable" at all times.

5. *Presentation* of the scheme in such a manner as to give the client an opportunity to understand the reasoning back of the organization of the plan and composition of the elements. Sound design analysis can almost always be interpreted in everyday language which the client is capable of understanding completely. Once the client does comprehend the thoroughness and sincerity with which the analysis has been made, the design becomes part of his experience. He is then not living with a building which he has only been told is "architecturally correct."

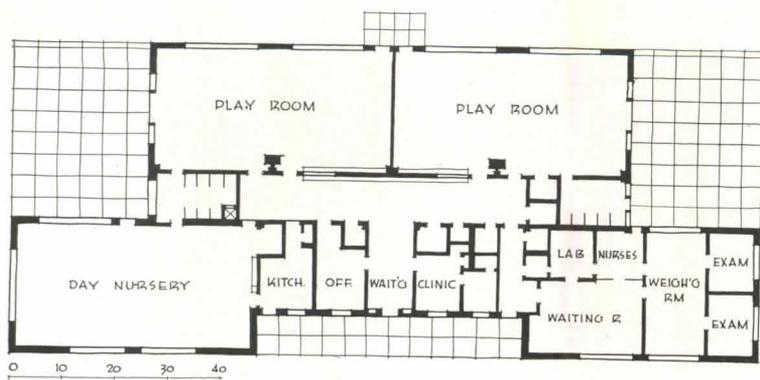
Opposite page

MARSH, SMITH AND POWELL, ARCHITECTS: AUDITORIUM, EL MONTE HIGH SCHOOL, EL MONTE, CALIFORNIA. When this high school was started, the school population to be provided for had reached the number of 1,750 and was still rapidly growing. Ten individual buildings made up the immediate construction program, and the playgrounds and other incidental facilities brought the group to a size and complexity surpassing many a college. The school is to be more fully presented in the April number of the RECORD.

HOW EXPERIMENTAL IDEAS WORK INTO COMMON PRACTICE

THE STEPS by which a forward-looking architect can bring new ideas into common educational use is illustrated in the methods of *Richard J. Neutra*, here compressed in statement.

The architect's first step was to ally his study of education with an alert new agency, in this case the National Youth Administration for whom he acted as consultant. Here he learned to "invest prolonged efforts in organization, in clarification of the program, as well as in generic design and construction" rather than the copying of old buildings. The position brought association with practical and forward-looking educators, and personal observation of the behavior of teachers and children in school. From this evolved a double study, one part dealing with a typical classroom for activity training, the other with structural systems related to sites and localities. Upon presentation of his full, carefully considered report to the Board of Education and its architect, the innovator was finally permitted to erect an "experimental building" to test his conclusions. With this test and resultant modifications, the new ideas began the process of dissemination into common use.



THE MODERN NURSERY SCHOOL, of which this building at Queensbridge Houses, New York, is an excellent example, arose in connection with housing schemes but is rapidly becoming a regular adjunct of any large-scale residential building operation. It is needed by mothers of young children who can no longer be left with the ample, permanent family groups of former times.

William H. Ballard, Chief Architect; Henry S. Churchill, *Frederick G. Frost*, Burnett C. Turner, Associates.

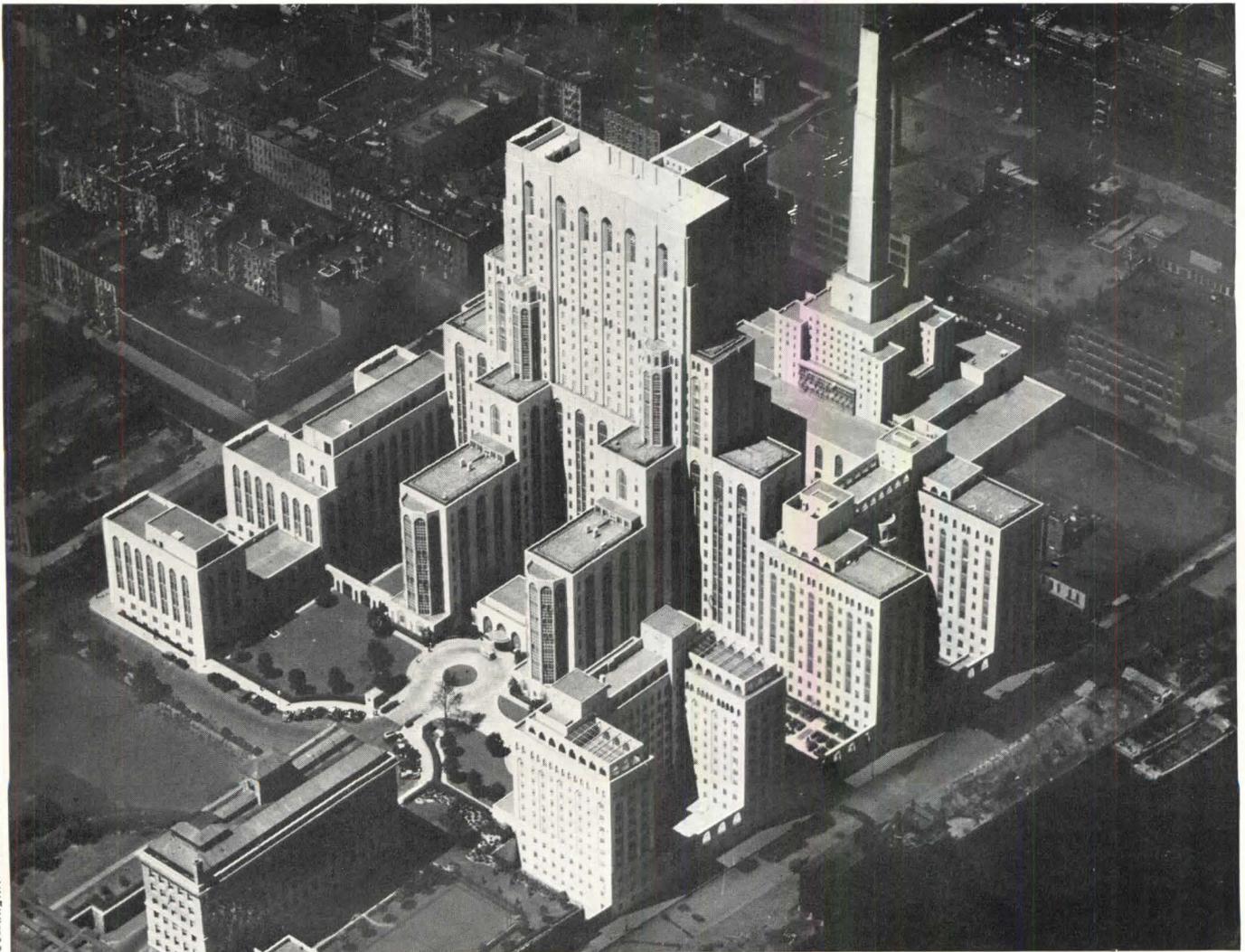
HEALTH CENTERS MEAN HEALTH FOR MORE PEOPLE

IS IT THE DOCTOR'S FIRST DEMAND that a hospital be "handsome"? Rarely. Doctors are desperately aware that available funds must be continually stretched to bring health to more people. Nothing is left for prettification. And yet a hospital or a health center must, paradoxically, work through its own appearance before the doctor inside ever gets a chance. The building has to arouse the community's confidence and enthusiasm in its own well-being.

This requires no extra money. It can be done with architectural skill. It was said of a hospital built not long ago in London that it made people begin to feel better the moment they approached. The cost of this hospital was low. The result was secured through shapes, arrangements, and colors that managed to convey the hospital's promise with confidence and quiet cheer.

The hospital architect has, in fact, a double duty. As a specialist, working with the specialists of the staff, he goes through the exacting and tedious work of arranging economically for the complicated instruments and methods of modern therapy. But then, the patient's room and hall and balcony are instruments of therapy, too, in which the psychological factor is not the least.

In a still broader context, *all* fine building today is characterized by its vivid adherence to the ideal of more abundant health.



McLaughlin Air Service

NEW YORK HOSPITAL AND CORNELL MEDICAL CENTER. Coolidge, Shepley, Bulfinch and Abbott, Architects

Bringing the outdoors in



THE ARCHITECT

AND THE HOUSE

Americans have always been a people intent on homes of their own. It is a measure of any country's freedom to what extent its people are able to work out their own homes in terms of the way they themselves like to live.

But conditions have become very complex. Much water has flowed since the time when Daniel Boone could be so independent that he resented the intrusion of a "damned Yankee" one hundred miles away. So the American who wants his own home today is faced by a well-known paradox. The more freedom he is to have in ways that matter to him, the more closely his own individual building program has to fit into an intricate scheme.

The many new kinds of financing agencies with their regulations are one indication of the complexity; the many new kinds of materials and equipment are another; so too are the conflicting theories on such matters as heating and lighting, which once seemed so simple.

In view of the complexity, the American home owner needs many kinds of architectural service today that he used to perform quite adequately for himself, or about which he could get sound advice from mechanics and builders.

• • •

- ▶ He now needs *continuous* access to professional advice for **CONSULTATION**.
- ▶ He needs a professional adviser today with a far more **SCIENTIFIC KNOWLEDGE** of fundamentals, so that the house may remain permanently sound.
- ▶ The building of his house has become a far more **COLLABORATIVE** effort, calling for a combination of many kinds of special skill, which can be organized, in one way or another, only by a trained specialist, the architect.
- ▶ He is in greater need than ever of a **REPRESENTATIVE** to protect his interests in a complicated field of business.

• • •

So these are the kinds of service of which **ARCHITECTURAL RECORD** took samplings. These are the kinds of architectural service, rendered today, that look not to the conditions of the past but those of the future.

THE HOME-OWNER NEEDS CONTINUOUS

ARCHITECTURAL RECORD interviews **WILLIAM WILSON WURSTER**, Architect, about a plan that makes it practical to consult the architect on problems small as well as large, or when the purpose is to test the project before irrevocable decisions are made.

BY AND LARGE, home owners have not yet learned to get anything like the help out of their architects that they habitually get from doctors. This is because they have not yet learned to use the architect as they use the doctor: in the capacity of a consultant. Big industries do it; big institutions do it; but rarely the ordinary home owner.

Because it acts as a brake on progress, this was a situation that ARCHITECTURAL RECORD decided to investigate. In the complex world of today, surely people need access to expert help on all occasions. And they would be only too happy to receive it if they knew how to proceed. So the reporter sought out an office in which consultation, on small things and big ones, had been made simple, business-like and fruitful. And just such an office was found on the West Coast, and the RECORD counts itself fortunate in having enlisted the aid of the head, *William Wilson Wurster*, for an exposition.

Multiplied by the thousand, such use as his clients have been able to make of Mr. Wurster's services would be a great thing for America.

In this office, many kinds of buildings are designed besides houses, but the houses are what chiefly concern us. The work on houses is remarkable because the building of a mere wall in the back yard next to the kitchen receives the same expeditious attention as the planning of a large apartment. Clients find it as easy to ask Mr. Wurster about remodelling two attic rooms as they do to ask about a new country home. Still further, supposing the building project to be a large one, they find it possible to use the architect's advice in pursuing a full exploration, without a commitment. That allows them to withdraw or go ahead, according to what develops, without harm in either case to either party.

Based on known costs

The answer to the riddle can be found in an adaptation that Mr. Wurster has made in handling work. In brief, he knows his office costs. With the help of an auditor he devised quick ways of ascertaining the cost of any job to date. That gave him an equitable way of fixing a charge, whether much had been done or little.

Before examining how the method has worked, it may be wise to describe the salient accounting features. An architect employs men to make drawings, draw up specifications, supervise erection. To their salaries must be added an office overhead. Under the scheme, this must include only very tangible items, such as rent, phone, automobile, and typing; in practice, this has added just about 50 cents an hour per man. All operations possible are on a piece-work basis, and generally the same team of two men follows any one job through all its phases. There is added a separate charge for the architect's own time, as a fee.

When the problem is "small"

Let us examine how such a method might work. Assume that a house owner is interested in the "simple matter" of a change in his heating system. He calls up his architect friend and is shocked when the information is not given free. The architect explains that he could deliver an off-hand opinion but it would be worthless. However, he will be pleased to find out what should be done, and the client need pay him only what it costs. The next time one of the architect's men is in the neighborhood inspecting construction, he runs over and takes a look. He happens to discover a special condition that greatly affects the answer. For a cost no greater than having a cold treated by a doctor, the client is saved more than the same amount on new equipment, plus ten years of discomfort and expense with operation. The whole handling has been business-like.

Such an "audited-cost plus fee" scheme of consultation, where it can be

WRONG

The architect felt pretty sick. He had just lost a valuable commission because of a busy phone. Mrs. McPhilpott had been calling again for some more free advice on a dog house. It was then the important call had passed the architect by.

So the architect was in the drug store, thinking about getting something for headache and nausea. Just then the doctor came in.

"Awfully glad to see you, Doctor," exclaimed the architect. And he asked the doctor whether the drug he had in mind was the right thing for the way he felt.

"Yes," said the doctor.

The next day the architect received the doctor's bill for \$5 for "professional consultation." And just as the architect was about to hit the roof, his friend the lawyer came in.

"Bill," the architect exploded, "tell me, has the Doc any legal right to do this to me?"

"Yes," said the lawyer. And the next day the architect received the lawyer's bill for \$10 for "professional consultation."

ACCESS TO PROFESSIONAL ADVICE

adopted, is of special use on small jobs, exceptional jobs, and tentative jobs of building.

There are times, for example, when something that is complicated for a contractor to build is easy for an architect's force to draw and supervise. There was the job, for example, involving the remodelling of two rooms on the top floor. Due to unusual conditions, the construction cost was high: about \$7,000. Yet the architect's part, based on the time and cost records, was inexpensive. His office cost came only to \$200, to which was added his personal fee, also based as usual on actual time devoted to that job.

When conditions are uncertain

How a building enterprise can be affected by rapid changes in the owner's business is illustrated by Mr. Wurster through the experience of a bank; but the same kind of change may easily affect any other building enterprise. This bank started with an ambitious branch project to cost no less than \$50,000. But before this branch could be built the appropriation was cut to \$20,000 and then to \$10,000. The architect therefore had to draw plans for no less than three separate buildings in a row and to take bids and supervise construction for one. That one was the cheapest of all three, yet it had to bear the preliminary architectural expense of all three. Analysis revealed, however, that the actual cost had run unusually low. Not counting the architect's own fee, the cost of the preliminary drawings for the \$50,000 plans had been about \$350, and for the \$20,000 plans about \$250. With different luck this "wasted" office cost might have been much higher; but as it actually worked out the architect was able in the end to handle the whole operation profitably, while the client had a very pleasant surprise.

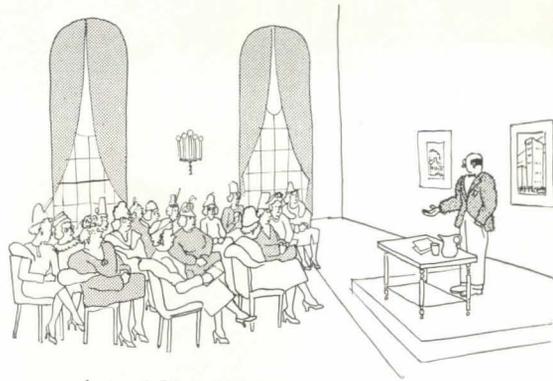
This story has a strong bearing on the case of the owner who for some reason cannot know ahead just where his building plans might take him. How many a project is dropped that would have proved feasible if an architect had been permitted to make preliminary drawings as a test! Some problems are tougher than others and have to be carried farther. Even so, supposing that someone like that bank had decided *not* to build after getting two separate full sets of architect's drawings, then the sum of \$600 plus architect's fee would still be a low price to pay for finding out that one should spend neither \$50,000 nor \$20,000!

Wasters must be losers

When an architect's charges are based on time and cost, the price is naturally high to those who waste his time. Mr. Wurster believes that people in general want the architect to make a living and are willing to pay for what they get. Yet it has happened, as a great exception, that the office costs (not counting the architect's fee) have run as high as \$5,000.65 on a \$45,000 house. In all cases there should be a prior agreement covering this eventuality, especially where drawings are abandoned due to the owner's change of program.

Is the particular *method* outlined here to be considered universally applicable? Mr. Wurster does not believe so himself, and certainly the more usual "percentage" method worked out by the American Institute of Architects is based on long experience in a large number of communities. There are special handicaps against basing charges on audited costs plus a standard fee rate in towns where work is slow. Only a busy office can multiply efficiencies in such a way that the added volume brought in by the method actually lowers expense; in slow towns there is a temptation to "make work" that may bring the ultimate cost to the consumer above the percentage costs.

Yet as we proceed into a busy future and the building industry picks up speed, efficient service based on closely calculated cost may be expected to result in a great deal of useful service to the coming America.



—but not like this.

RIGHT

The client had no new house in mind he was going to buy an old one. And yet he asked the architect to come along.

So they looked at houses, and the architect thought them all over at the end of the afternoon, and he said, "Bill, I think you ought to take *this* one." And Bill said, "I believe you are right; that's the one I'll take. And now what do I owe you for your time?"

And the architect said, "Bill, it's been a pleasure, and I wouldn't think of asking money from a friend for mere advice!" And Bill was very sore. He said, "I wouldn't ask anything like that of my doctor or my lawyer." So the next morning the architect received a check for \$25.

And this proved that Bill was a very good business man. The \$25 represented less than 1 per cent of the \$3,000 he had paid for his house. But he had saved a minimum of \$500 that would have been required for repairs on hidden faults in the house he would have bought if he had not received professional advice. And he was still in a friendly position to receive the same kind of aid in the future, whenever he might need it again.

COMPLEX CONDITIONS CALL FOR EXPERT KNOWLEDGE

With the aid of PAUL SCHWEIKHER, Architect, an examination is made of some of the things a client may not think about until too late unless he receives really expert help.

NO ONE HAS EVER LISTED all the different kinds of fancy that have led people to build homes. Any such list might well beggar the most fertile inventions of novelists. In a free country all of these fancies are legitimate.

Quite naturally, when anyone thinks of a home, those personal needs, habits, idiosyncrasies, are high in his mind. That is where *he* come in. And by some quirk, people seem to fasten on their special fancies—whether it be a breakfast nook or pretty shutters or a screened sleeping porch—with such intensity that they sometimes fail to conceive the picture of a sound and livable house.

On the other hand, there is an extremely intricate set of circumstances into which any house built today must either fit or else come to grief. That is where the *architect* comes in.

Cartoonists have made sport of the enterprising architect's probings. The architect's dilemma is not so funny, however, when some pet object, dreamed of for years, threatens to upset the soundness of the whole scheme. It may be a fireplace requiring a whole separate chimney. It may be a sun-porch on a lot where there is neither privacy nor sun. Such small discrepancies seldom bother those unprofessional advisers who are so ready to supplant the architect. Yet the architect can visualize today how the client will feel about it day after tomorrow!

