PROGRESSIVE ARCHITECTURE

newsletter

JULY 1951

- As in the case of all recent government regulations attempting to control construction, the amendments to the M-4 order which require special authorization for residences over $35,000 in cost and for many types of construction using more than 25 tons of steel, are not at all clear in their application, and leave design professions completely up in the air regarding advice to clients. Local offices of NPA are giving varieties of advice. How liberal will the interpretation be if a house costing more than the $35,000 limit avoids the use of critical materials? No one can answer this today and the architects need an answer.

- Principal difficulty is that the client must be persuaded to pay money for architectural services, in order to find out whether or not a structure will be permitted to go ahead. And the final permission or refusal comes, in many cases, from "claimant agencies" which are not really set up to process this sort of application with any speed, let alone intelligent analysis. The Office of Education, for instance, which will process applications for all school buildings, has no architectural or engineering department, and a suddenly acquired skeleton staff will have the power to say yes or no.

- Since these claimant agencies will be working against a "bank" of critical materials, to be distributed during a given period until the account runs out, good cynical advice to give architects serving clients with real needs seems to be to get the application in early and get it while it's to be gotten. Apparent selfishness of this attitude disappears when it is realized that no real survey of needs or knowledge of availability of materials exists.

- As an instance of the unplanned method of allowing relaxation of controls, look at exceptions to credit restrictions in "defense" areas (Savannah River, Georgia; Fort Leonard Wood, Missouri; Star Lake, N.Y., etc.). "Application blanks may be obtained at the Federal Housing Administration offices," says a typical HHFA release. "Processing will be on a first come-first served basis."

- NPA's prediction now is a 5% drop from last year's figures in over-all construction in the third quarter; 15% in the fourth quarter. Industrial plants, schools and hospitals, along with military construction, will be active building types, eating into volume of housing, commercial building, and public works.

- Example of paradox of present situation: aluminum is now scarce; aluminum windows will almost automatically be turned down in any application now. Then should an architect not specify aluminum windows in current work? Probably he should, because aluminum suppliers say crisis will be passed by end of this year and by the time buildings now on preliminary design stage are ready for materials on the site, aluminum may well be available. Yet applications have to be made, now, and... so the circle goes.

- In the meantime, work for the design professions seems to be holding up well. Most offices, medium and large, urban and rural, are busy. As predicted, the small firm and the firm not yet well established is suffering badly.

(Continued on page 2)

newsletter

- As this issue goes to press, Congress is still debating the limitation on public housing -- the Administration's recommended 135,000 units has been cut to 5000 by the House, 50,000 by the Senate (75,000 by the Budget Bureau). Chances are that the 50,000 figure will hold, but due to uncertainty some cities are cancelling plans. Chicago Housing Authority, for instance, announces that it has ordered "further architectural work temporarily deferred," on all but one project.

- While the construction industry waits Reg 6, describing how the CMP will work in detail, NPA is trying to figure out the next big headache -- how to assign non-CMP materials.

- School Executive magazine announces a competition open to architects in the U.S. and Canada, for the design of schools during 1951. A.I.A. approved, the competition will be judged by Robert Hutchins, Walter Kilham, and Morris Ketchum, architects; Ray L. Hamon of the U.S. Office of Education, and Benjamin C. Willis, Buffalo, N.Y., Superintendent of Schools. Inquiries to Walter D. Cocking, 470 Fourth Ave., N.Y.; competition closes December 31.

- A successful government agency closed its books in May when HOLC gave a surplus of $14 million to the U.S. Treasury. Established during the depression to rescue individual home owners, HOLC refinanced over a million loans, to the tune of $3½ billion, 80.9% of which were saved.

- Owens-Corning Fiberglass has now joined Crane and Revere as sponsor of Southwest Research Institute's Housing Research Foundation -- formerly the "Revere Quality House Program."

- If you can keep these high-sounding names straight, another organization -- the Building Research Institute -- has been created to support the Building Research Advisory Board. Membership with a sliding scale of dues is open to manufacturers, contractors, associations, professionals. BRAB is doing a good job of co-ordination and advice in the housing research field, and deserves this support.

- An Institute for Urban Studies is announced by U. of Pennsylvania, under the guidance of Robert Mitchell and Holmes Perkins, new architectural Dean at Penn. In addition to basic research, the Institute will assist the city of Philadelphia in studying local problems. Several new architectural appointments are also announced by Dean Perkins: Robert L. Geddes, as instructor; Leon Loschetter, from France, as assistant professor, and Stanislawa Nowicki, who is moving from North Carolina to take over a new course in Basic Design.

- A number of U.S. architects and students and teachers of architecture have profited from the Fulbright Awards for cultural exchange with foreign countries. Abroad now under 1950-1951 awards are Charles Burchard of Harvard, Ada Huxtable of the Modern Museum, George E. Smith of Brown.

- Report on Size of Elementary School Units by a Public Education Association committee headed by Mrs. Samuel Rosenmann makes the following observations: "self-contained classroom units of 25 pupils each, under a single teacher for the major portion of the day provide the best educational arrangement"; "Elementary schools of more than 20 classroom units tend to have a stifling effect upon the imaginativeness of teachers and children," and finally, "...there is much logic and experience in favor of elementary schools of 350 children."