So the architect is justified in asking some of those impertinent questions about the client's family. He is trying to uncover the basic desire underneath those gadgets which homeseekers so love. He may be able to supply the real need in some other way, a sound way, which the client had not thought about for no other reason than the fact that he, the client, was not an architect himself!

The surroundings affect the house

It is an oddity of home-seekers to pay the architect good money and then give him only half a chance. Some of the finest opportunities to provide soul-satisfying homes for clients are cut off from the architect before he ever begins. That is because he is so often not consulted at all about the purchase of the lot. Any house is tied irrevocably to some piece of land, and can never be any better than the land allows.

Clients would never cut off their own chances in such fashion if they understood *how* the architect helps. The client is in a position to know very well what school he would like to have his children attend, how far he is ready to travel to his place of work, where his wife wants to shop. What he cannot know is what lot will permit the best placement of his garage, the best chances for privacy in his garden, the fullest use of the sun, the shelter of a tree, or all the little things that make the difference between existing and living. He does not know because his experience is limited. He can imagine houses similar to half a dozen belonging to his friends. But in the hands of a skilled architect the possibilities of variation are never exhausted.

There are some other forces outside the house besides land that have a decisive effect on it. Some of the most obvious are the ones about which we all know the least. For example, there is scarcely a home-seeker anywhere who doesn't know what he wants of the sun. He has not been spared hearing about it, either. Every housing exhibit praises "sunlight and open spaces."

And yet there are many effects of the sun on a house about which home-seekers in general know next to nothing, and for good reason, since the architects themselves have only just found out.

This might seem incredible, since human habitations during thousands of years have stood in the sun. And yet a large part of the builder's concern was always to protect the house *against* it. During the past decade the idea that a house, like a plant, might respond *positively* to the sun, struck like a revelation. Surprising discoveries are made every day about the effects of simple sunlight. Only one home-owner in a million might be expected to know that "a wall facing due north receives more hours of sunshine than a wall facing any of the other seven directions at a latitude 30 degrees north." And yet it is of utmost importance to him that in the light of such studies architects have completely reconsidered what was once the cut-and-dried subject of "orientation." Architects manage roof overhangs, for example, to protect against high-angle summer sun and still collect, through the same glass, the light and warmth of low-angle winter sun. In other words, the same qualities in glass that have been found useful in greenhouses for plants are now managed economically in behalf of human beings.

These are technical matters. It is quite as important for architects to watch them with care, and avoid being misled, as it is to know about them. But ignorant advisers cannot begin to serve home-seekers on these things as qualified architects do.

There are new ways of gaining space

When it comes to planning the inside of the house, every family has some special desires and requirements of its own. And yet it may safely be said



Hedrich-Blessing

HOUSE IN PARK RIDGE, ILLINOIS. Paul Schweikher, Architect, William B. Fyfe, Associate

that in one respect nearly all are alike. All would like to have the greatest effect of spaciousness for the same money—especially if the house is small.

Untrained builders and amateur advisers are likely to skimp construction or equipment to get the money for more space. The architect's approach is more careful, deliberate, and ingenious. He makes use of the greater informality of present-day living, the absence of servants, and the introduction of new devices such as movable partitions, to eliminate unnecessary subdivisions, to create fewer but larger rooms.

An accepted simplification of the inside of a house is the combined living and dining space, or sometimes the "breakfast bar" accessible to both dining room and kitchen, or even the use of the kitchen itself, on new terms, as part of the living space.

Plan simplifications

Going still farther, many families are ready, for the sake of really expansive, spacious interiors, to let their houses be resolved into just two major divisions: the place for living and recreation (with kitchen and garage attached) and the place for rest and sleep (serviced, of course, by bathrooms). An architect who is ready to think of the inside of a house as something other than a series of boxes may even arrange matters so that the two main areas can be thrown together, when this is desired—for large parties, for example—and separated again by sliding walls for privacy when that is required. Incidentally, the arrangement of a house in two wings, with a glass wall at the angle, can pull the court or garden outside right into the space composition of the house, so far as the effect is concerned. Thus a whole "outdoor room" is gained almost free, since there is no expense of

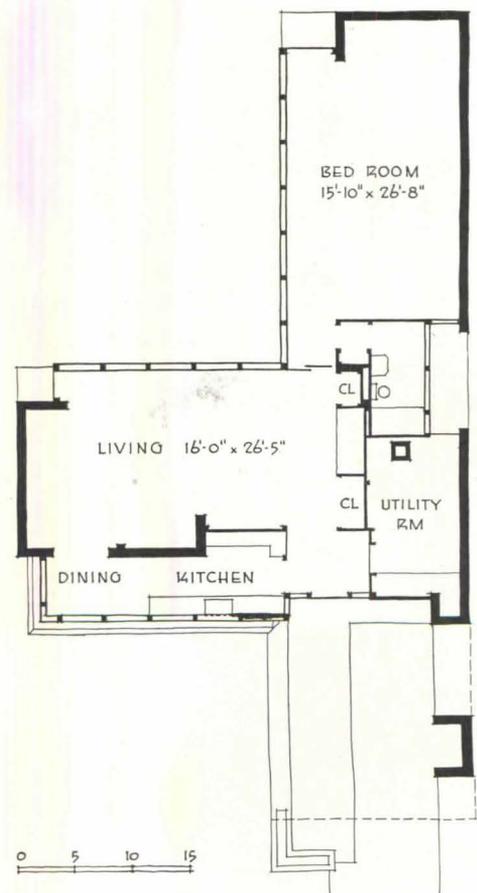
A PLAN for a client with an informal modern way of life. Just three main spaces: one for resting and work; one for living, dining, entertaining; one for the handy preparation of snacks as well as meals. By opening into one another the spaces increase in apparent size; but they can be closed off when privacy is wanted.

"HEAVIER TIMBERS look well uncovered, and therefore save the need of false walls and ceilings. . . . Obviously, though, poor craftsmanship cannot handle this kind of work."

Photos by Hedrich-Blessing



HOUSE IN PARK RIDGE, ILLINOIS.



roofing or heating it, and a whole new series of possibilities are open in the use of the garden.

Heating, lighting, ventilation affect one another

Another set of factors in a house is found in lighting, heating, and ventilation. These all affect one another. So the architect knows—though others may ignore—that a change in one will affect all the rest, like a house of cards.

Suppose one began with the windows. For some centuries after the introduction of clear glass, a window did three different things. It gave light, admitted air, and was open to the view. For light and view the window is still admirable, but it is doubtful whether this is true of ventilation.

We are not speaking here of closed windows for the sake of air conditioning. Mechanical air conditioning requires the utmost tightness in fixed panes of glass. Rarely can the owner of a small house afford it.

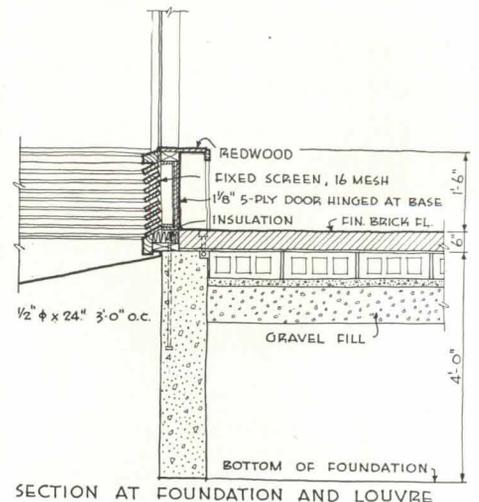
We are speaking of the window that lets in air but, in our country, lets in clouds of flies and mosquitoes too. So we screen it, and that clouds the view. Recently, however, architects have devised a method of ventilation that leaves the window tightly closed with no need for any screen. Vents are located *under* the windows, or *independently* of them, in places where they let in cool summer currents with less likelihood of drafts.

By that, however, the window itself is transformed. Freed of sash, frames, and devices for opening it, the window is just a glass panel in the outside wall. Not opening, it can be placed far more freely in the plan. It need be no single "hole in the wall." It can be expanded into any shape or become a full-length transparent wall in itself, with only enough framing to hold the glass panels tight.



"PANEL HEATING" is carried right back to the methods of the Romans in their public baths. Masonry hot air ducts (see section) heat entire floors and walls of which they are an integral part.

The section also shows the ventilation system, separate from the window, that simplifies the problem of screening.



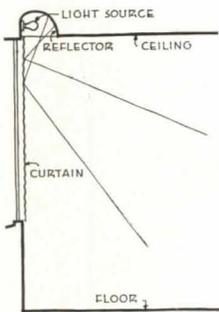
SECTION AT FOUNDATION AND LOUVRE

Paul Schweikher, Architect, William B. Fyfe, Associate

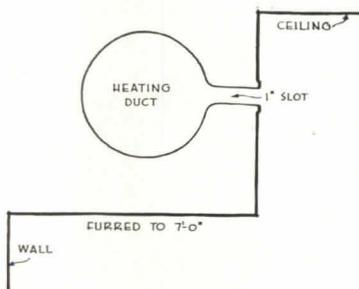
EVEN A SMALL HOUSE IS THE PRODUCT OF COLLABORATION

Describing an enterprise which seeks to give the home-builder the same kind of expert service, on practical terms, that is given to large developments.

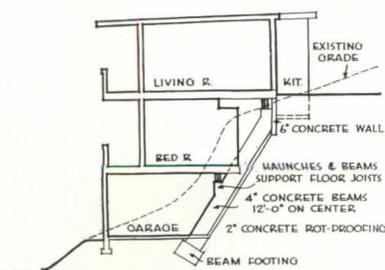
COLLABORATION among illuminating engineer, furniture designer and architect:



THE LIGHT SOURCE is concealed. The curtain reflects the light, which comes from the same direction as daylight, making room arrangements easier.



THIS DUCT is "furred" below the ceiling and over corridors, to eliminate cutting the frame. The slotted duct acts as a small plenum chamber. Registers are eliminated. A distinct saving achieved by the collaborating engineer.



THIS METHOD of placing footings on a hillside eliminates a retaining wall eighteen feet high and as long as the building. The cash saving might be a thousand dollars.

THE LARGE-SCALE PLANNERS have dinned it into our ears that building a large housing scheme is a complicated operation. By comparison a small house, or any individual house, looks simple; so simple that many owners have been willing to put them up with no architect at all.

The idea has, of course, received considerable promotion; and yet no assumption could be factually more wrong, or more undemocratic in its results. For the result is that the individual, and especially the one with limited means, puts up with something ill-considered and second-rate.

That is not the kind of result that satisfies the reasoning, sound, and enterprising architect today in any field of building. And in the course of looking at various plans growing up within the responsible profession, ARCHITECTURAL RECORD has found a tendency to seek *more* expert service instead of less in the difficult field of the individual house, especially the small one.

The essence of the plan the RECORD has chosen for description is that it parallels, in the individual house field, some of the methods that have proved so fruitful in the big subdivision. Instead of eliminating the architect, it supplies him with an added corps of specialists. Instead of skimping and cutting the small house, it creates many of its savings by actually enlarging the scope of what is offered, the landscaping and the basic furniture of the house being drawn into the full package. The test to which the collaborators will have to submit is whether, with the undoubtedly better quality achieved, they can stay within the competitive framework. Although the operation has as yet no long history, the indications are good.

The participants are young professional men, who work in collaboration. The specialists involved, other than architectural, are a structural, a mechanical, and an illuminating engineer, besides a landscape and a furniture designer.

The key man in the procedure, the one who organizes and directs it all, is still an architectural rather than an engineering head. An architect under such a scheme becomes not precisely a "master builder" but rather an "executive of construction." Quite naturally, for the specialists involved this is not full-time work. It takes on the nature of an "extra," small jobs evening up in the long run with large ones, the whole enterprise putting the associates in position for larger things.

All the collaborators are acquainted with the general concept of the house from the very start. They work, not one after the other as in a chain, but simultaneously as in a ring. Some of the most surprising gains in the battle against costs are made by sudden lateral passes from one specialist to another. Thus, on one job reported by the group, the architect has left out of the general contract the paving of the driveway and the stone walls and stairs, but has included the garden grading. This is because the landscape designer takes over, using a less demanding union than the building contractor does. The resultant savings more than cover the landscape designer's fee. Moreover the general contractor's 10 per cent is not added on the "omitted" items. Again, the furniture designer and his office have worked out standard storage units, made up in furniture mills instead of the usual building mills. Both bear the A. F. of L. stamp, but the wage differential is one-third and the total savings on a very inexpensive house are \$60.

There would be no over-all saving if the method of procedure were too elaborate and formal. In practice, the architect's drawings, made after the preliminary conferences, go the rounds, and the engineers check and add needed details for incorporation. With the aid of the master specification each engineer writes out the specification for his part of the work. So, too, inspections are made by different men in accordance with the needs of different houses. Sometimes, on a hillside site, the structural engineer may have to go so far as to have his man supervise the entire concrete pour for the foundation.

To the architect himself the chief gain is that he loses no time in close study of fields that only occasionally concern him, and that equipment in specialized fields is based on recommendations of professional men instead

of random salesmen. So, too, the thorough nature of the preparation merits contractors' respect and gets lower figures, as also it wins the respect of fiduciary agencies such as FHA.

The client pays a single fee, all to the architectural leader, who does the bookkeeping and divides with his associates.

For the client, the great advantage is that he possesses a really integrated house. Even his furniture has no awkward period of seeming out of place, since the house itself and the new furniture as well are planned in relation to what he already has! He turns the key into a house all ready for him to spend the night.

The enterprise, as a whole, is not the only one or the last one that will be undertaken within the trend it indicates. The trend is highly significant. More training, more scientific knowledge, more correlated skill applied to the problems of the common man—that is the up-to-date architect's contribution to a thriving America.

OWNERS NEED A BUSINESS REPRESENTATIVE

CLARENCE W. W. MAYHEW, Architect, supplied the facts and form for this story about Mr. Simpson. The root of it is that an architect's drawings coupled with architect's specifications and supervision are a very different thing from non-professional documents that may look much like them.

SIMPSON WANTED A GOOD HOUSE and felt sure of getting it because his brother-in-law was a good builder. But he finally went to an architect. It was the outcome of a conversation with the reporter.

Simpson was ready to concede certain advantages to the architect, Mr. Roberts, from the start. He knew Roberts could make fine plans, could get a lot out of materials, and had distinguished houses to his credit. But Simpson didn't think he could afford ten per cent for that. Yes, he knew that *someone* had to make the plans. He knew that his brother-in-law employed only a part-time student draftsman. But still he felt that his brother-in-law would save him all he could; more than that, Simpson felt he was under some family obligation.

"Then," said the reporter, "let your brother-in-law be *one* of the bidders. But remember that any one set of plans, even if they are carefully drawn and sent out with the same tight specifications to six men, will bring bids that vary as much as 15 to 18 per cent or more.

"In other words, if the low bid is \$10,000 then the high bid will be at least \$11,800, and maybe more. And it is only with a good architect that they will be that close.

"Suppose, now, that your brother-in-law is one of the six bidders. He has one chance in six of submitting the low bid. Suppose he is your brother, I think you will still agree that competition has helped him sharpen his pencil and you have the satisfaction of knowing that you are not paying him more than you should for your home. On the other hand, suppose he was the highest bidder. Then you would have been paying him \$1,500 to \$1,800 more than the job was worth. That's quite a Christmas present and a good deal more than you would be paying Roberts.

"But there is one other aspect I would think about still more.

"You say you either get a set of drawings and specifications from an architect or you get them from a good builder, and in either case you have the same thing, a set of working drawings and of specifications.

"But they are not the same thing at all. Suppose your home is being built, and the builder has prepared the drawings and specifications, and an argument comes up about some detail or sentence. In that argument the builder will always have two votes to your one. One vote because he made the drawings and therefore can interpret as he sees fit, and one because he is the contractor. You as owner have one vote. Who do you think is going to win the argument?"

HOW MRS. TAYLOR CAME TO APPRECIATE THE ARCHITECT

AFTER SEEKING for practical understanding elsewhere, Mrs. Taylor found it at last in an architect's office. The story is presented without comment, in five exhibits. The first is Mrs. Taylor's own letter to the RECORD; the second her original sketch plan; the third, the version made by a "practical" builder; the fourth, the architect's plan; and finally, the fifth, illustrations of the house as a "delightful reality."

EXHIBIT 1. Mrs. Taylor's letter to ARCHITECTURAL RECORD. As a representative client, Mrs. Taylor had positive, intelligent desires.

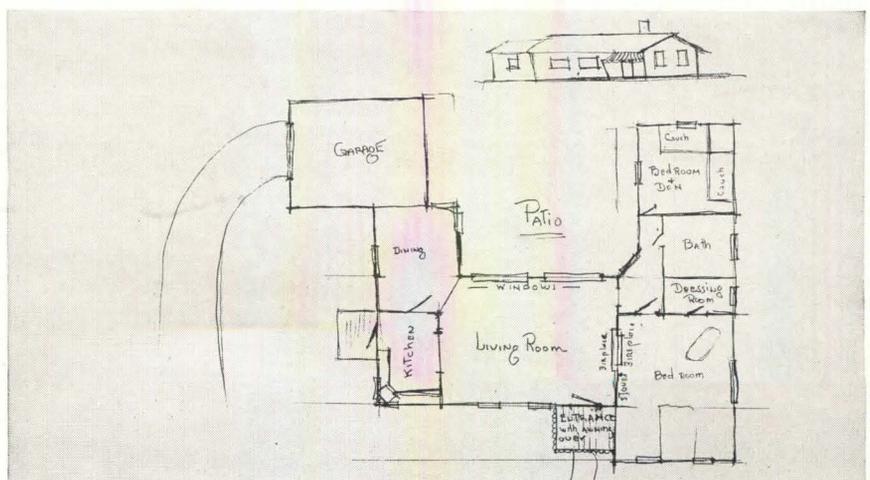
It is not quite a year since the intense desire to own and build our own home first struck us; and now that which was only a desire a short year ago is a delightful reality.

We decided when we first planned to buy the property to get away from the city and city life and have a home where we could live out-of-doors as much as within. Therefore our location was important both for climate and accessibility to San Francisco. For these reasons and for many others we chose Marin County, which is but a short drive via the Golden Gate Bridge to the city.

We found, after a month of searching, a large lot, nearly one-half acre, which was ideal for us from every aspect. Level land with many beautiful oak trees and soil which gardeners tell us will make our gardening simple and a joy forever.