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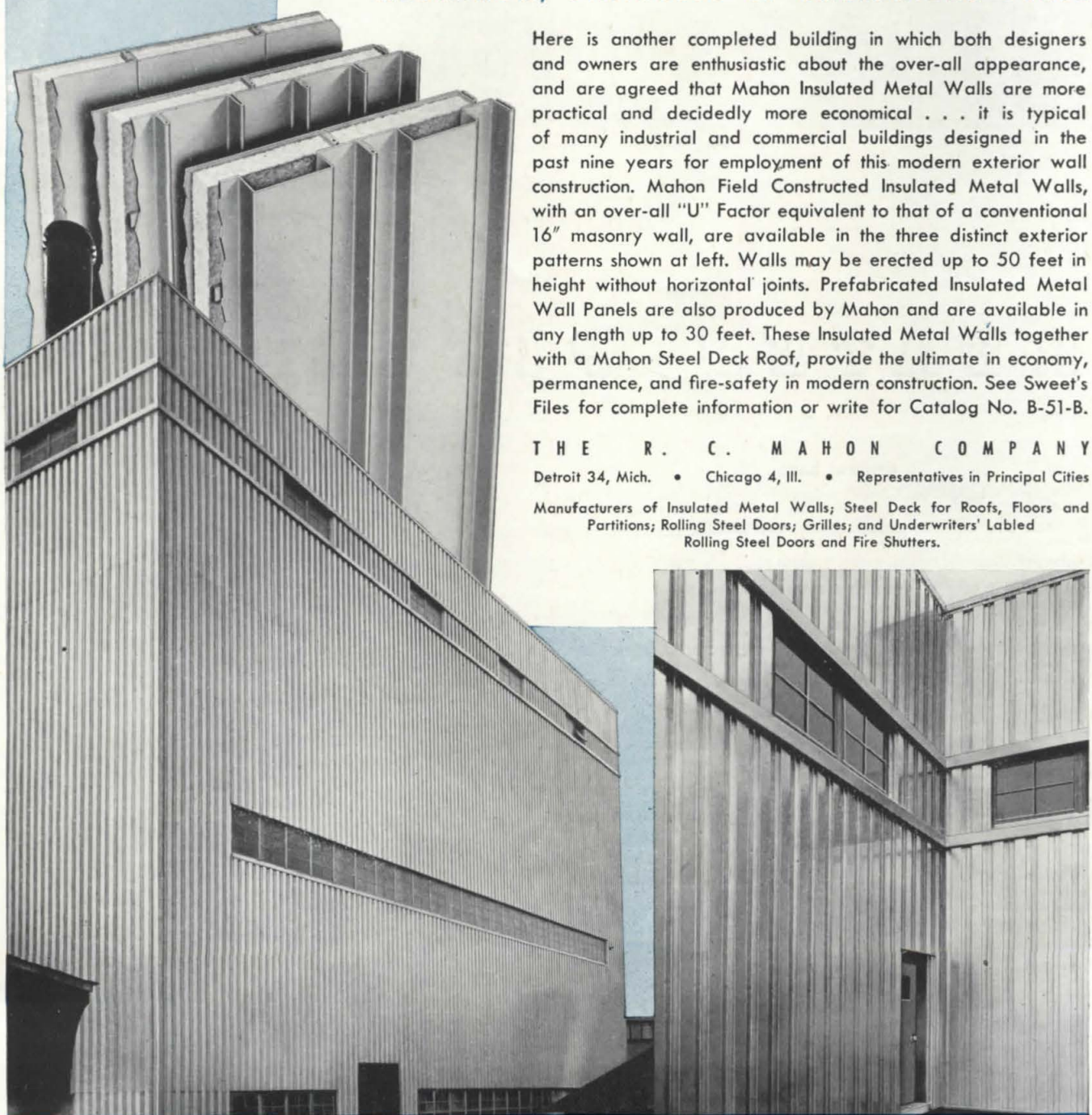

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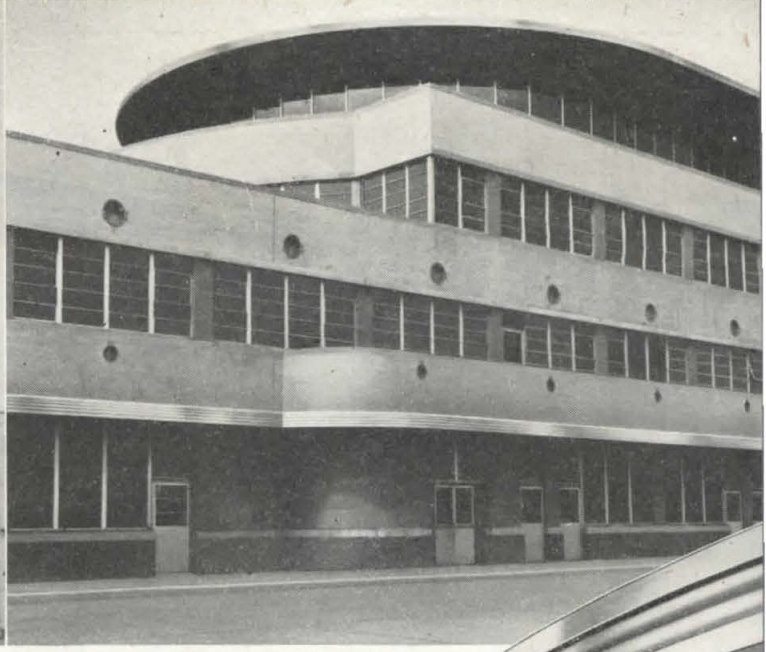
MAHON



• All exterior marquees are aluminum, by Overly.

• Close-up of aluminum marquee, showing facia and ceiling.

GREATER PITTSBURGH

GENERAL DATA

NAME: Main Terminal Building, Greater Pittsburgh Airport

LOCATION: Moon Township, Coraopolis, Pennsylvania

OWNER: County of Allegheny, Pennsylvania

SIZE: Main building is a half-circle, 460′ in diameter; over-all width is 575′; over-all length, including south dock, is 1060′.

COST, MAIN BUILDING: Approximately $9½ million

FIGHTER BASE: Air Force protection is adjacent.

COUNTY DATA

BOARD OF COUNTY COMMISSIONERS

John J. Kane, Chairman
Harry W. Fowler
Ernest Hillman

DEPARTMENT OF AVIATION

John B. Sweeney, Director
Edward G. Messner, Chief Engineer

DESIGN DATA

ARCHITECTS

The Office of Joseph Hoover, Pittsburgh, Pennsylvania

CONSULTANTS

Parsons, Brinkerhoff, Hall & MacDonald, New York City

ENGINEERS

Lee W. Cook, Structural
E. S. Tower, Plumbing
J. P. Warner, Electrical
T. F. Rockwell, Mechanical
William Murdoch, Sanitary

CONSTRUCTION DATA

GENERAL CONTRACTOR

Dick Construction Company, Pittsburgh, Pennsylvania

OVERLY ALUMINUM FABRICATION AND ERECTION

Air-conditioned Penthouse; Comfort Station, walls and louvers; Coping, and gravel stops; Control Tower; Cornices; Dome on

(OVERLY ALUMINUM, CONTINUED)

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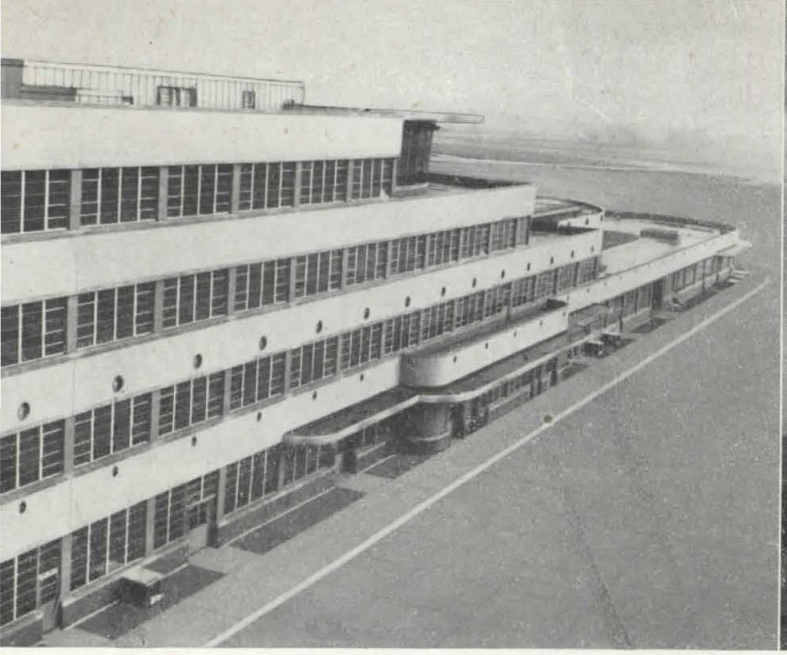
OVERLY STEEL ITEMS

Kalamein Doors; Pressed Steel Frames

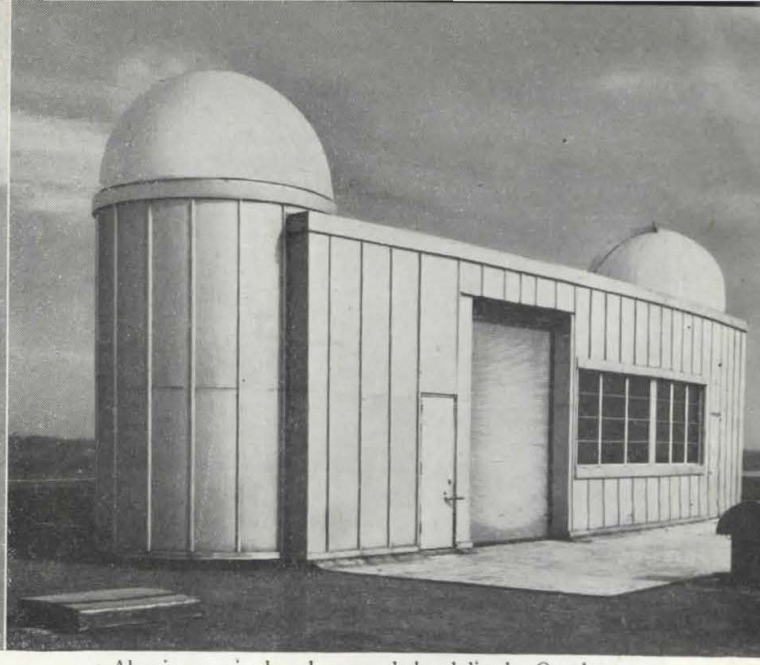
Observation tower also is aluminum, erected by Overly

FRONT

SIDE



• Overly aluminum work gives lifetime protection.



• Aluminum mirador, dome, and theodolite by Overly.

s prepared for

AIR PROGRESS

The Greater Pittsburgh Airport ranks with the nation's largest, and the modern super terminal building pictured on these two pages will meet the expanding needs of this progressive region for a long time to come. West and east docks will be added as needed. Although many innovations are represented architecturally in the design and materials, all were planned for initial and ultimate economy. *Overly* is proud to have been selected for the prefabricated architectural aluminum work and its installation.

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Maternity Hospital, Ann Arbor, Michigan
Lewis J. Sarvis, Architect
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Medical Center, New York City
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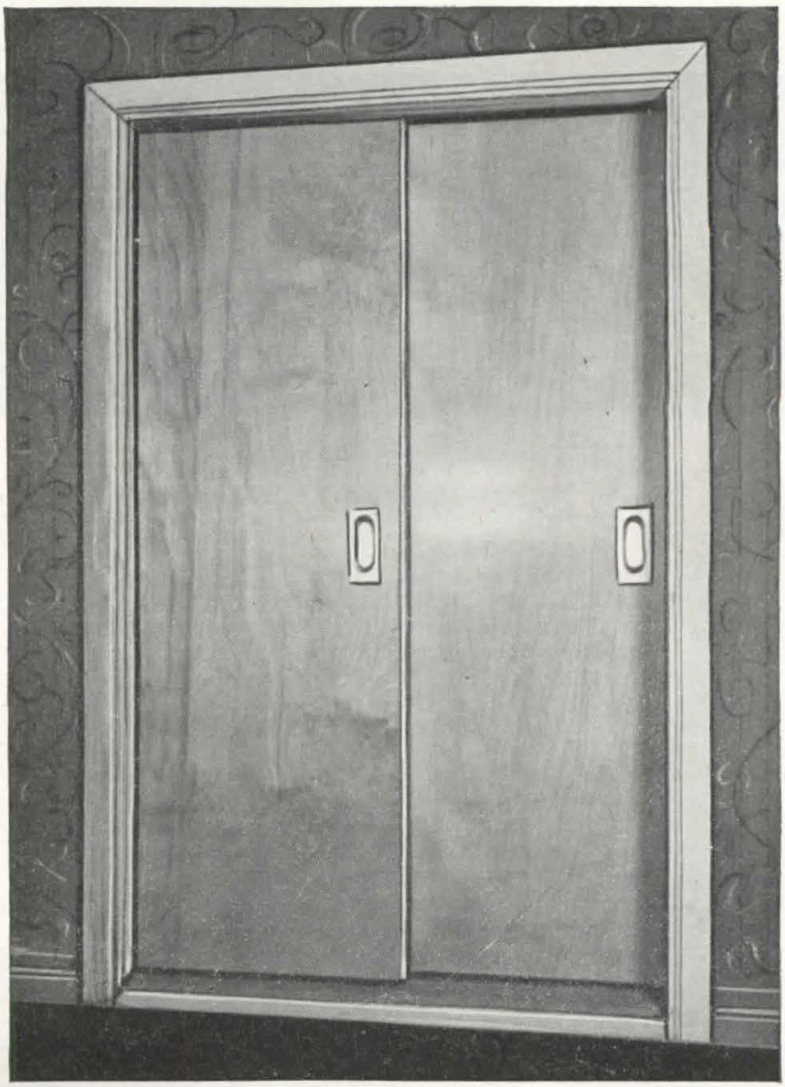
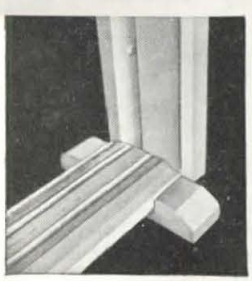
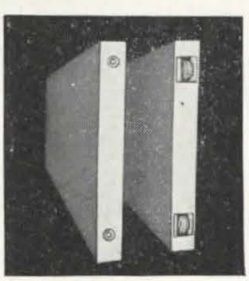
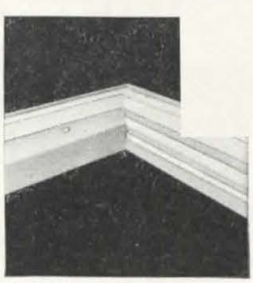