Our next thought then was the house. I had been sketching floor plans for some time and had finally gotten a pretty good idea of just what I wanted, with a few pet ideas firmly set in my mind, although I was at a loss just how these desires could be carried out. For example, I was certain I wanted as much glass used as was possible. I knew with many huge windows our idea of bringing the out-of-doors into our living rooms would be realized. But glass, lots of it, sounded expensive, so I kept my fingers crossed. Also I had my heart set on a fireplace in the master bedroom; this I have longed for since I was a child. My living-room fireplace was, in my mind, to be more than a fireplace, in that I wanted an entire wall of stone with a flush fireplace. These were my three most cherished "wants."

EXHIBIT 2. Mrs. Taylor's own sketch plan. Though untrained, she has a strong architectural sense. Her "pet" ideas were, "as much glass as possible, a fireplace in the master bedroom, an entire wall of stone with a flush fireplace in the living-room."



So with my plan sketched in detail I consulted a general contractor who had been recommended to us. During my first interview I could see my ideas

were going to be a stumbling block. In fact, my glass house idea was most impractical, I was told. Too expensive, and heating a house like that would be impossible. Also the cost of an additional fireplace was not advised, for a bedroom fireplace was a useless luxury. Then, worst of all, the stone wall was out—too heavy for a small house, and a dozen other reasons why it wouldn't work. Therefore, in one short hour my "pets" fell by the wayside. However, in spite of my disappointment I allowed the contractor's draftsman to prepare sketches for us using my floor plans as a basis.

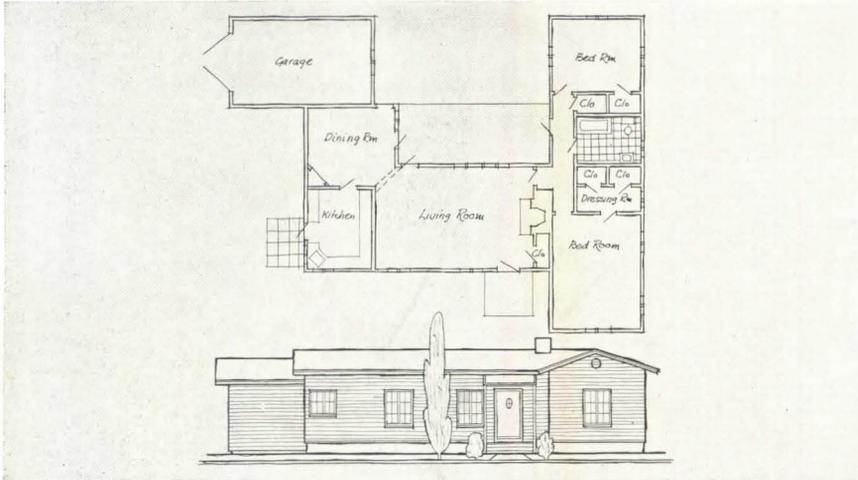


EXHIBIT 3. The sketch of the contractor's draftsman. "In one short hour my 'pet' ideas all fell." No bedroom fireplace, no glass wall, no stone at the fireplace end. "Otherwise, the draftsman had followed my plan to the letter, which surprised me. I wanted improvements. I definitely am *not* an architect."

I saw these sketches a few days later. I was, of course, disappointed, for, as I feared, there were no big windows, stone wall or extra fireplace. Other than omitting these points the draftsman had followed my plan to the letter, which surprised me. Naturally I wanted my ideas carried out but I also wanted improvements and new suggestions made, for although I had ideas as to what I wanted I definitely am *not* an architect. The exterior sketches were a disappointment, too, for I definitely wanted our house to look new and modern and, of course, different.

Determined, regardless of opposition, to have our house as near my dreams as possible, I looked to San Francisco architects with my problem. I consulted several men but finally took my floor plan sketches to Mr. Dinwiddie. I had seen photographs of his work in various magazines; in fact, the big windows I wanted so badly I had seen photographed from one of Mr. Dinwiddie's houses. After presenting my problem to him I felt sure I had "found my man," as it were—for he knew just what was wanted and it all seemed suddenly simple.

The results of Mr. Dinwiddie's first sketches made me jubilant, for there they were—my glass, two fireplaces, and a stone wall. Working with an experienced architect is such a pleasure, for they know so many tricks and new ideas it inspires an owner with a feeling of confidence and a sureness that you are going to have the best in everything whether the house be large or small.

Today our house is finished and is our pride and joy. All who see it are impressed by its beauty, simplicity, and definite feeling of the newest in modern design. Through the architect's influence our house was built by the best builder available, which I think is most important. Without an architect one can be so easily ill-advised in the matters of construction.

We have in our home everything we wanted and, too, our patio and garden is virtually part of our living-room, which is exactly as we hoped it would be.

Our experience has proved to us that the best money one spends when building a home is that which goes to the architect—especially when the owners want particular ideas and wishes carried out in the most beautiful and practical manner.

HOW MRS. TAYLOR CAME TO APPRECIATE THE ARCHITECT

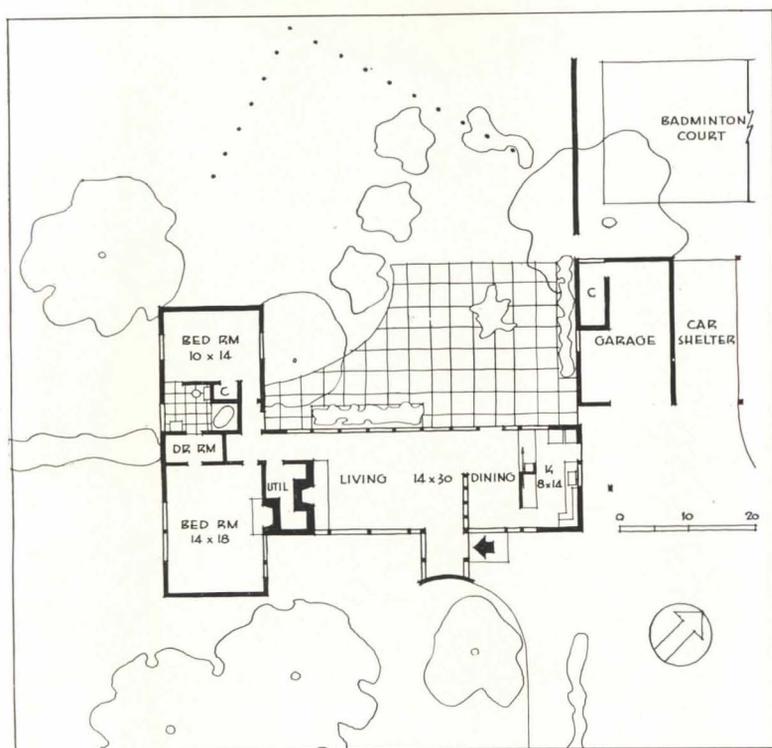


EXHIBIT 4. The architect's plan. Mrs. Taylor's "pet" ideas are all in, and more. The plan takes account of trees, grounds, planting, approach, and the all-important directions of the compass.

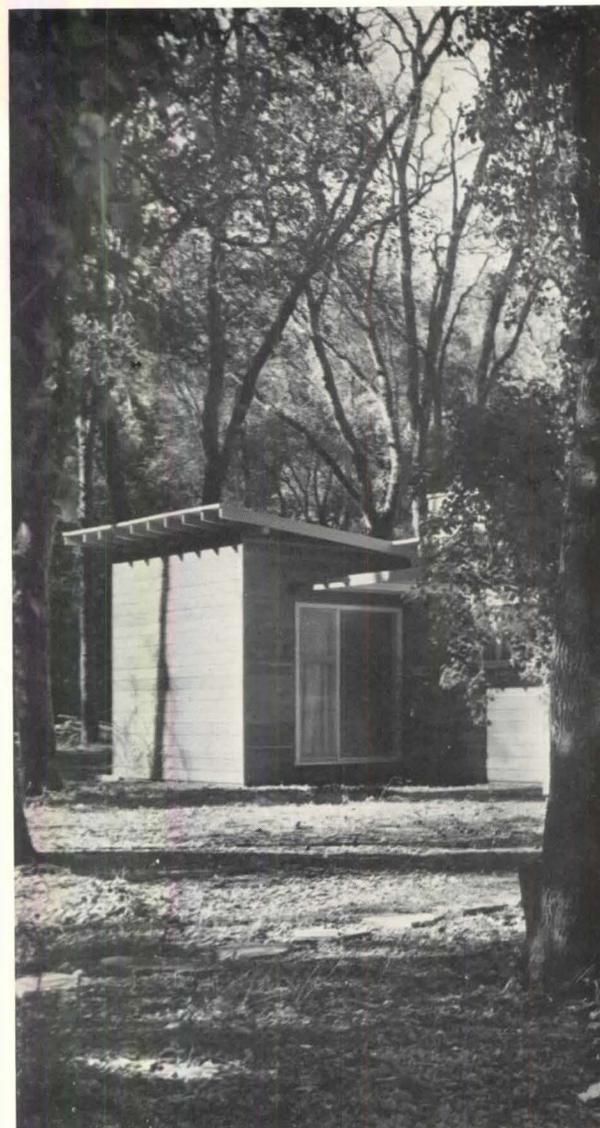
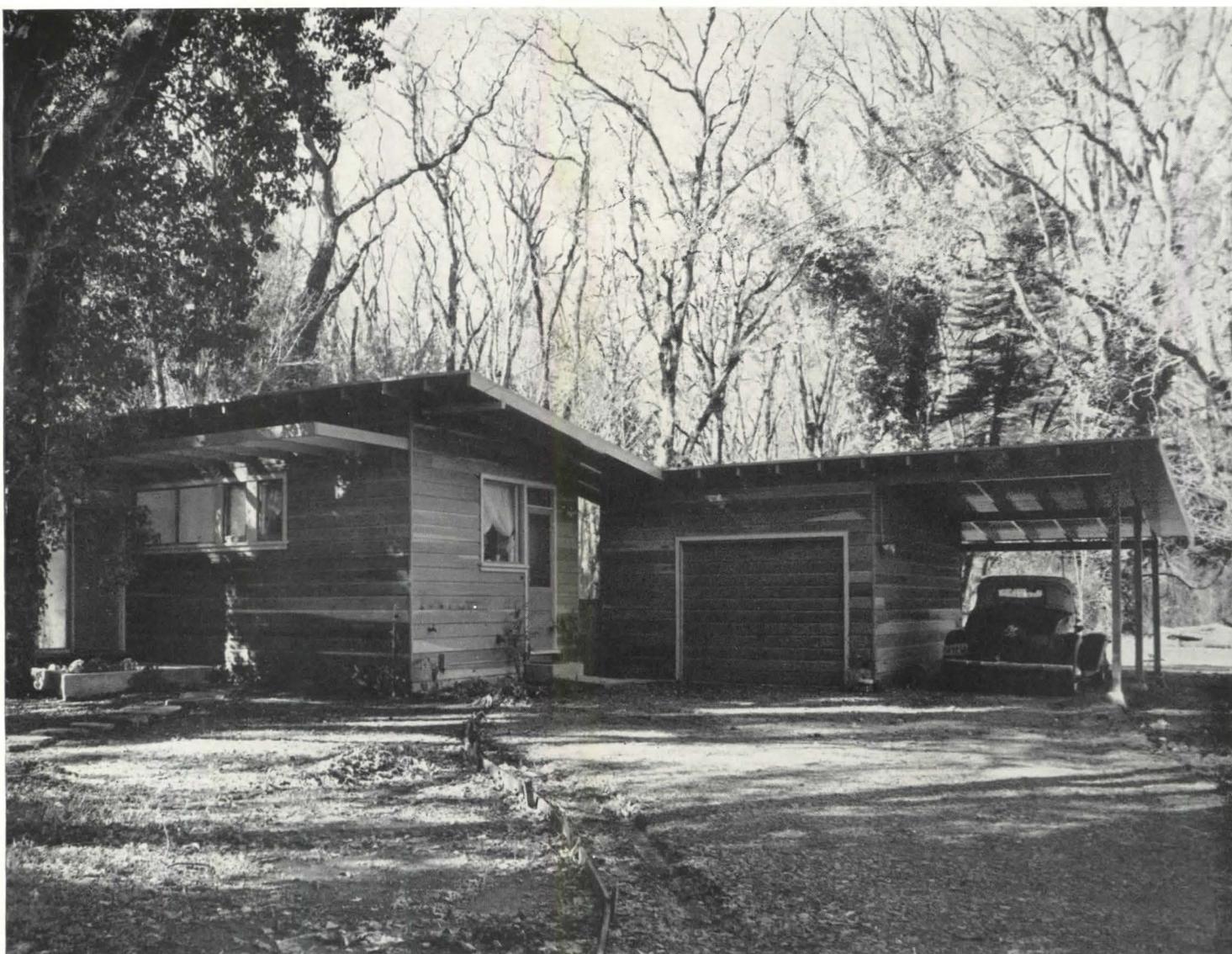


EXHIBIT 5. The House

JOHN EKIN DINWIDDIE, Architect, ALBERT HENRY HILL, PHILLIP E. JOSEPH, Associates

"I was certain I wanted as much glass as possible. . ."





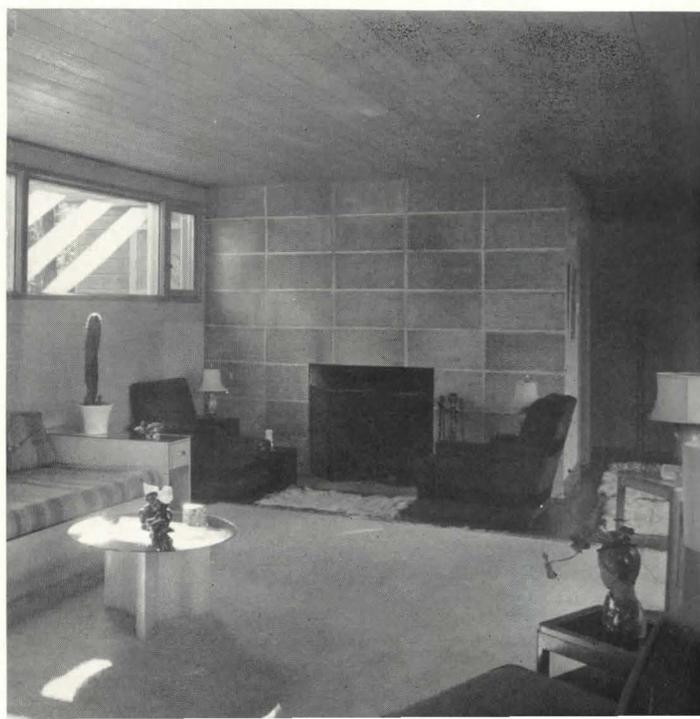
Photos by Roger Sturtevant

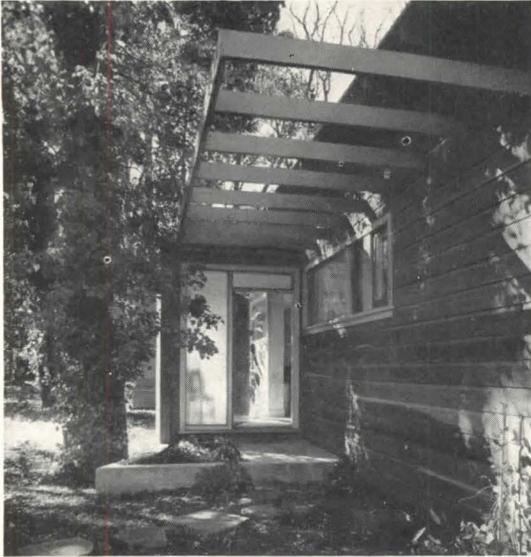
"I wanted the house to look new and modern, and, of course, different."

"... bringing the out-of-doors into our living rooms."



"I wanted an entire wall of stone with the fireplace."





JOHN EKIN DINWIDDIE, ARCHITECT,
PHILLIP E. JOSEPH, ALBERT HENRY
HILL ASSOCIATES (continued)

PERGOLA



LIVING ROOM detail, showing glass screen



Photos by Roger Sturtevant

BEDROOM (bar in foreground)

THE ARCHITECT'S SKILL RESULTS IN LONG-TERM PERFORMANCE

ITEM 1. *The House at Melrose:* The requirements were: a living-room, dining-room, kitchen, good-sized study, with paneling and lots of book-cases in living-room and study, and built-in sideboard in the dining-room, and the stair so arranged that the second floor could be reached without going through the front hall or the living-room. And all this with one staircase—as well as four bedrooms and a studio. The problem was to get all this built for \$7,500. The problem was taken to one real estate man and several builders. The lowest price received was considerably over \$8,000. The house was subsequently taken to the architect's office and done for a little over \$7,500 including the fee. That an "extra" value came with the architectural treatment at no added cost is to be inferred from an excerpt out of a letter from the client:

"After my husband related his conversation with you, I couldn't resist writing to beg you not to consider any whims of mine that might detract from the charm of this masterpiece you are creating."

ITEM 2. *Excerpt from the letter of a real estate operator:* "... As the foremost real estate office in this city, also covering surrounding territory, I always recommend to builders that they engage architects to plan their houses for them, at least. I have been following this procedure for the past ten years and can say without any reservation that there has been a marked improvement in the quality of both speculative and private houses since. . . . Do you recall the brick-end Colonial house designed by you which was so popular that several people wished to buy it?"

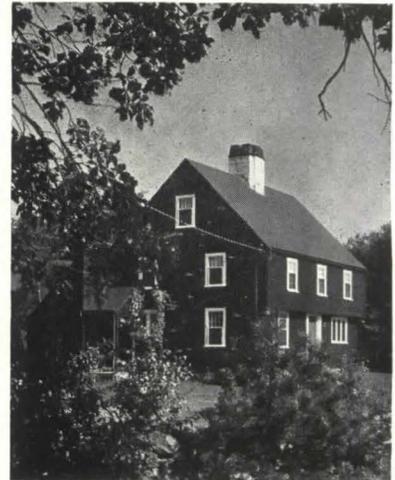
ITEM 3. *Excerpt from the letter of a real estate operator:* "With many of the houses in our development the procedure has been, as you know, to sell the house before construction from the architect's sketch, and we have found this superior to any amount of sales talk. It would have been impossible for me to obtain some of my contracts without the services of the architect, and I know that builders who try to get along without architects can compete only on the basis of price. Another thing I have found is that the architect's contact with all the new materials in the market and his opportunity for research often contribute to definite savings in construction costs, without sacrifice of quality."

ITEM 4. *Excerpt from the letter of a builder:* "In all of our speculative building we have never attempted to proceed without the services of an architect, and find we have been well repaid for this procedure. Time and again we have sold houses before construction was even started, simply from architects' sketches. At other times prospective purchasers have definitely preferred our architect-designed houses to houses in other developments that were obviously built without the aid of architectural service. There is no question in my mind that the balanced appearance of a well-designed house is beneficial in selling. The fact that many other builders have attempted to copy the houses we have built is proof that they must be considered very attractive."