The oak floor track, laid on the finished floor, sets the proper distance between jambs at the bottom. Note rubber bumper on jamb.



Revolving roller guides operate in head track; vulcanized rubber rollers in floor track — assuring silent, fingertip control.



Side jamb (left) is routed to receive the door; head track (right) is accurately machined for perfect operation of revolving roller guides.

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p/a VIEWS

LEGAL EXCEPTION

Dear Editor: Evidently the writer of the NEWSLETTER in the May issue of P/A has not read NPA Order M-4 too carefully. As an example of the leniency of the New York regional office he says authorization has been granted for "such items as stores and restaurants, motor courts, banks, office alterations, service stations, etc.—*even a mess hall for a Boy Scout camp.*"

Under section 15 in a list of prohibited construction the following item appears, "camps (*except* public and social welfare"). Social Welfare organizations such as the Boy Scouts, therefore, may receive permission to build needed camp structures.

JULIAN H. SALOMON
Camp Consultant
Suffern, N.Y.

GOVERNMENT FEES

Dear Editor: Reference is made to IT'S THE LAW in May 1951 P/A. Bernard Tomson compares two $6,000,000 projects which, under the new schedule, would produce a fee of $60,000 less than with the earlier schedule.

It would seem that states such as Tomson speaks of have one table of rates, regardless of the nature of the project. An architect who had a project for a state with a schedule similar to the early one that Tomson quotes, was recently offered a project under the new schedule. The first project had many repetitive identical floors. The second project had nothing that was repetitive and each space required special study. A comparative study of the work involved in each showed that under the second schedule, the architect would be receiving a little less than one half per drawing sheet, than he did under the first schedule.

To realize how short of the usual A.I.A. percentages that state's schedule falls, we should add to each percentage another third, inasmuch as the state's work is for design only and the fee for construction supervision is usually 25% of the fee. Thus, for the $6,000,000 project which Tomson mentions, the inclusive fee would be 3% plus 1%, equals 4%, as distinguished from the usual A.I.A. minimum of from 6% to 7%.

Governments resort to many devices for reducing the architect's fee. Here is an assortment of examples;

(A) One Government computes its lump sum fee by applying the rate of 5% for the design only to the estimated cost. This is a good rate for large projects, but when it comes to computing the cost, the Government uses average figures for the nation as a whole involving north and south, east and west, whereas the cost at the location of the project happens to be the highest in the country.

(B) A Government agency knows full well that certain projects can be designed only around the equipment which each room must house. And the architect must, therefore, plan, design, and show on all drawings the equipment throughout. Nevertheless, the agency refuses to include the cost of said equipment in computing the fee.

(C) A project has to be planned on a very uneven site. The design must revolve, therefore, around the consideration of the grades, drainage and so forth. The agency, nevertheless, refuses to include the cost of yard-work in the architect's fee.

(D) To establish the cost per cubic foot for purposes of fixing the fee, the agency refuses to use the experience figures for similar projects elsewhere. Instead, it computes the fee on the basis of its own experience, which happens to deal almost exclusively with the simple dormitory-type buildings involving much repetition.

(E) Recently an architect was invited by a department of the Federal Government to design four different hospitals to a given total of beds, and to a pre-determined budget. The percentage rate for computing the lump sum fee for design only was 4½%. An investigation revealed that to construct the required number of beds, it would require at least twice the amount of money which the government had. Therefore, in terms of actual cost, the architect would have had to design these hospitals at the rate of less than 2¼% of the cost.

(F) A foreign government asked an architect for a lump sum fee to design a large project, again based on the Government's own estimated cost. Upon investigation, said architect found that this project would cost three times the Government's estimate. He computed the fee at 5% of his own construction cost estimate. In no time flat, a sucker turned up who hooked himself on that job at a fee of less than ⅓ of the 5% proposal. In other words, the second architect took the job at about 1.7%.

Few architects make production cost budgets before starting to work on a project. They, therefore, do not know that they are losing their shirt until they have lost it.

BEEN-ROOKED-MYSELF*

* *Identity of writer known to the Editors but withheld for obvious reasons.*

TAXATION AS STIMULUS

Dear Editor: May I compliment H. H. Waechter on his excellent letter in your May issue, in regard to co-operatives.

While I do not question any of his statements or philosophy, I think there is a minor revolution brewing as a result of income tax laws. The ability of a "co-operator" to reduce his income tax by deducting the interest and tax payments of his share of the co-operative, has undoubtedly been an extremely important stimulus in the recent development of co-operatives.

It is my hope that this economic stimulus may tend to engender some of the true and basic Rochdale principles. WILLIAM CHARNEY VLADECK
New York, N.Y.

LAMP COMPETITION

Dear Editor: Concerning the NEWSLETTER in May 1951 P/A: it states that two architects were the only ones who placed in the Museum of Modern Art-Heifetz Company Lamp Competition. Kevin Roche and Frank Greenhaus, Architects, also placed and were awarded a prize. Their entry is to be manufactured by the Heifetz Company.