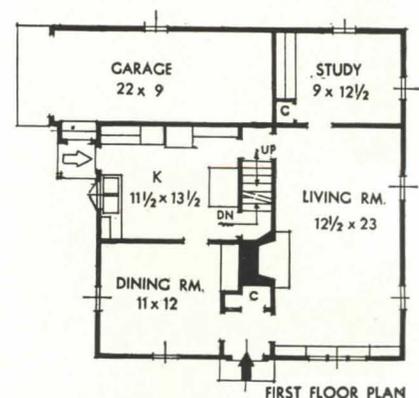
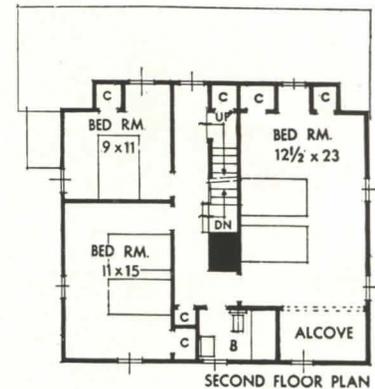
ITEM 5. *Excerpt from the letter of a bank treasurer:* "With respect to our experience with construction loans and other mortgage loans under the supervision of an architect . . . our experience has been a most pleasant one.

"There is no question in our minds that in view of the varying ability of builders in business today as well as the varying standards of construction required in various towns, the architect-supervised home in most cases assures us of a more desirable layout and the type of construction in line with the best practices of today."

Taken from the files of a single well known architect, ROYAL BARRY WILLS, the acknowledgments presented herewith are typical evidence that architect-designed houses give by far the best performance in the long run.



Haskell



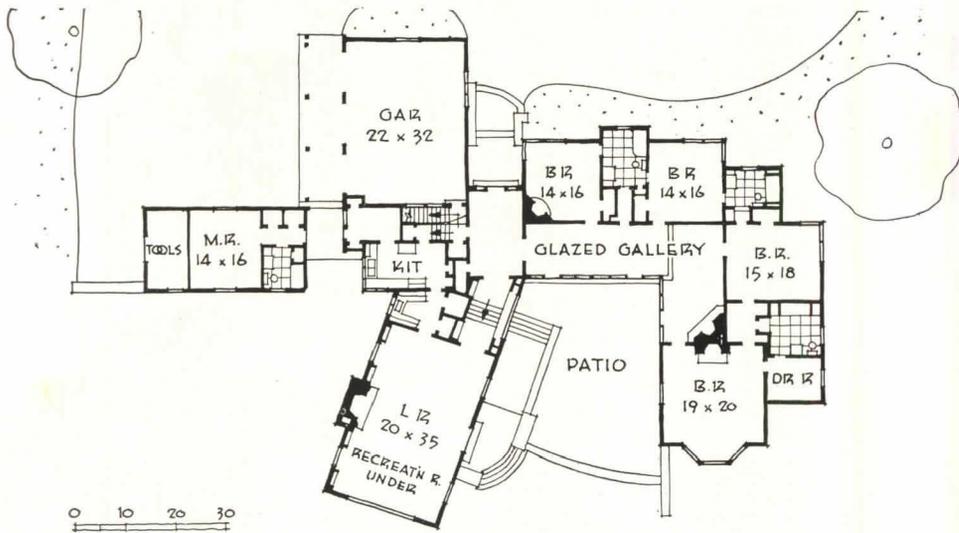
The House at Melrose, Royal Barry Wills, Architect ("Item 1" in the story). The architect's compact plan gave satisfaction at a far lower cost.



Photos by Charles Lorenz

PATIO

CHANGING HABITS OF LIFE CALL FOR IMAGINATIVE

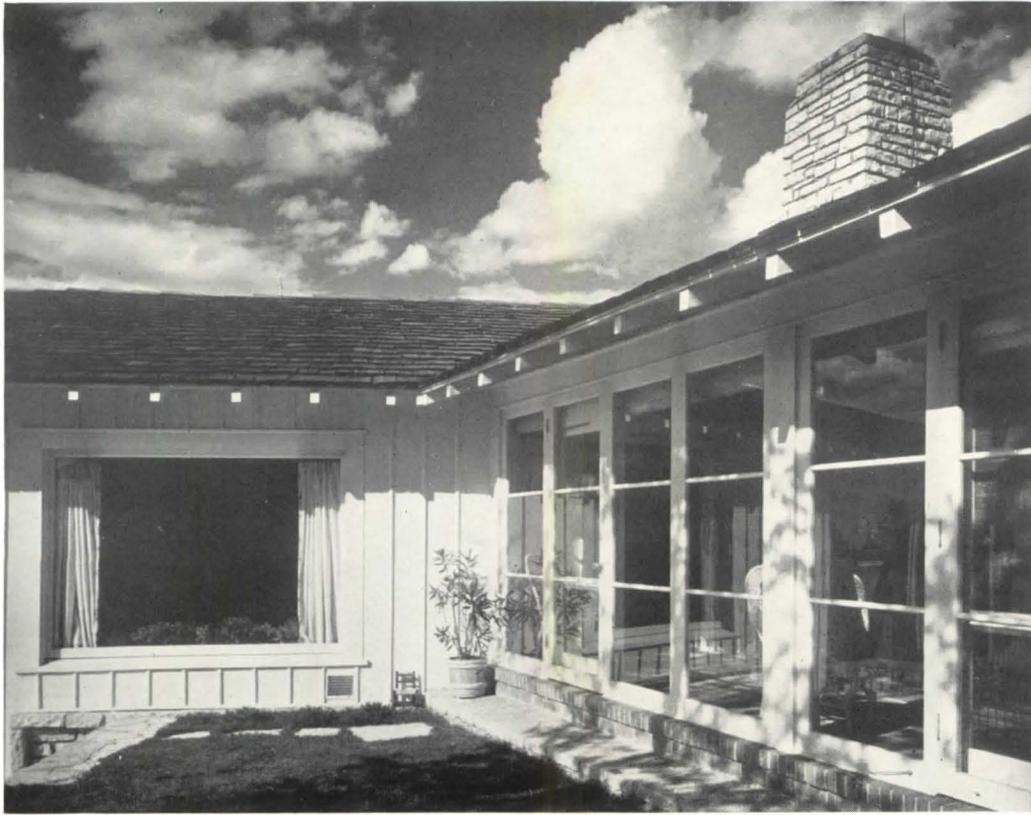


MURPHY AND WISCHMEYER, ARCHITECTS:
HOUSE FOR MR. AND MRS. HENRY M. COOK,
ST. LOUIS COUNTY, MISSOURI. The very term "week-end house" has arisen in America with the present generation. The idea of starting a permanent establishment in the country—an establishment of fair size—on a "week-end" plan for future expansion would scarcely have been formulated if living habits had not gradually been transformed.

The house illustrated herewith bears testimony to these changed habits in its one-story plan giving easy access to the out-of-doors, its division into "zones" insulating the bedrooms against the noise

FRONT VIEW





HALL WINDOW

SOLUTIONS

of entertainment in the living-room, the omission for the time being of a separate dining-room, the casual way in which the living-room has been oriented for the view to the Missouri River, the informal, easy air throughout.

Instead of expressing itself in elaborate carving or moldings, the demand for luxury takes the form of two furnaces, one heating the living-room and service wing, the other the gallery and bedrooms.

Imaginative planning to meet new habits of life, which come unannounced and by imperceptible degrees, calls for training, alertness, and competence to be expected only from architects.



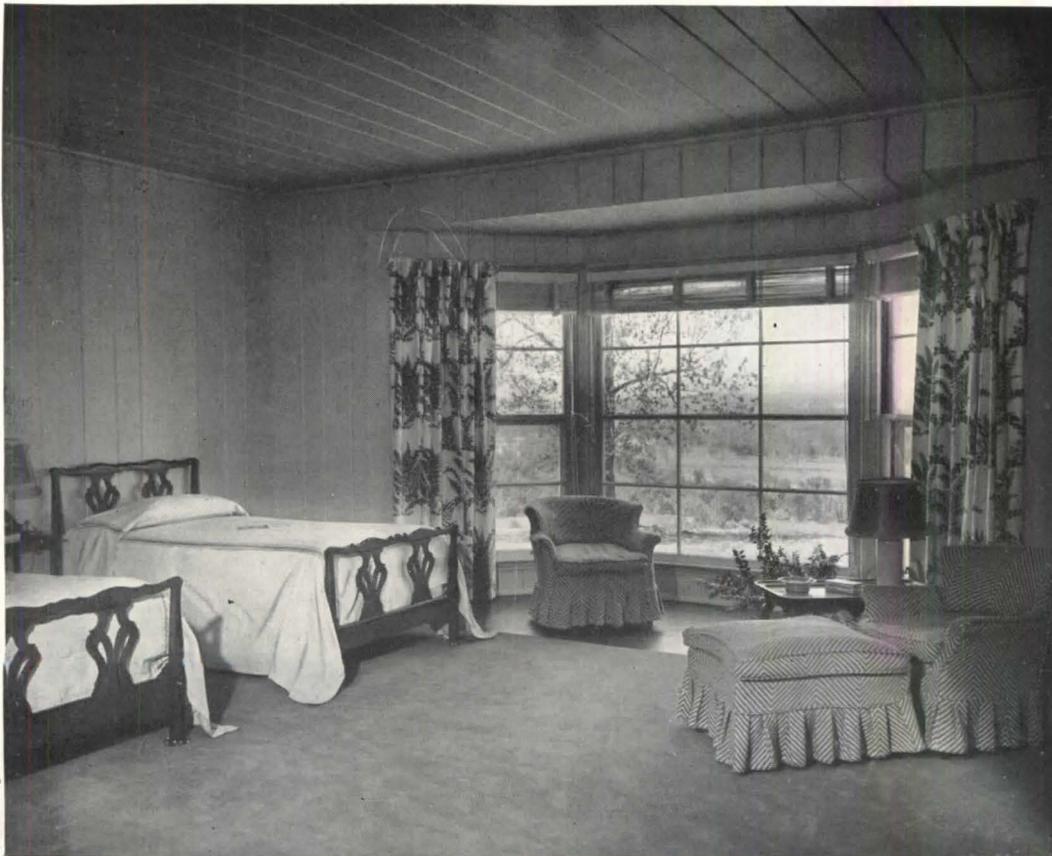
GLAZED GALLERY

REAR VIEW





LIVING-ROOM Interior



Photos by Charles Lorenz

MASTER BEDROOM Interior

THE ARCHITECT

IN LARGE-SCALE OPERATIONS

In the thirties a remarkable transformation made itself manifest in the conditions upon which American architecture was based.

Rarely does a building project go forward any more as an isolated, independent venture. Even the small house, the most individualistic of all building types, is subjected more often than not to the requirements of the nationwide mortgage insurance system. City development is guided by many agencies having to do with the study of older properties, with zoning, with city planning. Everywhere the success of a single building enterprise is strictly dependent on underlying conditions applying to the whole group to which it belongs.

In view of this situation, architects have been obliged to study many fields beyond the scope of what was once considered "architecture."

- • •
- ▶ Architects have found themselves faced with a need for the study and establishment of **HUMAN STANDARDS**.
- ▶ Along with the other workers in the building industry, architects have found themselves concerned with practical **REHABILITATION** and **CONSERVATION**.
- ▶ They have had to correlate their work with new **INTEGRATED METHODS** of **FINANCING** and **PLANNING**.
- ▶ Architects have participated in seeking for greater **BUILDING RATIONALIZATION**.
- ▶ And, finally, they have been alert to the pressing need for projecting the **FUTURE OF TOWNS** in **RELATION TO THE FUTURE OF REGIONS**.
- • •

So many issues have been raised in these broad fields that the **RECORD** presents its examples of architectural action with no pretense of having illustrated all the possible solutions. The very existence of divergent views in such broad fields is evidence of activity and a condition of professional health.

MANY FORCES JOIN IN THE WORK OF REHABILITATION

Here is reproduced a letter to ARCHITECTURAL RECORD from a leading American merchant, DELOS WALKER, who is Vice-President and General Manager of the famous R. H. Macy department store in New York and is also, significantly, Treasurer of the Citizens' Housing Council of the same city.

The forward-looking merchant arrives at a direct concern with sound housing and planning in the radius of his establishment as a matter of enlightened self-interest. It is said that the blight which has descended upon most of our cities in their expanding obsolescent areas is no different from the blight of the dust bowl in relation to once productive agricultural land.

The problem is not simply the problem of the merchant. It is the problem of the whole citizenry at work and at home in these municipalities. Blight constitutes a threat to the very livelihood of all those within whose municipality it exists. Flight of the population through wasteful expansion of the physical areas of our cities brings increased cost of public services with no compensating addition to revenues, and in the long run dislocation of these municipalities as solvent economic units. The high revenue-producing commercial cores of these cities, if not protected through wise planning and rehabilitation, are threatened with eventual disintegration.

New enabling legislation is being conceived in many States to provide interest and invitation to private capital in the solution of these problems. It is not only residential housing, but business housing, which has to be considered. Business can only exist in rehabilitated areas providing proper access to it is maintained. This leads to the consideration of a factor of prime importance—that of transportation.

Much has been done for the improvement of highways, all seemingly on the theory that transportation in motion is the only problem. No adequate planning has been given, with all of our highway expenditures, to the use of terminal facilities for automotive equipment which uses our urban highways.

Architects and engineers have exhibited most constructive interest in the examination of these problems so far. They should be encouraged in the light of their special knowledge to a wider interest in these civic problems.

The letter indicates the deep concern of enlightened business men with city rehabilitation, and their appreciation of professional service. Architects have associated themselves usefully with every step including preparation of legislation.

THIS LETTER, from an enlightened New York merchant, shows that there are many others besides architects closely concerned with the health of the city. Merchants, lending institutions, public officials are deeply interested in conservation and rehabilitation.

What are the necessary steps? First comes the survey in the field. Often architects have been the ones to propose such a survey. *Dean McCornack* in Cleveland; *William Stanley Parker*, the architect director of the Boston Town Planning Board; *Arthur Holmes*, of the Montclair, New Jersey Town Planning Board, and others, have been instrumental in their various cities.

Once the worst areas have been located, plans are drawn up where action is decided on. And yet, as matters stand today, lending institutions and merchants' associations find themselves cut off from large-scale salvaging of blighted areas because individual private owners can prevent assemblage of land. That is the reason for the very important bill in the Legislature of New York State establishing "Urban Redevelopment Corporations." Sponsored by the Merchants' Association through a committee on which two architects are prominent, *Arthur C. Holden* and *Thomas S. Holden*, the bill makes it possible for such corporations, working in conjunction with city officials and planning boards, actually to condemn minority properties in run-down sections where most of the land has been acquired.

It is an important fact that "reconstruction" covers not only housing but whatever, in that area, would be an appropriate new use.

As this is written, other states are closely watching New York, since similar acts would release great powers of revival—and with no dictatorship!

ARCHITECTS HAVE LED IN ESTABLISHING HUMAN STANDARDS

THE TYPICAL FEATURES of Halifax Court, Raleigh, N. C., shown below, have become regular practice in "housing" today. The house rows are spaced to admit sunlight; the coverage of the ground, 21 per cent, is low, leaving plenty of free space; there are play areas for children and no streets through the "superblocks"; the development centers on the community building symbolically coupled with the power house; the building proportions are well studied and the planting is agreeable even though the rooms are of modest size and the structure has no superimposed decoration.

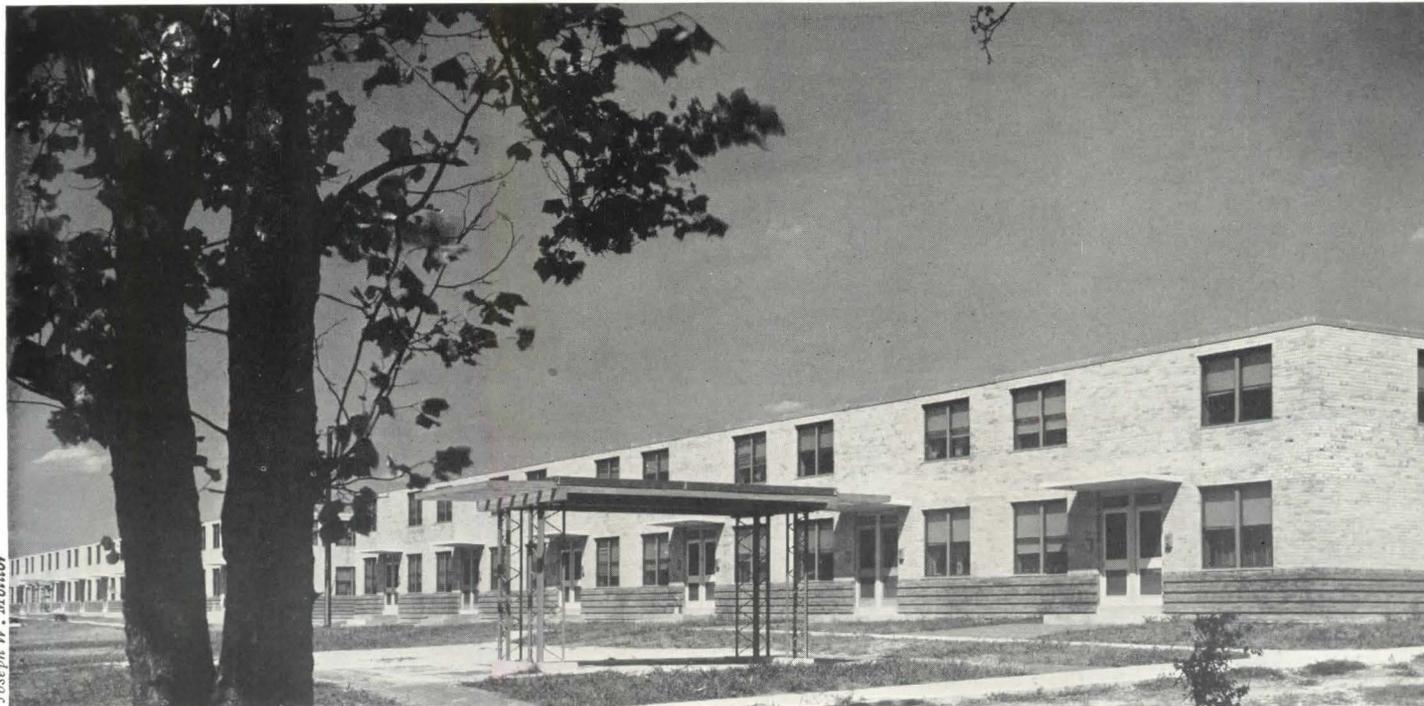
In many ways the standards are higher than those enjoyed by even the wealthy in older residences. This is because the suspension of profitable building gave architects the opportunity to study minimal *standards for human use* in a professional and more scientific fashion.

Such standards have now come into commercial practice, but were pioneered by individual architects, such as *Clarence Stein*, *Henry Wright*, *Fredrick Ackerman*, and dozens of others in association with individual enlightened real estate operators and philanthropists.

Such standards were further studied and dispersed through other architects, many of them unknown, working in the government bureaus, under the direction of men such as *A. C. Shire* in the USHA.

The standards were put into actual operation once more through a combination of individual initiative and government aid. The invaluable *surveys* of localities and potentialities were made sometimes by individuals or their offices (notably *Albert Mayer* in New York, *Frazier Smith* in Memphis), sometimes by organized groups, as in the important survey of Queens by the former Housing Study Guild, in which architects were prominent.

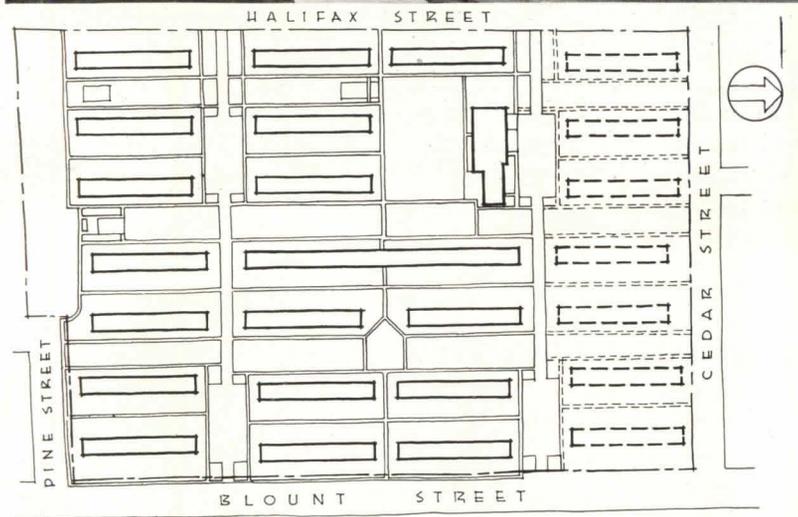
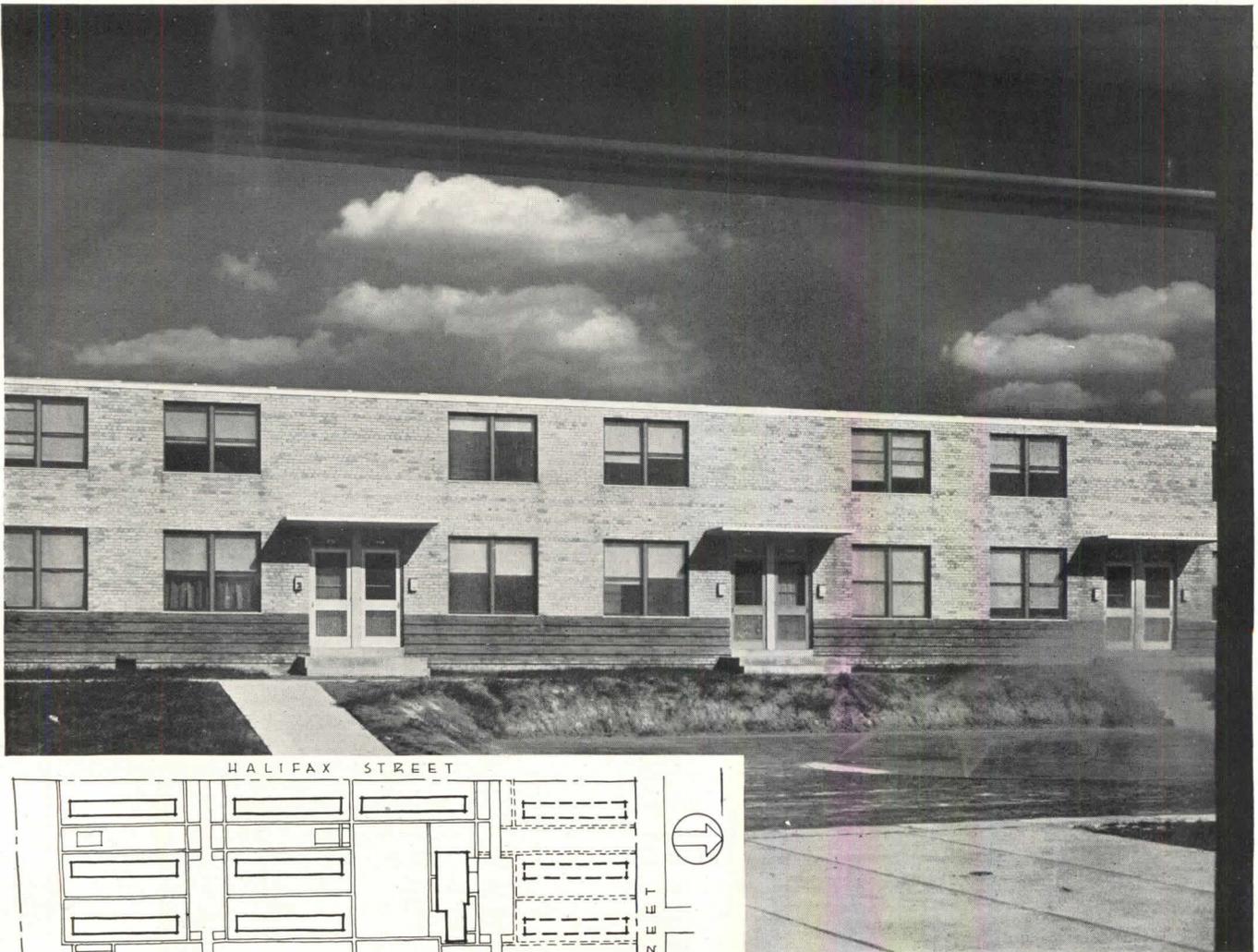
In actual execution, not only have individual housing schemes embodying the new standards been architect-designed, but some of the housing authorities are headed by architect executives. Among these an example is Newark, N. J., of which *Neil J. Convery* is director; \$16,000,000 of past construction is to be supplemented by defense housing to be administered under Mr. Convery's direction.



Joseph W. Molitor

HALIFAX COURT, Raleigh, North Carolina. William Henley Deitrick, Architect

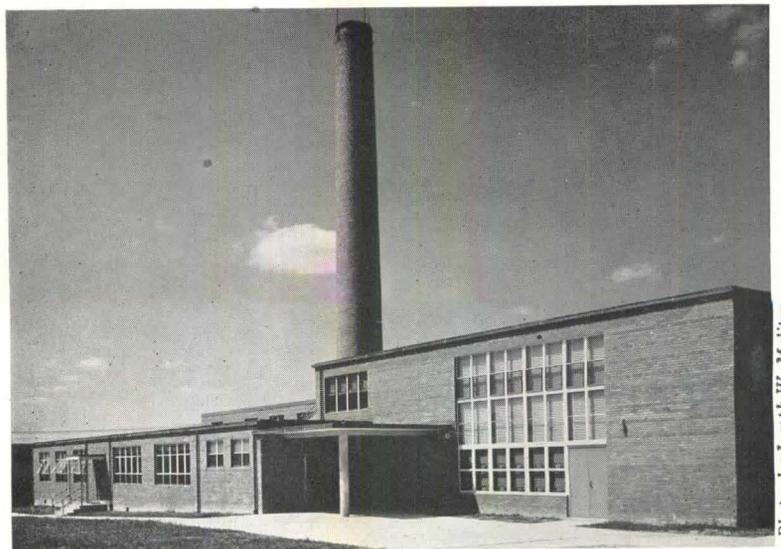
(Plan overpage)



Buildings follow site contour lines

Community House

WM. HENLEY DEITRICK, ARCHITECT: HALIFAX COURT USHA PROJECT, RALEIGH, NORTH CAROLINA. The "superblock" plan typical of advanced current practice eliminates interior through-traffic streets, but provides for interior parking and interior playgrounds. Dwellings have plentiful surrounding area and parallel the site contours. The through-way of the long central unit frames the central walk. The community building houses administrative offices, community hall and meeting rooms, and the boiler plant which furnishes heat and domestic hot water to the project.



Photos by Joseph W. Molitor

PLANNING IS RELATED TO SOUND LAND USE AND FINANCING

THE DEPRESSION made it abundantly clear that "architecture" could not be created at all unless building were coupled with sound practice in the use of land and money. Therefore, as building came almost to a stop, alert architects turned to the study of these underlying problems. They had before them such shining examples as the career of the late *Henry Wright*, who brought such transformations through the study of real estate, financing, and architecture in combination.

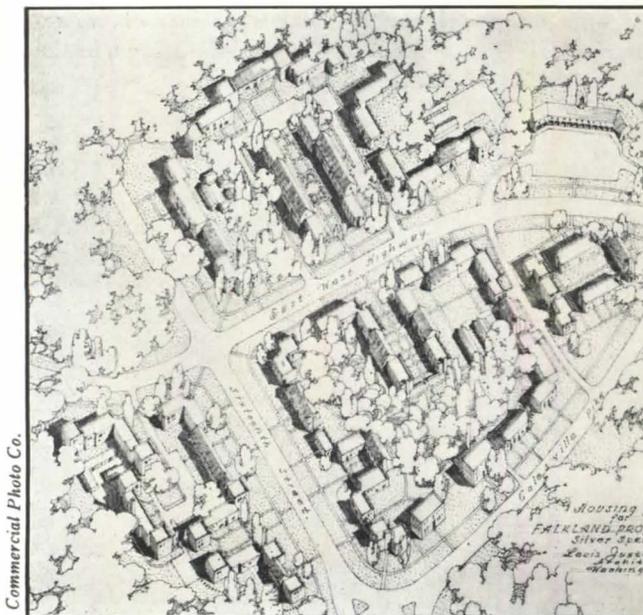
To verify this trend, the RECORD went back into the case history of a well known and highly regarded "early FHA" project, Falkland Properties at Silver Springs, Maryland. Here was found an indicative example of the up-to-date architect's many-sided initiative. It was the architect who found a way of going ahead profitably in the first place. Through his investigation of every possible avenue of progress and his consequent contacts, he had become sharply aware of the potentialities in such new methods as FHA-insured mortgaging. It was a year, in fact, before the lenders caught up with this view, and in the interim Falkland was financed under RFC, where again confidence in the architect built up in the course of his public-spirited efforts, was a favorable factor.

The first unit of Falkland was completed early in 1937; by 1938 when the second unit was begun, the new lender bought the RFC commitment at a premium and made use of FHA insurance; at the present time success has been such that the cost of FHA insurance has been dropped by the private lender. As for the architect, *Louis Justement*, the RECORD found him aware of still later developments in his thinking. Believing that the new FHA policies make private houses cheaply available on terms the equivalent of rent, he was found no longer concentrating on large-scale rental projects but on architect-directed mass-production of private homes—an activity interrupted for the moment by work to be done for defense.



Todd Aerial Mapping Service

LOUIS JUSTEMENT, ARCHITECT: FALKLAND PROPERTIES, SILVER SPRINGS, MARYLAND. In formulating this well known residential project, the architect made good use of his studies in land practice and financing.



Commercial Photo Co.



O. Kline Fulmer

ARCHITECTS HAVE PROMOTED BUILDING RATIONALIZATION

Numerous architects are at work with the purpose that "every American may live, work, and take his leisure in structures professionally designed and executed."

IN TOO MANY DISCUSSIONS of building, the talk of efficiency and progress all centers on technical means. The millennium is pictured as a time when houses begin to roll off the assembly line and become comparable in fine engineering with the streamlined cabins which now fly the air.

The underlying purpose of "rationalization" is really far broader. This purpose is that every American may live, work, and take his leisure in structures benefitting from the best professional competence of the day in both design and execution. Just as the doctor seeks to promote the vitality of the entire nation, so the architect should enhance the vitality of all its building. Today he designs only a part.

In attempting to reach all the people it is evident that architects cannot rely on purely traditional procedures. Any one architect, for example, must be able to spread his effort over a far greater number of structures than he does today.

Architects themselves are very familiar with one attempt to multiply good designs, that of "prefabrication." But a considerable change has come over the field since the time when pioneers, from *Fisher*, *McLaughlin*, *Neutra* and countless others down to *Corbett* or *Ain*, produced their factory-fabricated houses or structural "systems." Today the trend is away from brilliant "solutions" toward steady detailed research and daily testing. The Government bureaus such as Bureau of Standards and Forest Products Laboratory carry on this work and so do private foundations such as the Bemis Foundation at M.I.T., headed by the architect *John Burchard*. Field work by such organizers as *R. H. Shreve* on the Parkchester development is complemented by innovation such as the West Coast work under the direction of *Vernon Le Mars*, which has made the FSA facilities for migratory farmers a remarkable laboratory of new materials and structural methods as well as functional arrangements.

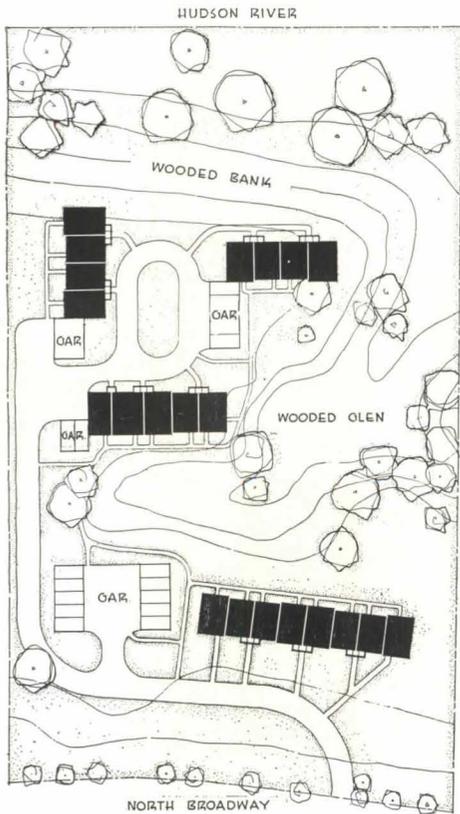
What the individual practicing architect still needs, as *Albert Mayer* and others have suggested, is a sort of bureau of standards for the whole profession, where materials and structural methods may be reported, tested, and compared on the basis of actual behavior in the field, and the results made freely available to every architect.

Another plan, of a different sort, that looks toward making architectural service practical on a far broader scale, is the much debated "Registered House Plan."

This was originally sponsored by the Federal Home Loan Bank Board as a result of the appalling shoddy-work found in some 500,000 homes reconditioned for refinancing. The sponsorship has expanded to include the Producers' Council (manufacturers of the better quality building products) and the American Institute of Architects.

The theory is that what the small inexpensive house—the house generally built by speculators—needs most is not a highly individual plan but professional supervision to insure honest construction. Accordingly, the minimal requirements for having a house "registered" emphasize the local architect's supervision of construction, even though his "design" service is restricted to advising the client, who chooses among some 400 plans. These plans in the "home selector" come from architects all over the country as well as those at home.

The plan is not meant to compete with the full architectural service that gives a great deal more individual attention to those who can afford it. The plan has met opposition nevertheless among certain architect groups as a possible threat to full service. The prediction of *Dean McCornack* that it could give an additional \$600,000,000 worth of houses a year the architectural service they now miss has not yet been fulfilled. And yet the plan, perhaps modified, does point the problem of making it possible for the whole output of American houses to be produced with effective use of the most important elements of professional service.



HOLDEN, McLAUGHLIN & ASSOCIATES: APARTMENTS AT HASTINGS, NEW YORK. The same architects who developed the “prefabrication” in these units—a “prefabrication” which in this instance scarcely makes itself visible—were also responsible for the site plan overlooking the Hudson. Twenty-one “duplex” apartments are included in the buildings shown, and 14 more are projected. The architects’ analysis tended to show a larger and safer return from the duplex plan than from more intensive 3-story development.



Photos by Westchester Photo Co.

LOOKING TO THE FUTURE OF TOWNS, REGIONS, AND NATION

THE EFFECT OF LARGE-SCALE OPERATIONS is to draw architects of broad understanding into various fields of planning. Architects such as *William Stanley Parker*, Chairman of the Boston City Planning Commission, or *Frederick Bigger*, long Chairman of the Planning Commission of Pittsburgh and now directing the nation-wide obsolescence study of *Earle Draper's* Research Division of the FHA, are known and respected throughout the profession. *Saarinen's* city planning teaching at Detroit, *Witmer's* work in Los Angeles, the specialized position of *Paul Gerhardt* as City Architect of Chicago are marks of a rapidly growing trend.

In his planning studies, an architect benefits from his habit of dealing with concrete things. Paper plans often have strange third-dimensional consequences. On the other hand, some architectural detail can sometimes make or break the effectiveness of a whole planning concept.

Planning has rapidly widened in both scope and concept. It is no longer conceived in terms of a "blue print" made once for all, but as a constant activity of projection into the future.

The relationship between the planner, acting usually in a public or at least semi-public capacity, and the business executive, is suggested by *Ernest M. Fisher*, Director of Research in Mortgage and Real Estate Finance of the American Bankers' Association. Pointing out that private enterprise is always faced with the necessity of making *immediate* moves, while the planner's interest is *long-term*, Mr. Fisher describes the function of the planner as "constant adjustment of the framework within which private enterprise remains free to make decisions."

Since the decisions have national effects today, the framework must perforce be national. Nation-wide planning is in its beginning, preceded by regional planning. The pattern is familiar. First come voluntary researches, such as the one in Boston by the combined technical professions under the initiative of the Boston Society of Architects, or in Washington by associates of the Washington Chapter of the AIA. Later the individuals who have taken such initiative tend to be drawn into public service.