FRANK GREENHAUS
New York, N.Y.

CO-OPERATIVE DESIGN

Dear Editor: While considerable travel away from home has made me very late in doing so, I do want to compliment you on the very fine article which appeared in the March issue of P/A dealing with the twin houses in Berkeley, California.

The thesis that the architect and landscape architect not only *should*, but frequently *do* collaborate successfully in solving the individual and peculiar needs and limitations of the client was handled splendidly. All too often it is thought by all too many that clients in the income bracket of these two brothers must forget about having either house or grounds "tailored-to-measure" by competent professional offices. Berkeley was my home for many years. Its many and steep hills, its vulnerability to earthquakes, its tendency to move down-hill, offer plenty of challenge to the architect, engineer, and landscape architect. Those are small drawbacks, indeed, in a locale that offers so much chance to capture views of the Golden Gate, and of the millions of twinkling lights of fabulous San Francisco.

Perhaps because I have long worked in an organization in which architects,

(Continued on page 10)

P/A VIEWS

(Continued from page 9)

landscape architects, and engineers work together harmoniously on every project, I was happy at the handling of this story. May I hope that similar stories about co-operation between the design professions will appear regularly, and as a matter of policy, in future issues of P/A? WILLIAM G. CARNES, SECRETARY
American Society of
Landscape Architects
Bethesda, Md.

LETTERS TO THE SCHOOLMASTER

Readers of "Out of School," the P/A column conducted by Carl Feiss, raise some questions provocative of further discussion.

Dear Mr. Feiss: For the last few days I have been reading and re-reading your latest OUT OF SCHOOL, and, it certainly struck a kindred response within me! Ever since my student days I have been connected with architecture of distinct social significance and the co-operative housing movement—in fact, until the very outbreak of the war—and I feel now a strong and compelling urge to return to this kind of work. I have been wondering, therefore, if you could probably tell me what I should do to find whether there are any chances of my participating in work of the kind you mentioned in your article—in planning, supervision, or research. I could work anywhere in the world except in tropical regions: from my experience in the Persian Gulf Area I found living there very tough going.

I have heard that the U.N. is also doing some important preliminary work on planning and research. It is next to impossible, though, to get any reliable information out here.

●

Regarding your inquiry as to where one would go to look for a job in foreign parts, may I suggest that you contact directly:

Mr. Jacob Crane
Special Assistant to the Administrator on International Housing Activities
Housing and Home Finance Agency
Washington 25, D. C.

Mr. Anatole Solow, Chief
Section of Housing and City Planning
Division of Labor and Social Affairs
Pan American Union
Washington, D. C.

Mr. Ernest Weisman, Chief
Housing, Town, and Country Planning Section
Social Affairs Department
United Nations Headquarters
East 42nd Street
New York, New York

Anyone making such inquiry should include a life history of training and experience as well as special interest and desired remuneration. This would rapidly expedite consideration. CARL FEISS

●

Dear Mr. Feiss: With the draft laws changing the life of the college student, we seem to be pressed to revise some of our educational practices. We have been told in the past to spend more of our time with the less promising students in an effort to maintain the standard of our graduates. Today this directive does not make sense any more as the less-gifted students are going to be lifted out of school by the Army.

We have been striving continuously to increase the duration of the studies leading to a degree in architecture. With the military training consuming more than two years of the average student's life we expect pressure to reverse this trend and we should be prepared to produce graduates with four-year curricula, without lowering any standards. As far as our present standards are concerned, it was stated by leading practitioners of our trade that our graduates lack knowledge of materials. Complaints were heard about low humanistic standards and self-assured attitudes. We should not assume that all of our graduates are ignorant and burdened with a sense of superiority but the standard, if there is one, is open to question.

Our present method of making the student absorb architectural know-how is based on separating this over-all

(Continued on page 12)

Important to school interiors...

✓ the right color for educational functions

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Better lighting and seeing conditions—better emotional environment for study and play—better school morale! These are improvements you can make in schools with interiors of the *right* colors.

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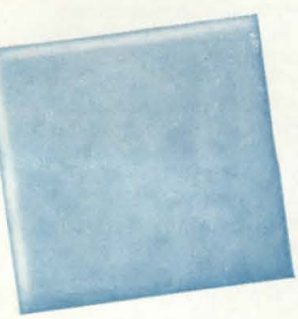

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P/A VIEWS

(Continued from page 10)

knowledge into courses in isolated fields. Courses in reinforced concrete strength of materials, mathematics, philosophy, and psychology are taught in most schools by specialists unfamiliar with, and not interested in an architectural student's problems and thinking. Hardly any effort is made to co-ordinate these courses with the design work. Little is done to get the student interested by showing the practical values and the sense of control experienced in theoretical studies. It is only too often true that the good grades in building construction in the college transcript do not signify any ability of detailing nor any knowledge of materials when it comes to applying them in design work. The fallacy of checking knowledge off in the transcript only satisfies the college administration. The architect hiring a graduate straight out of school will seldom consult his grades. He will ask for drawings where he can see how far the applicant can utilize the knowledge he should have. It is a misconception to excuse the lack of co-ordination and practicability as a result of idealism.

Instead of lowering the standards of our graduates to cut down the duration of professional studies we should establish new and more valid standards. Our graduate should be not only a technician who can follow the handbook like a television repair man and copy details from *Architectural Graphic Standards* and *Sweet's* file with lines which will insure an acceptable blueprint. Knowledge of this sort can be learned in an office more adequately than in school. We want a graduate with technical and visual imagination. A man who is able to make progress on his own towards ideals chosen and developed by himself. He has to have judgment in the social as well as in the technical sense.

Though aiming at a highly individual product as a graduate, we are still thinking in terms of mass education. Our curricula are unco-ordinated collections of trade-school training and liberal arts survey courses. New needs have been satisfied by adding new courses. Worn-out students wander into classrooms after endless hours of night studies, too tired to think and to absorb information. To shorten the duration of studies without revising our whole approach to architectural education would be impossible.