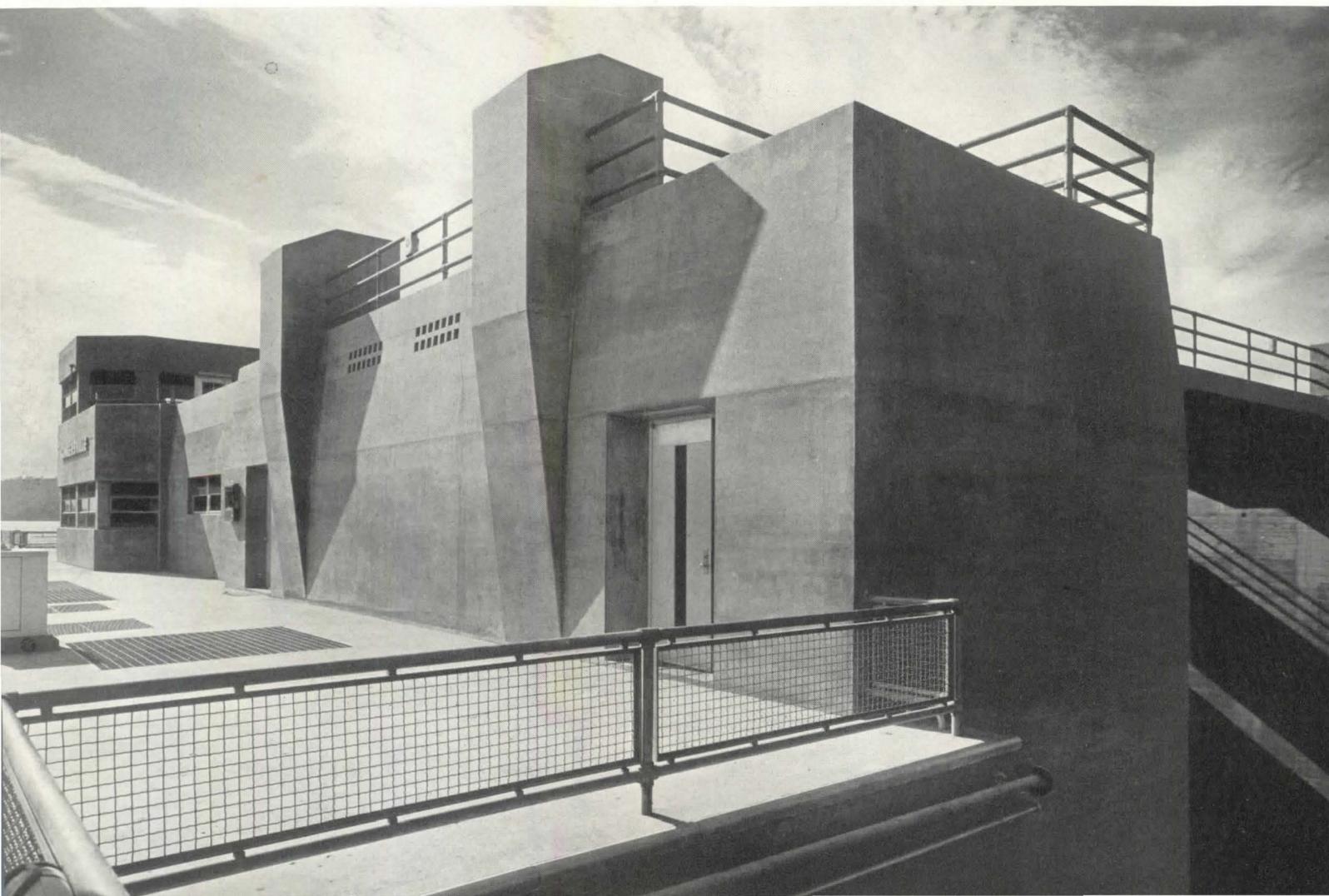
In the latter connection, the recent appointment of the architect *Carl Feiss* as planning consultant, working through the National Resources Planning Board and the Virginia State Planning Board in the Hampton Roads area, is highly significant. This is, so far as the RECORD has discovered, the first move toward bringing the efforts of many scattered boards, authorities, and individuals in an all-important area into *correlation*.

Such diversified, inclusive, wide-range correlative work is the work of the broad-minded architect in the future.

The *technical* pattern (leaving all politics aside) has been set firmly and handsomely by the architects who have worked on the complex, many sided problem of TVA. Here architects have played a worthy part in a program involving correlated flood control, navigation, power for industrial plants working in national defense, power for rural electrification, erosion and soil control and reforestation and fertilizer production, not to mention community growth, increased health through malaria control, and the remarkable facilities afforded by the lakes, roads, dams, and woods for national recreation. Insofar as the facilities for all this have been visible on the landscape, the TVA architects, under the direction of *Roland Wank*, have made the most of an unprecedented opportunity. This kind of work is the work of architecture in the future America.

ON OPPOSITE PAGE

VISITORS' RECEPTION ROOM in powerhouse at Chicamauga dam. End windows overlook reservoir lake; those at left look into generator room. Lower view shows a portion of the NAVIGATION LOCK at Guntersville, with end of spillway, and in the background the lock operation building. Big concrete piers house bumpers for gantry crane. Tennessee Valley Architects, Roland A. Wank, Principal Architect.



THE EXPANDING SCOPE

OF ARCHITECTURAL SERVICE ☆

Here closes the RECORD's brief series of sketches of the up-to-date architect in action. No attempt could be made within the space to tell the whole story. There are activities undertaken by the profession as a whole, through the medium of the American Institute of Architects and its many committees, that have not even been touched upon. Rather, the individual architect has been presented as his fellow Americans might see him at his daily work.



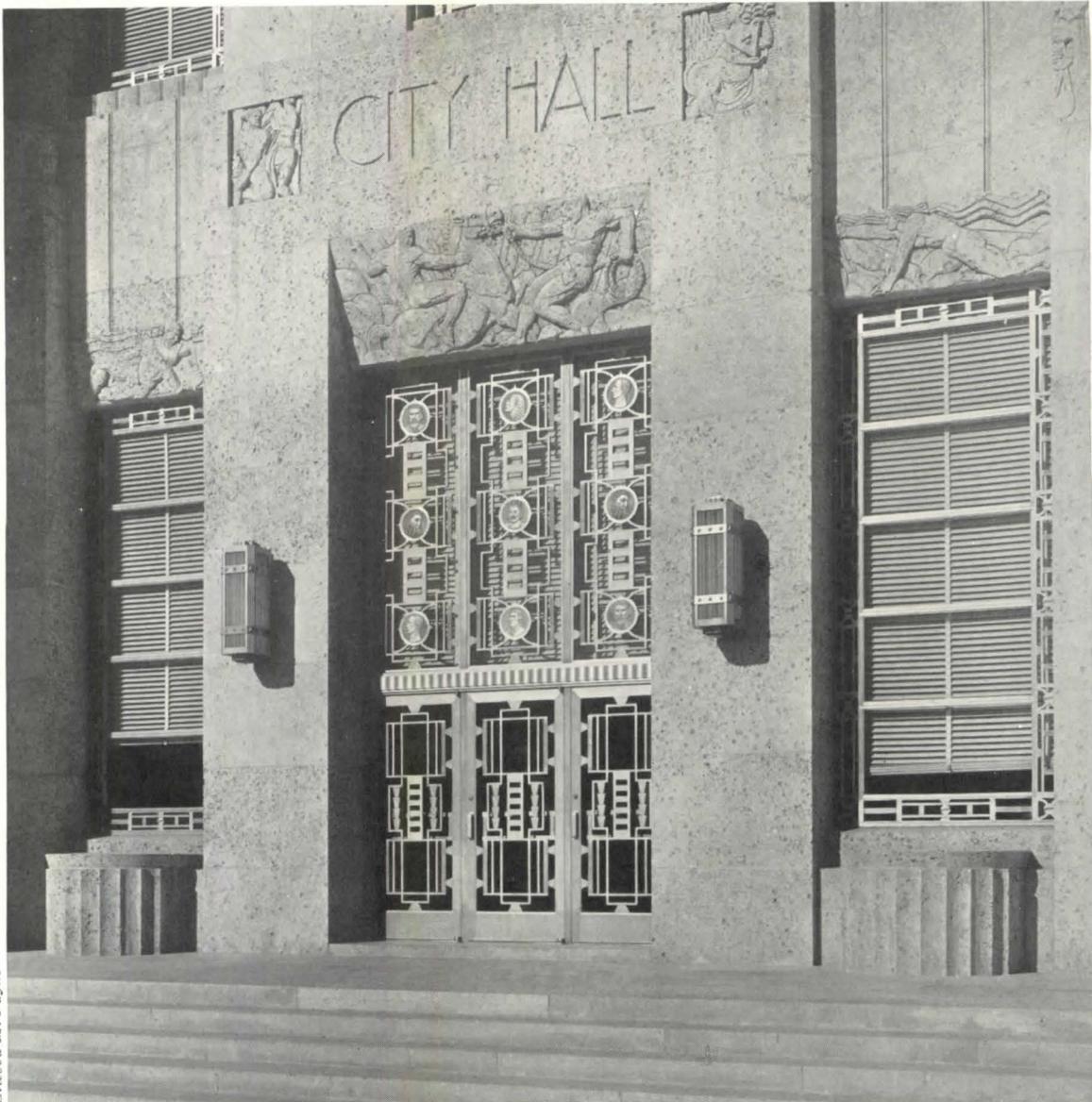
On the evidence presented, it is quite clear that the architect of today occupies no ivory tower, nor does mental ivory survive long in his occupation. You find the alert architect adapting his methods to those of industry and rivalling his industrial clients in efficiency and speed secured through organization. You find him alert in analyzing the problems of commerce, and, with his professional detachment, often able to anticipate future trends. The architect is found working closely with the doctor and the teacher, not with the object of dressing their efforts in a veneer of culture, but with the object of securing and enhancing the culture that the daily work of the doctor and the teacher can produce. The architect is often found on the planning board of his town, and with increasing frequency he is found working with his fellow townsmen and his countrymen on those difficult general problems that affect the future of all.



Increasingly the architect is found rendering a *continuing* service. No longer can a building be considered "finished" when it leaves the drawing board, or a town "planned" when it has a set of blueprints. Among the changes that have come into the old art of building, perhaps the most decisive has been the acceleration of change. It registers itself in "obsolescence" and in other disasters that befall rigid "once-for-all" programs. A noteworthy change in the profession has been the growth of services on the part of architects looking to the continuing care of structures throughout their whole useful life.



Equally noteworthy has been the growth within the profession of the habit of making voluntary researches, investigations, and surveys into situations which the architect sees developing. Trenchant inquiries into the policies of a state with respect to its rural schools, or into the kind of site that is desirable for housing, or into the investment policies needed to stimulate construction, or into obsolescence and city rehabilitation, or into the defense planning and the future of regions—all these studies and projections made in collaboration with other thoughtful Americans show that the forward-looking architect has a permanent place in the service of his country.



Etta M. Payne

CIVIC BUILDINGS

In the last few years, under extensive public works programs, numerous civic buildings have been erected in many parts of the country. The demand for buildings which adequately demonstrate civic pride, and which satisfactorily house the activities of municipal governments, will undoubtedly continue; and, if municipal incomes increase as defense works expand, design and construction of civic buildings may continue to be important. . . . Noteworthy are changes in the typical design problem. Not only has the design of a firehouse or jail become complex as a result of recently developed materials and equipment; new functions have been assumed. Three of the examples shown in the following pages house civic museums and auditoria. Promotion of municipal welfare, and improvement of relations between government and governed, thus find architectural expression.

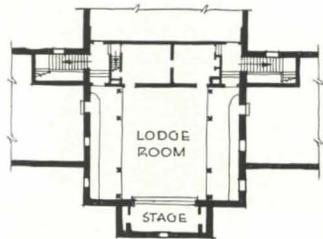
A BUILDING TYPES STUDY

CIVIC AND SOCIAL FACILITIES

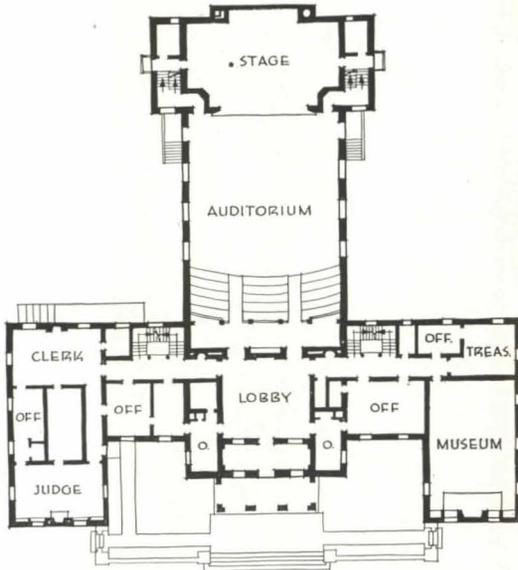
“. . . to erect and as far as is necessary equip a building suitable for the purposes for which a town hall is ordinarily used and also for the social, recreative, and educational activities of said town, at a total cost not exceeding \$350,000. I direct that said building be constructed of red brick with white trimming, in the style of architecture generally known as ‘Colonial,’ and that it shall have a cupola or tower containing a clock . . .”—from the will of the late William Stanton Andrews, of Hartford, Conn.



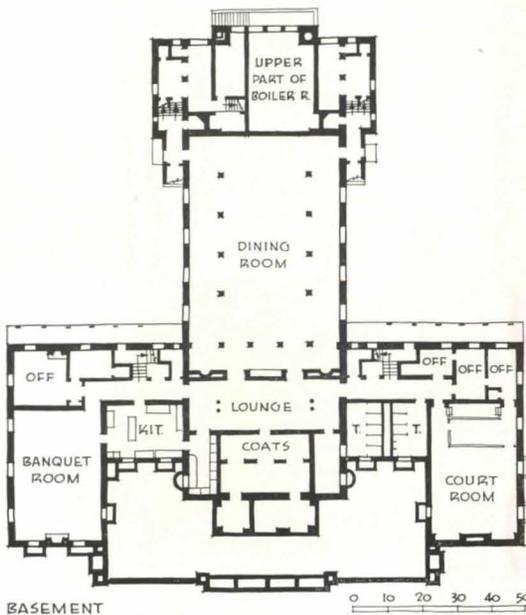
UNDER ONE ROOF



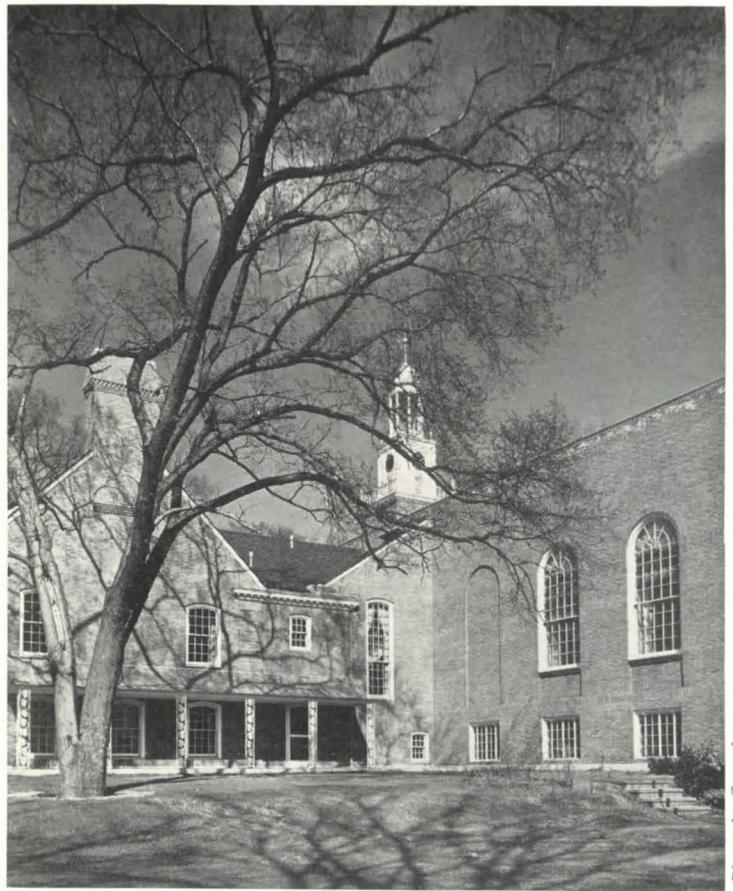
SECOND FLOOR



FIRST FLOOR



BASEMENT



Photos by Gottsche

VIEW FROM REAR

WM. STANTON ANDREWS MEMORIAL, CLINTON, CONN.; SMITH AND BASSETTE, ARCHITECTS. The building was made possible by a bequest, which set up definite requirements as to provisions to be included, style and cost. The auditorium, including gallery, seats approximately 550. Its floor is ramped at the rear with fixed seats. The remaining portion of the floor is level, and has removable seating. This floor may be cleared for dancing or other purposes, and the seats stored in a storage room under the stage. Equipment for sound movies and complete stage accessories have been provided. An electric organ with supplementary amplifiers located in the cupola make outdoor concerts possible.

The basement space is occupied by a large dining room and accessory spaces; a court room, conference room and space for the Chief of Police; and main toilet rooms. A lounge, completely panelled in white pine, and a large coat room, occupy a part of the central portion of the basement. An examining room and space for the district nurse are also provided.



FRONT VIEW

AUDITORIUM, STAGE LOFT, DRESSING ROOMS clearly expressed on exterior



Photos by Gottsche



OFFICE



COURT ROOM



AUDITORIUM

All piping is run in pipe trenches under the basement floor. Two oil-burning boilers were installed, also a modified air conditioning system. Acoustical plaster was used for most ceilings.

The building, facing north, is set on a rise of ground on the main street of the town. The property runs back to salt marshes in the rear. The basement floor is well above high-tide water level. In general the building is of fireproof construction. The exterior walls are of red water-struck brick laid in Flemish bond. Vermont marble is used for the portico pilasters, entablature, balustrade, etc. Slate set on gypsum planks was used at the main roof surfaces.

In the treatment of the town offices a considerable amount of wood panelling was used for wainscots and certain wall surfaces.



MUSEUM



Photos by Etanood M. Payne

PRINCIPAL FACADE, enhanced by landscaping

ADMINISTRATIVE CENTER FOR GROWING CITY

CITY HALL, HOUSTON, TEXAS: JOSEPH FINGER, INC., ARCHITECTS. One of the fastest-growing cities in the country is Houston, Texas. Its new municipal building houses all centralized administrative departments in a modern, fire-proof, air-conditioned structure. The building is situated some distance from Houston's "downtown" business section, and its tower dominates the level landscape. The surrounding park, indicated on the facing page, contains a pool so placed that the building is reflected in it. Typical plans are shown overleaf.