It seems that our whole classroom attitude will have to be changed. We will have to stop aiming out arguments at the lowest common denominator of intelligence. Such practices are wasteful of time and kill the enthusiasm of students with high IQ. We will have to handle students progressively more like individuals, assuring that information is not just dumped on them but carefully filed in their memory in reference to its possible uses. The sequence in which information on architectural know-how can be absorbed best does not follow the same pattern with every student. Only individual attention in an integrated pattern of education can give the maximum efficiency in absorbing information. We cannot, however, let an integrated course in architecture ramble along without control.

More knowledge of psychology is needed for the teaching of architecture than the material offered in a basic survery course taken by most of our instructors as one of their excursions into the field of humanities in their college days. There are but a few instructors in architecture who studied the history of teaching theory and principles of education. These studies being required for education majors in other fields should be at least by optional arrangements available as part of graduate studies in architecture. Teaching architecture is still considered as a sideline and not as a profession in its own right. Our architectural education is changing under pressure without a goal. I hope these comments will help to bring architectural education into closer harmony with the requirements and limitations of our present emergency, our ideals of architecture, and our regard for the individual.

GEORGE PETER KELETI
Visiting Instructor
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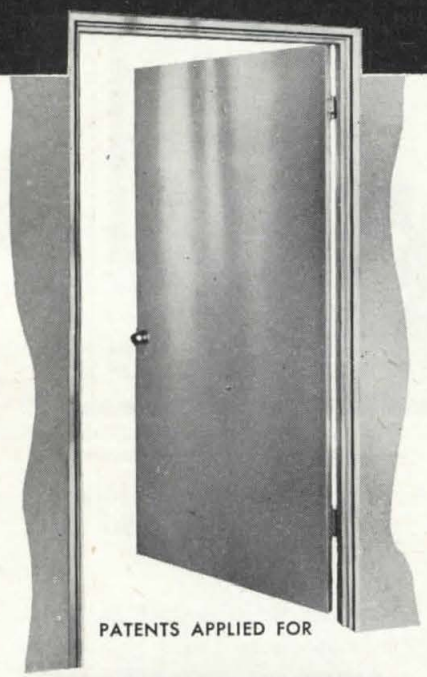

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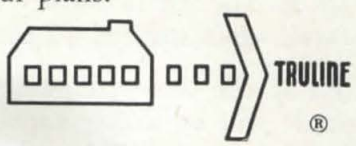

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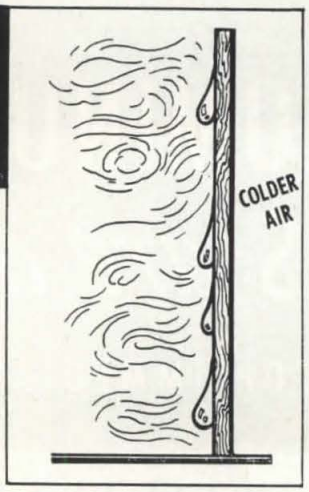

Condensation forms when temperature of contacting air is reduced below dew-point by a cold surface.

Condensation forms when the capacity of an air space at a given temperature is too small for the amount of vapor present. →

As air grows colder, it can hold less vapor. Saturation increases until a dew-point is reached, and condensation occurs. The surface of a material colder than the contacting air it faces, and continuously losing heat on the other side, will continuously extract heat from the air by direct conduction. The denser and bulkier the material, the more heat will it extract and store before attaining room temperature, if it ever does.

For example, if ordinary insulation is installed with air spaces on both surfaces, it continuously absorbs and emits heat rays at a rate of over 90%. If installed without air spaces, there is even more heat flow continuously by direct conduction through solids. Each square foot contains about 363,314 fibers, with surfaces aggregating approximately 46 sq. ft. for condensation formation.

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No condensation forms on the aluminum surface next to the warm room, for a dew point is never reached. The sheet's other surface faces a space which is a *little* colder than the aluminum. Since warmth flows to cold in radiation and conduction, the aluminum will *give off* a *slight* amount of *heat* to the colder space, thereby slightly *increasing* its vapor retaining capacity; making condensation impossible.

The next reflective space has almost the same temperature as the next aluminum surface, with its slight mass, ⅕ oz. per sq. ft. The aluminum absorbs and emits little heat. Its other surface is slightly warmer than the air it faces; again there is no extraction of heat (the REVERSE), no dew point.

With 4 or 6 reflective spaces, there can be no dew point anywhere on or in such aluminum insulation. Should rain leak in, it will be slowly expelled as vapor, since exterior walls, in comparison to aluminum have a far greater permeability than the required minimum 1 to 5 ratio. Because aluminum is impervious to vapor flow, condensation on under surfaces of roofs and inner surfaces of outer walls is minimized.

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PROGRESS PREVIEW

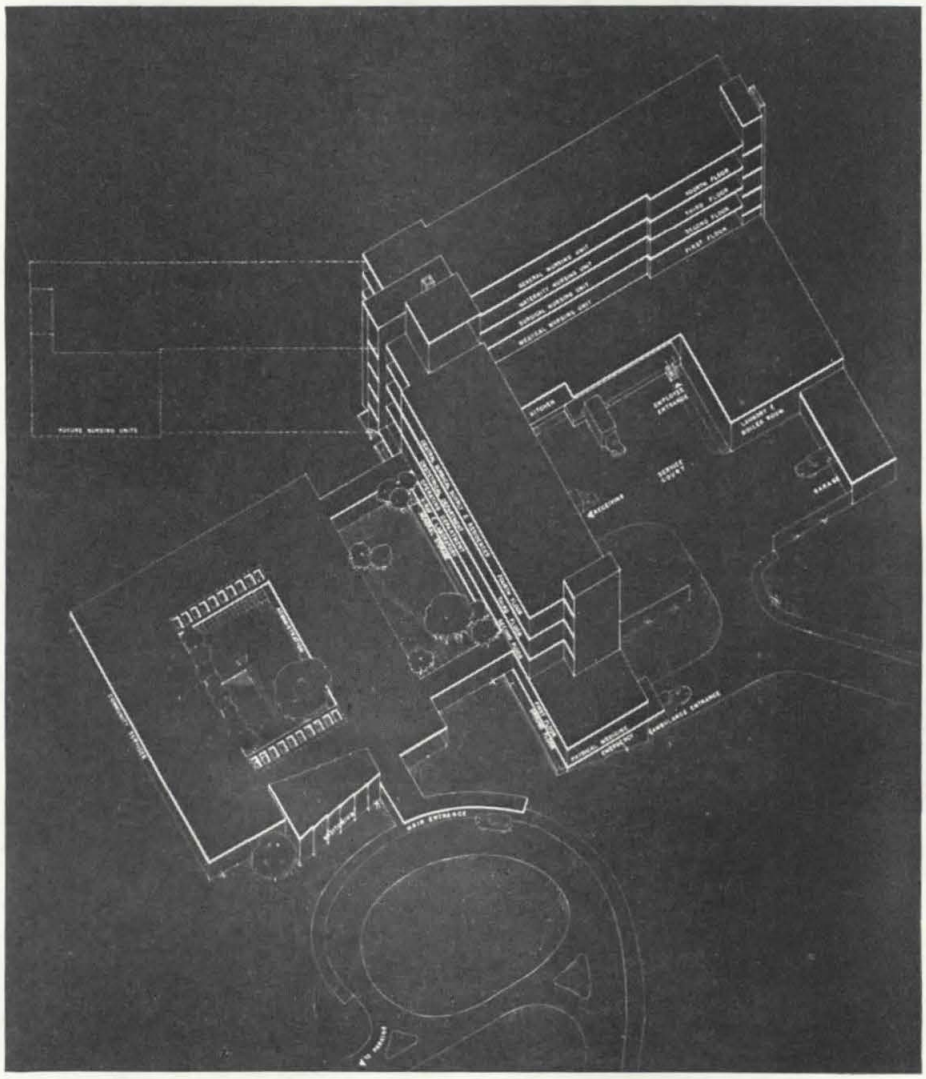
general voluntary hospital for a long island community