MEETING ROOM

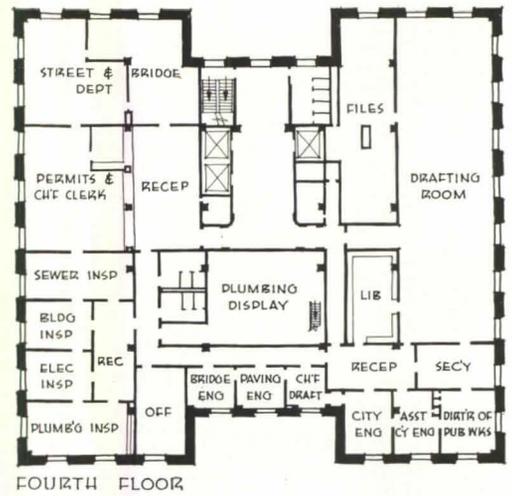
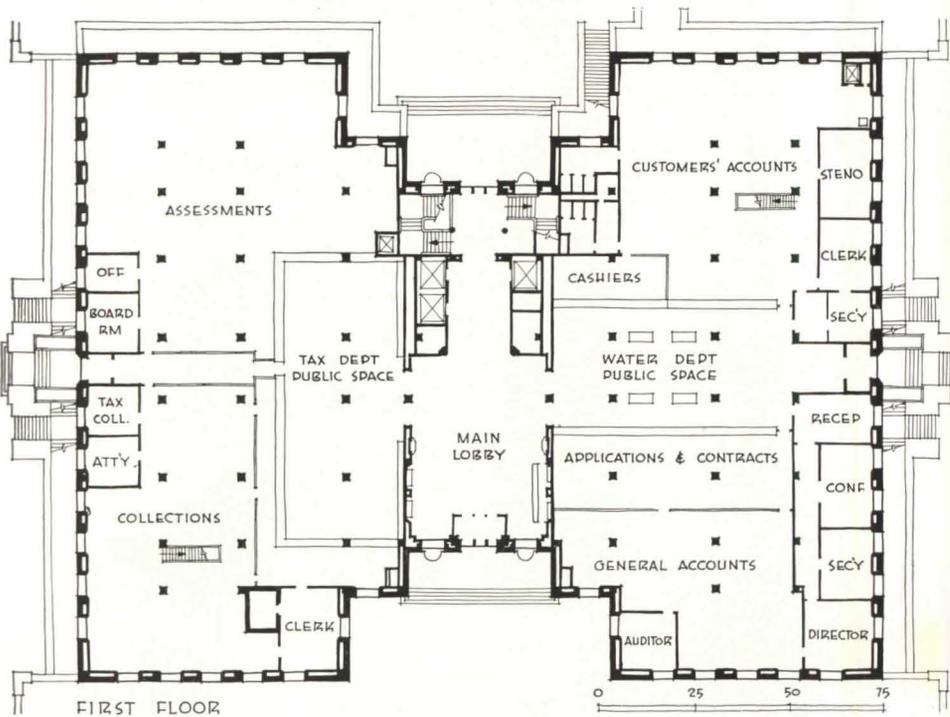


COUNCIL CHAMBER: both spectators and council members face presiding officer



Elwood M. Payne

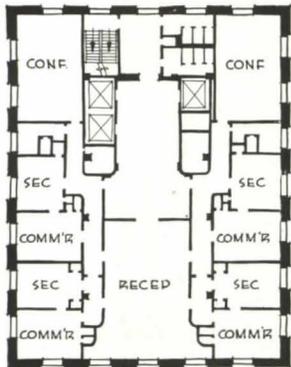
MAYOR'S OFFICE



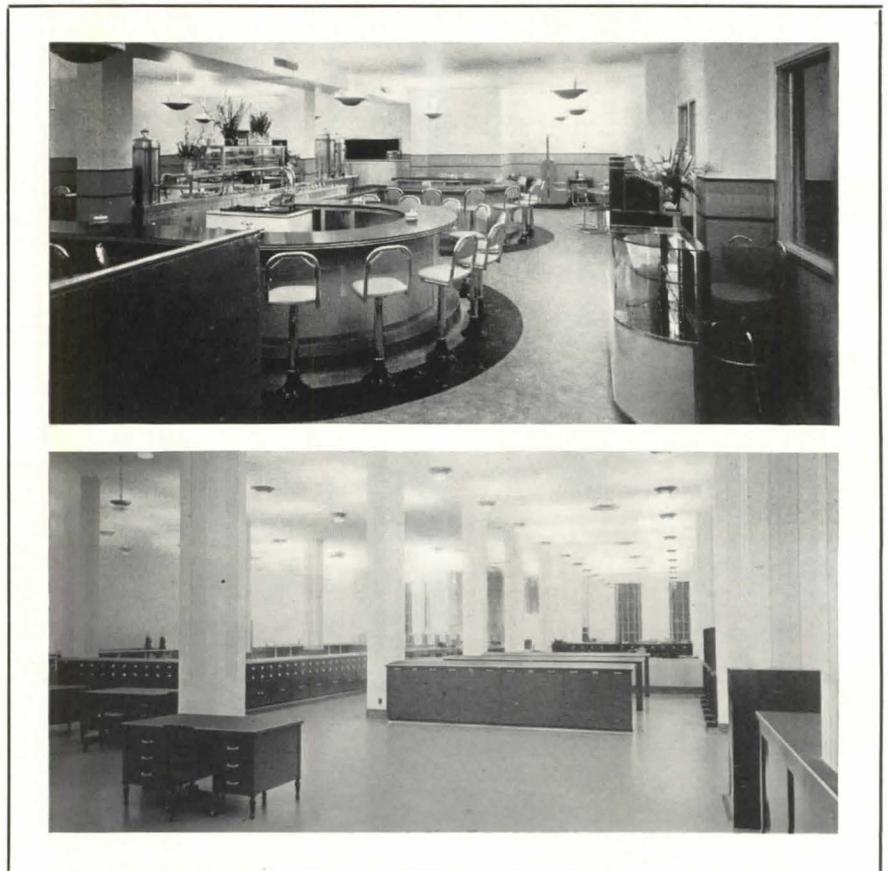
TYPICAL PLANS and PHOTOGRAPHS indicate subdivisions of space for public, administrative, and clerical purposes. Main lobby (see first floor plan) has marble and terrazzo floor and walls. Many clerical spaces have acoustically treated ceilings. Use of typical loft-building construction permits reallocation of areas, changing of partitions, etc., as requirements develop. Photo at left courtesy Carbondale Division, Worthington Pump and Machinery Corp.



ANTE ROOM to Mayor's suite



EIGHTH FLOOR



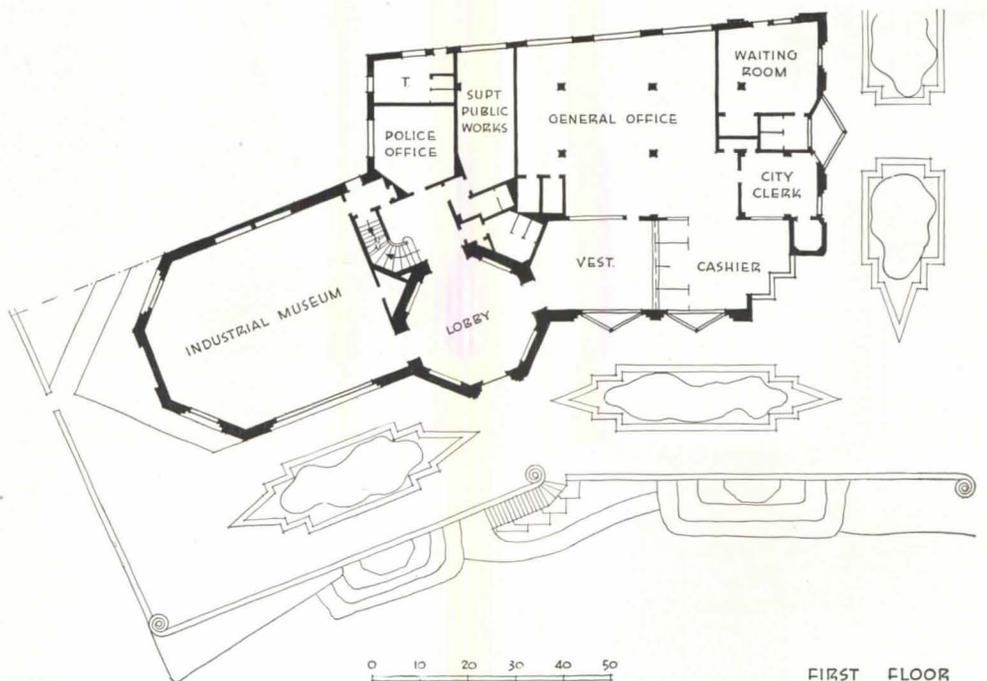
UNUSUAL in a municipal building is provision of as complete dining facilities as are contained in the Houston City Hall. Lower photo shows typical office, similar to that in a modern business structure.

CIVIC OFFICES, MUSEUM AND CARILLON

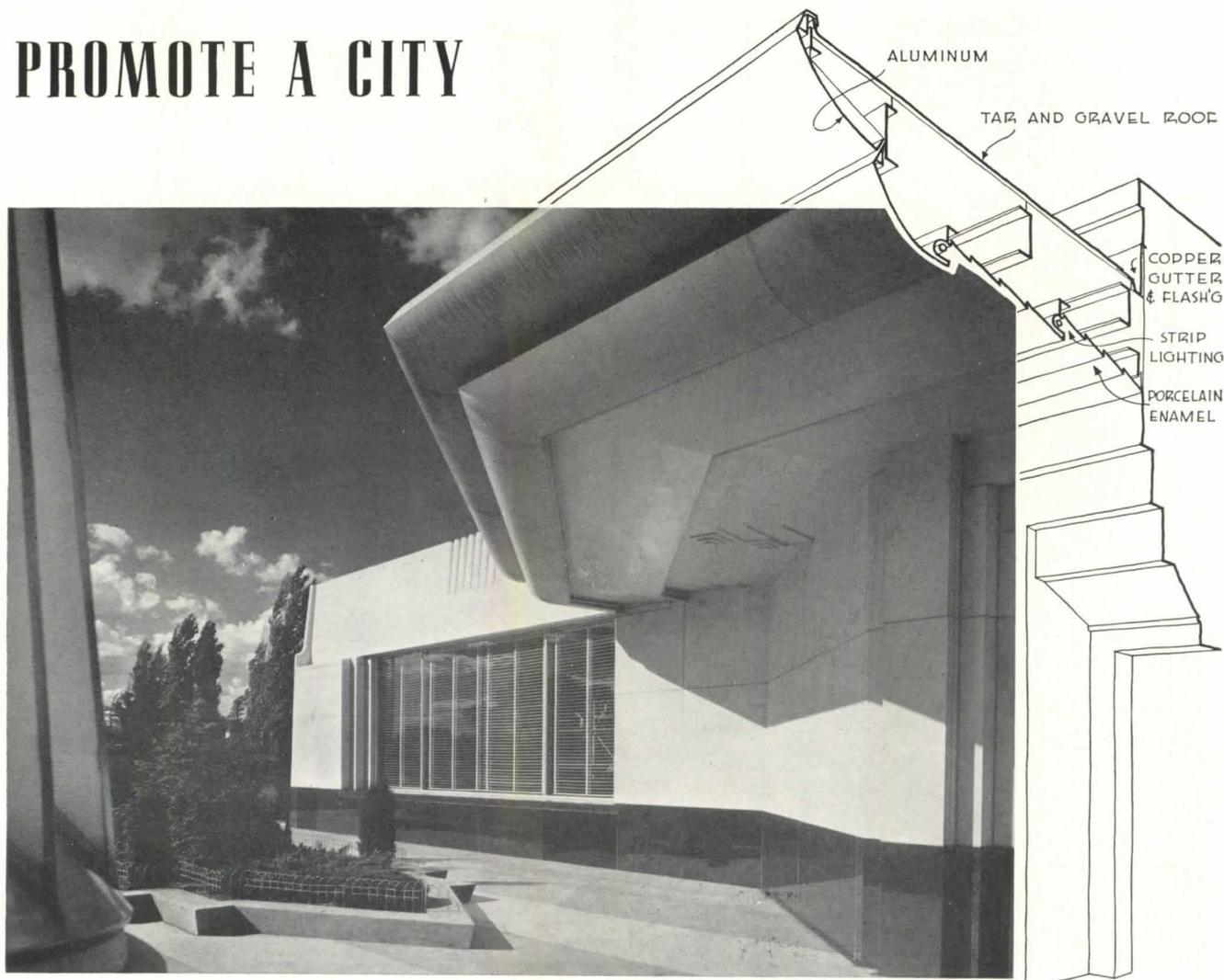
Photos by Hedrick-Blessing



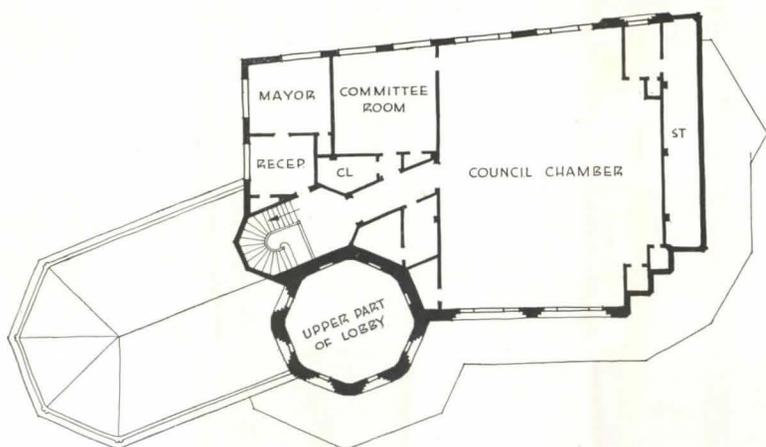
CIVIC CENTER, ST. CHARLES, ILLINOIS; R. HAROLD ZOOK AND D. CODER TAYLOR, ARCHITECTS. Unusual in several respects, this building was planned for an individual who donated it to St. Charles at the time of its dedication. The site is an irregular piece of land along the Fox River. Requirements for municipal government, and the desire to include both an industrial museum and a tower to house a sound-reproducing system, were factors in the design problem. The building is floodlighted at night, and the top of the tower, capped with translucent structural glass, is illuminated from within. Lighting throughout is fluorescent. Heating is forced hot water, zone-controlled, with mechanical ventilation in the council chamber, museum, and toilets. Framing is steel and concrete, with first floor of poured pan construction, second floor of precast joists and slabs, lightweight concrete roof and walls surfaced with white marble.



PROMOTE A CITY

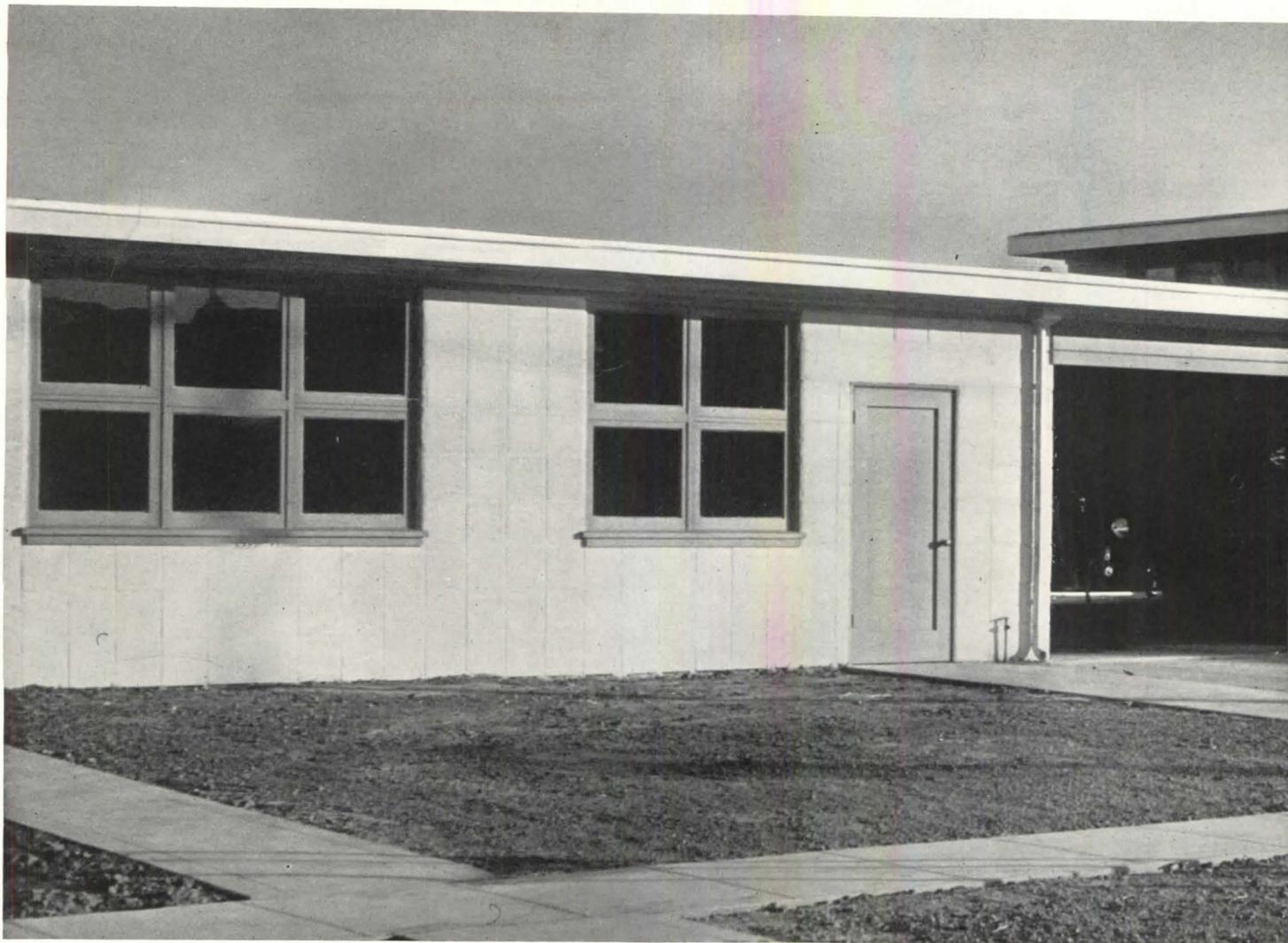


Section of porcelain-enamel marquee, above, illustrates care taken to conceal light sources. Below, stair hall

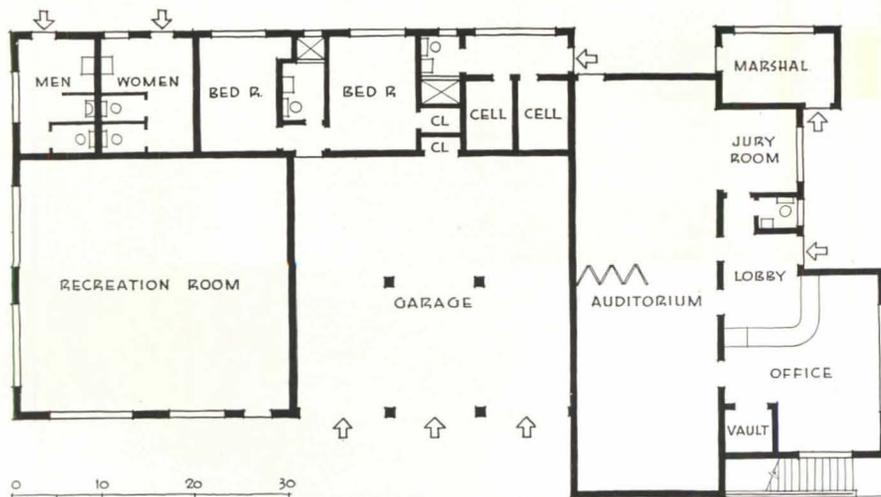


SECOND FLOOR





MULTIPURPOSE CIVIC BUILDING



CITY HALL, NEWMAN, CALIFORNIA;
RUSSELL GUERNE DELAPPE, Architect.

A novel and inexpensive structural system was devised to reduce construction cost of the Newman City Hall. The entire building is on one floor, with a clerestory over the combined auditorium-council room-court room. First-floor slab is concrete; walls are of square pre-cast block which have indentations, semi-circular in section, on all bedding surfaces. These are laid with both vertical and horizontal joints aligned. Quarter-inch round rods were placed in all joints. Chases were filled with cement grout.



EXTERIOR, showing garage-firehouse entrance

CONSTRUCTED AT MINIMUM COST

OFFICE and auditorium entrance



Ira Hough

Ira Hough



ENTRANCE FRONT

BASEMENT of the Newman City Hall contains only a 75-ft. pistol range and storage space; the remainder is unexcavated. Roof is of plywood supported on wood joists, and surfaced with built-up roofing.



OFFICE



DETAIL, folding screen which subdivides auditorium



AUDITORIUM is lighted by clerestory

FIRE HOUSE DESIGN

Information on this sheet was collected and prepared by Ronald Allwork. Sources included: "The Fire Chief's Handbook"; The American City; and various manufacturers of fire apparatus.

General. There are two types of fire houses: one is operated by a paid fire department, the other by volunteers. Equipment for both is essentially the same. Differences occur in facilities provided for personnel.

The tendency in fire house design is toward providing for a two-company building. Generally a lot 50 by 100 ft. in extent is ample.

Elements of fire house design are shown in the diagram at the right. All facilities indicated are desirable but not mandatory. In paid departments, one company generally consists of 14 men; in a volunteer department quarters are provided for paid drivers only.

Apparatus room for two trucks should be approximately 25 by 75 ft., with ceiling height of 13 ft. (minimum). Floor should be of concrete, designed to carry a load of 125 lb. per sq. ft. Doors for apparatus should be 12 ft. high, and may be designed to permit passage of both trucks through a single opening; or through two separate openings. A wicket (or access door) should be provided in one panel. Extra heavy hardware and equipment are required. Consider the desirability of motor-operated doors.

Wall surfaces should be of an easily cleaned material, and floor should have sufficient drains to permit flushing with hose. Hot and cold water connections are needed at center of side walls. Desk should be on platform raised 6 in. above apparatus room floor to allow man on duty to remain during cleaning. Floors of closets, toilets, oil room, stair landings, etc., should also be raised for same reason.

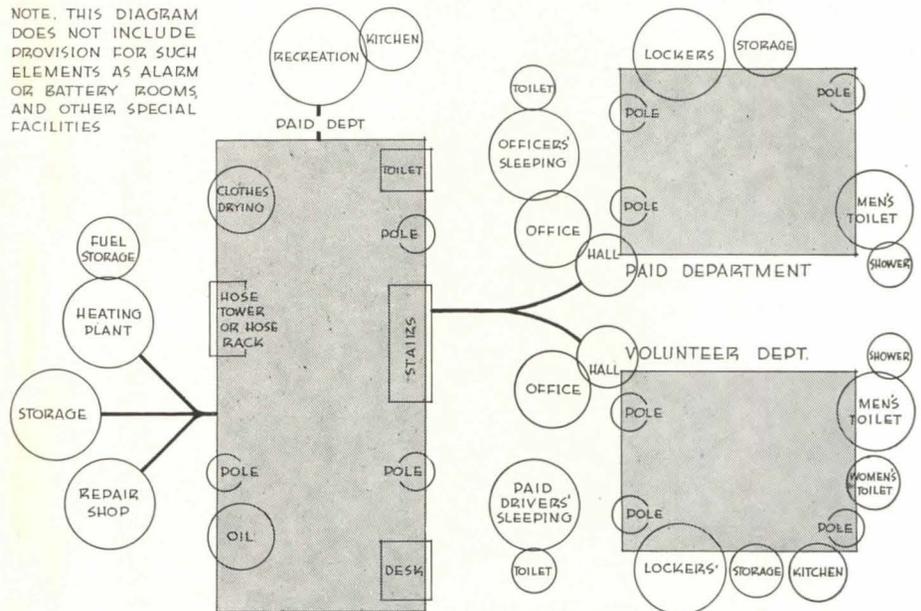
If apparatus room is to be used for repairs, provide a repair pit. Also, carbon monoxide gases have to be exhausted to outside, usually by means of underfloor piping, to which motor exhaust may be connected with flexible tubing. (Recreation room on first floor should be raised at least 6 in. for protection against gas.)

Hose-drying tower should accommodate approximately 2,000 ft. of hose in 50-ft. lengths. Area of shaft required for this amount is approximately 4 by 8½ ft.; height, 60 ft. Hose is raised by pulley arrangement to top of tower. See overleaf for detail. Another method of drying hose is by means of inclined hose racks installed on side wall of apparatus room.

Sliding-pole shafts, details of which are shown overleaf, should be provided with doors or self-closing device, in order to prevent drafts and heat losses through the openings.

*"The Fire Chief's Handbook," by Fred Shepperd; Case-Shepperd-Mann Pub. Corp., New York City.

NOTE. THIS DIAGRAM DOES NOT INCLUDE PROVISION FOR SUCH ELEMENTS AS ALARM OR BATTERY ROOMS, AND OTHER SPECIAL FACILITIES



ELEMENTS OF A FIRE HOUSE

TABLE OF FIRE APPARATUS SIZES

Note: Turning radius varies from 26 ft. to 48 ft., according to type and make. "Cab-over-engine" type of apparatus is slightly shorter overall.

Village-Size Pumping Engine, 500 g.p.m.

Length over all	22'-0"
Width " "	6'-6"
Height " "	6'-5"

Triple Combination Pumping Engine, 750 g.p.m. (most used)

Length over all	24'-0"
Width " "	7'-5"
Height " "	6'-11"

Hook-and-Ladder Truck (removable hand-raised ladders)

Length over all	41'-3"
Width " "	7'-5"
Height " "	7'-3"

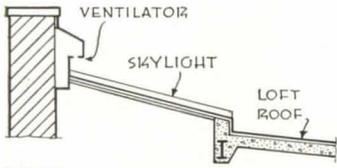
Hook-and-Ladder Aerial Truck (4-wheel type)

Length over all	58'-9"
Width " "	7'-11"
Height " "	8'-7"

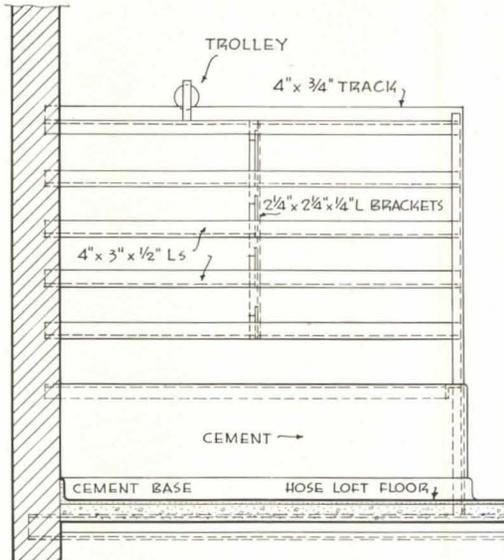
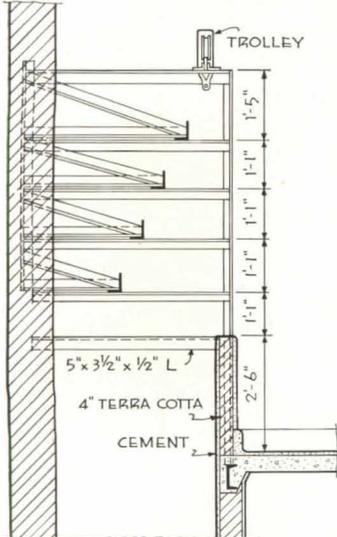
Hook-and-Ladder Aerial Truck (tractor-drawn type, 6-wheel)

Length over all	63'-6"
Width " "	7'-11"
Height " "	8'-7"

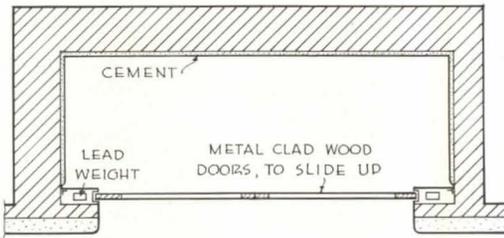
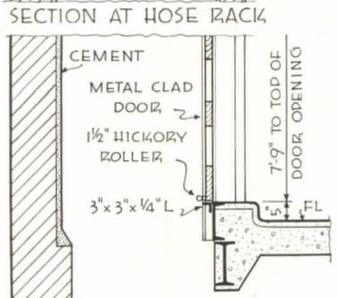
FIRE HOUSE CONSTRUCTION DETAILS



NOTE: HOSE IS RAISED TO TOP OF SHAFT BY HAND. SPECIAL HOOKS, WHICH FIT OVER LUG OF HOSE COUPLING, ARE AVAILABLE.



ELEVATION OF HOSE RACK

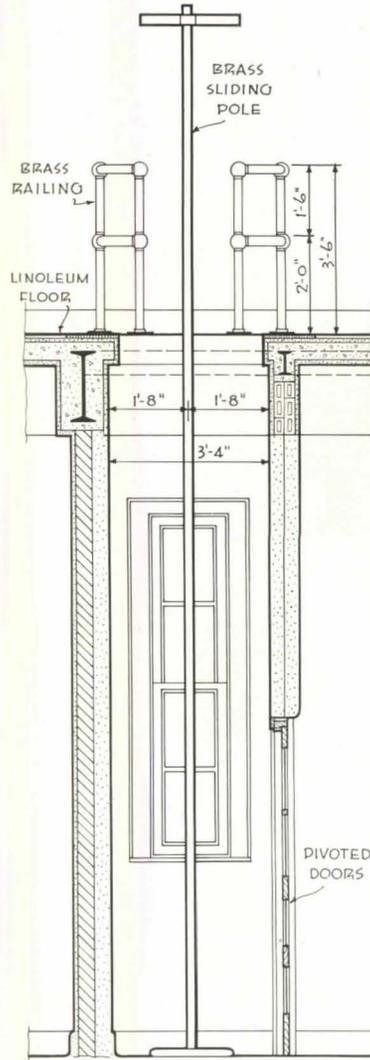


SECTION THROUGH SHAFT

PLAN OF HOSE SHAFT

SCALE 1/4" = 1'-0"

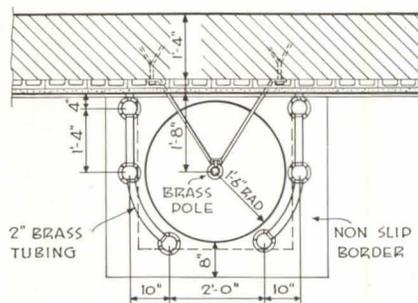
DETAIL OF DRYING TOWER



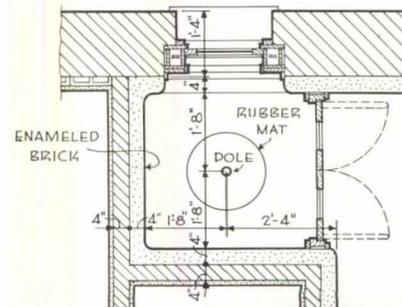
SECTION

NOTE: SLIDING POLE SHOULD EITHER BE ENCLOSED AS SHOWN IN DETAIL, OR THE OPENING SHOULD BE PROVIDED WITH A CLOSING DEVICE TO PREVENT DRAFTS AND FUMES FROM PASSING THROUGH TO SECOND FLOOR. OPEN POLE SHAFTS RESULT IN HEAT LOSS.

SLIDING POLE EQUIPMENT AND SPECIAL CLOSING DEVICES ARE AVAILABLE FROM THE SEVERAL MANUFACTURERS



PLAN AT SECOND FLOOR



PLAN AT FIRST FLOOR

SCALE 1/4" = 1'-0"

DETAIL OF SLIDING POLE SHAFT

FOR VOLUNTEER FIRE DEPARTMENTS, POLE SHAFTS SHOULD BE DESIGNED WITH VIEW TO SAFETY FACTOR

JAILS — CELL DESIGN

Information on this sheet was collected and prepared by Ronald Allwork. Sources include: American Prison Association; Edward R. Cass, Commissioner, New York State Commission of Correction; Austin H. Mac Cormick*; Harvey Wiley Corbett and Charles B. Meyers, Associated Architects.

General. Prime considerations for all jails are: **1,** Fireproof construction; **2,** Security; **3,** Heating; **4,** Lighting; **5,** Ventilation; **6,** Sanitation; and **7,** Low maintenance costs.

Types and sizes of jails vary from those which consist of but a few cells with no other facilities to large jails with many cells and complete facilities. In any case, each jail (or "lock-up") should maintain separate departments for males and females. Cells should not be located in the basement.

Cells are usually grouped in units called *cell blocks*, which may be one to four tiers in height. Single-tier cell blocks are preferred. Multiple tiers reduce the personnel needed for supervision and for guarding quarters. A two-tier cell block has many advantages and few disadvantages; but in small jails, proper classification of prisoners is made easier by using one-tier units.

Cell planning. Cells should accommodate one person only. If, due to unusual circumstances, provision must be made for more than one inmate per cell, each cell should accommodate three or four persons. Two persons should never be put together except in emergencies. Double-decked bunks are permissible.

Cells are of three types: Inside, Semi-outside, or Outside.

*Articles in "Prison World," official organ, American Prison and Nat'l. Jail Associations.

Inside cells are built back-to-back, with space between back walls for a utility corridor for plumbing, electrical conduits, and ventilating ducts. Fronts of cells are separated from outside walls and windows by a corridor, preferably 10 to 15 ft. wide, not less than 4½ ft. wide. A guards' corridor often is included along the outer wall; this may be separated from the day room (see drawing below) by a grille if cells are in single tiers. The guards' corridor may be elevated and equipped with an open rail for multi-tiered cells.

Semi-outside cells are built along the outside wall, but are separated from wall and windows by a narrow guards' corridor. Fronts of cells face a wide central corridor. Both front and back of cell are usually full-grilled for light and ventilation. Note utility shafts below.

Outside cells are built against the outer wall. Each cell contains its own window. Front of cell faces on a wide central corridor.

Day rooms are usually provided for prisoners who are not required to spend all their time in cells. Often the space in front of the cells is used for this purpose. In this case, corridors are approximately 10 ft. wide, and have fixed seats and tables. This prisoners' corridor should be separated from guards' corridor by tool-proof steel grilles.

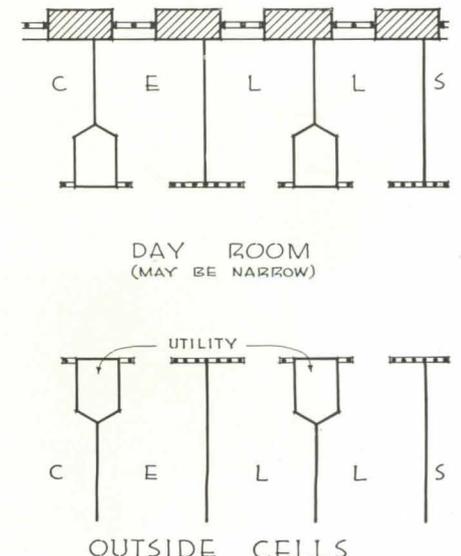
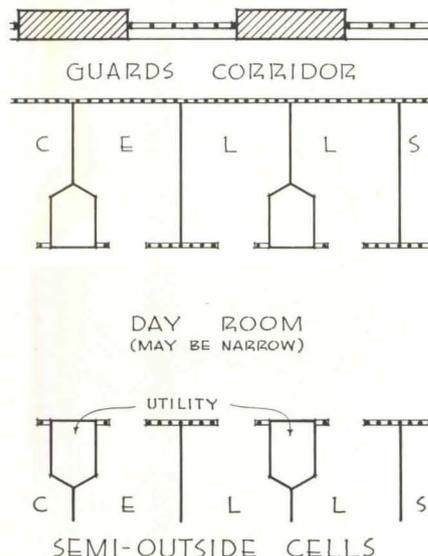
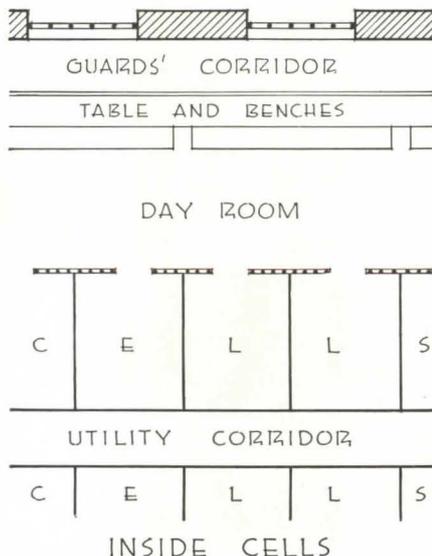
Cell design. New York State Commissioner of Correction recommends that cells be not less than 5 ft. wide, 7 ft. long, 7 ft. high. Cells 6 ft. wide, 8 ft. long, 8 ft. high are preferred. Other states have similar regulations. Cells are sometimes constructed entirely of reinforced concrete (except for grilles, doors, and locking devices), but walls and ceilings of plate steel, and floors of concrete, are most common. Cell fronts are usually of ¾-in. steel bars (round or

hexagonal) spaced approximately 5 in. on centers. Certain types, such as isolation cells, have closed fronts. Full-grilled cell fronts permit better supervision; and, in the case of outside and semi-outside types, improve lighting and ventilation of central corridors. Solid cell fronts provide greater privacy and do not permit prisoners to converse across the corridor, but are more difficult to supervise. When this type of front is used, a small glass viewing panel, and ventilating louvers, are needed.

Cell doors are preferably of the sliding type. A "food-pass" should be provided in either the cell front or the door. Cell fronts and doors do not need to be of tool-proof steel. Many jails have tool-proof steel on windows and at exits from prisoners' living quarters, and ordinary steel elsewhere. Detention-type steel sash are now commonly used in place of window-bars.

Locking devices, of a type which will lock or unlock a single cell, any number or combination of cells, or all cells, from a single control point, are desirable. If this type is too expensive, a bar-and-lever type, designed to hold or release all doors in a unit simultaneously, is quite acceptable. This latter type should be supplemented by individual locks on doors.

Furniture and equipment. Each cell requires a vitreous integral-seat water closet, placed directly on the cell wall and operated by a flushometer (if possible) with push button or other simple, not easily broken, device. A lavatory, metal mirror, bunk, seat, table, book shelf, clothes bar, and adequate lighting equipment are also required. All furnishings should be of metal to reduce fire hazard and danger of vermin. All should be firmly and permanently attached to cell walls.



JAILS — CELL CONSTRUCTION

MARCH 1941