The succession of graphic analyses, plan sketches, cubage estimates and diagrams, study model, more and more exact plans, outline specifications, cost estimates, and then preliminary elevations and perspectives, that Isadore Rosenfield, New York architect and hospital consultant, produced initially when designing North Shore Hospital, Nassau County, Long Island, demonstrates an orderly process of architectural development toward the client's needs and preferences. As Rosenfield is especially concerned about the more precise and realistic handling of an architectural assignment in the very *preliminary stages*, he has recounted his design steps on this job as a "case study of preliminary planning."

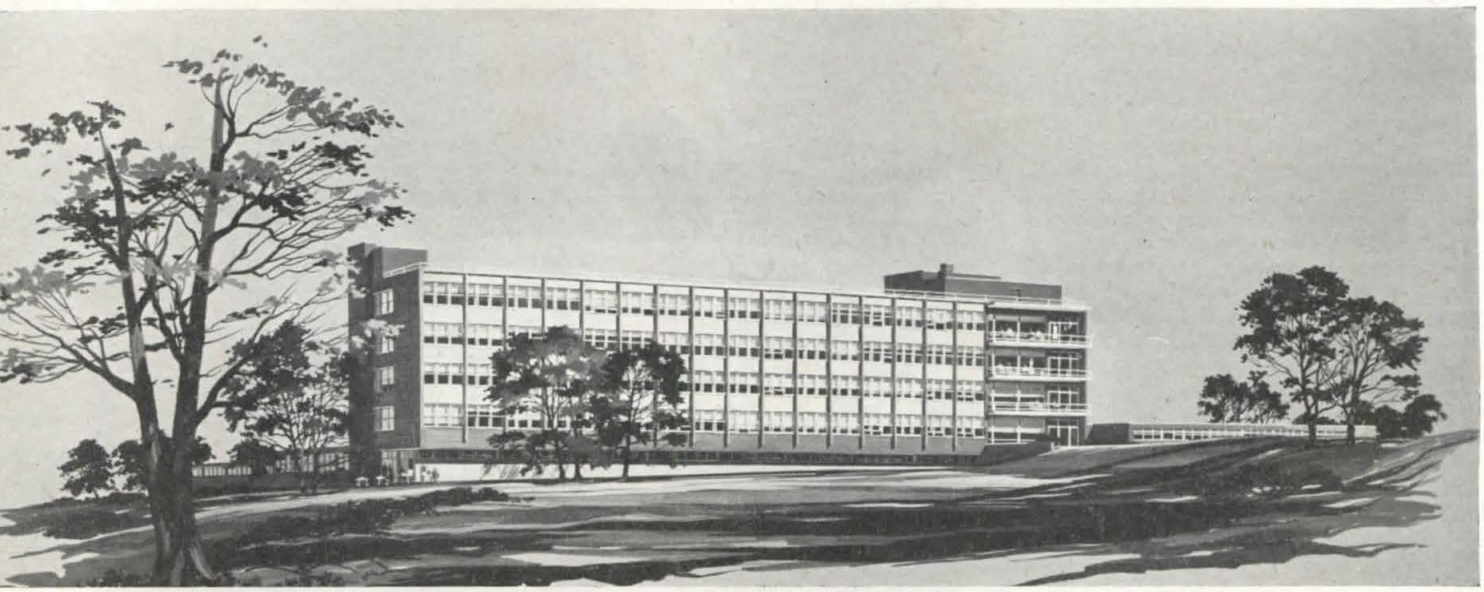
Explaining that he considers the preliminary stage of a project terminated only when the project has been developed to the point of beginning working drawings, Rosenfield comments:

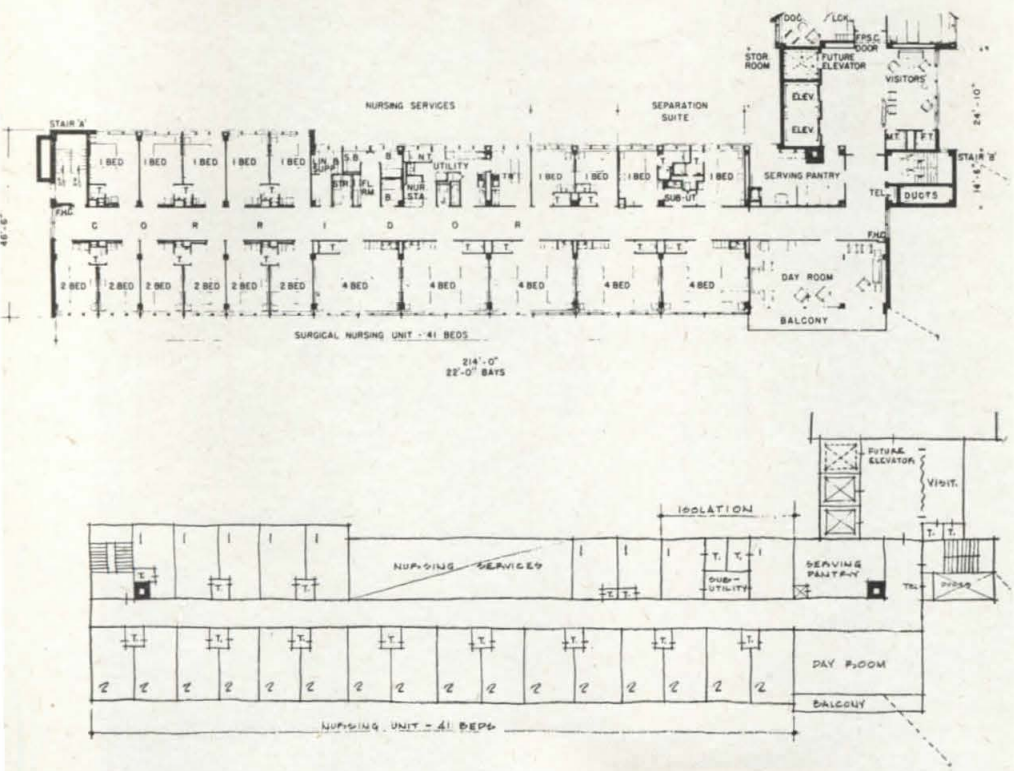
"In the usual practice, a preliminary set comprises a *scheme* in which the spaces assigned to the various functions roughly correspond to the architect's experience, or to the experience of others as gleaned from architectural publications, and more often taken from Public Health Service standards. Spaces for functions with which the architect happens not to be familiar, or for which sources are not available, are frequently assigned on an emotional basis: the architect *feels* that so-and-so much space would seem reasonable, or looks good. Under these conditions, a great deal of emphasis is placed on alluring perspectives designed to "sell" the project to the client.

"Once the *scheme* is accepted, the architect buckles down to find the real nature of his project through the development of drawings which are referred to as *functional layouts* or *prefinals*, etc. Here, for the first time, the architect begins to find out what must happen in each space; what spaces will be required behind the scenes for pipes, ducts, conduits, valves, etc.; what kind of a structural system would answer requirements; and how the project could



The perspective of North Shore Hospital (above) was drawn long after basic plan decisions were made and the architect had assembled his plan elements in the isometric study (right), without "skin" and avoiding commitment as to appearance.





The simplicity of the single-line plan sketches that Rosenfield calls preliminary-preliminaries is indicated just above. The same portion of the plan, as further developed in the final when the architect has considered mechanical and structural requirements as well as functional needs, reflects the increased complexity. The perspective (top) was not attempted until all major plan considerations had been settled by the architect and client.

be made to look like the alluring perspective.

"In a complex building, such as a hospital, the architect almost invariably finds at this stage that he needs a great deal more space laterally (and frequently vertically) than his preliminaries indicated. In fact, this is always taken for granted! However, more cubage means more cost. The architect is embarrassed with his client, because he has to break the "bad news" of greater costs than expected, and his excuse is that it is impossible to foretell what cubage would be required with any degree of accuracy.

"Such procedure is frequently more embarrassing to the hospital Board (in any case the owner) than to the architect. The increase in cubage and consequent cost between the *scheme* and the *development* is frequently such as to cause amputative abbreviation and, indeed, the abandonment of the project. It also means that the architect has to make repeated re-studies, at an unforeseen cost to himself.

"We frequently see in the architectural press and in exhibitions, most sumptuous hospital schemes. I used to regard them with great envy. 'Why,' I used to say to myself, 'do I not have wealthy clients who would permit me the same luxurious abandon?' Almost invariably, I would later find that what was shown was a *wild dream* which never became a reality, or which terminated in a pitiful stump.

preliminary-preliminary

"The North Shore Hospital began, as do all of my projects, with what I call a preliminary-preliminary or a comprehensive study. In this stage the draw-

(Continued on page 18)

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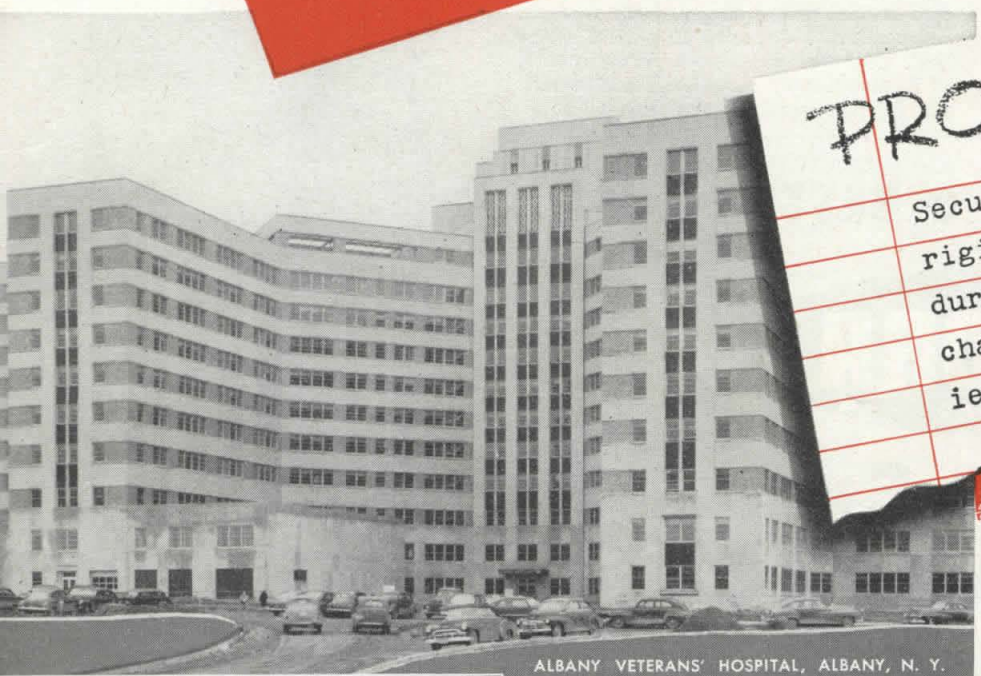

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(Continued from page 16)

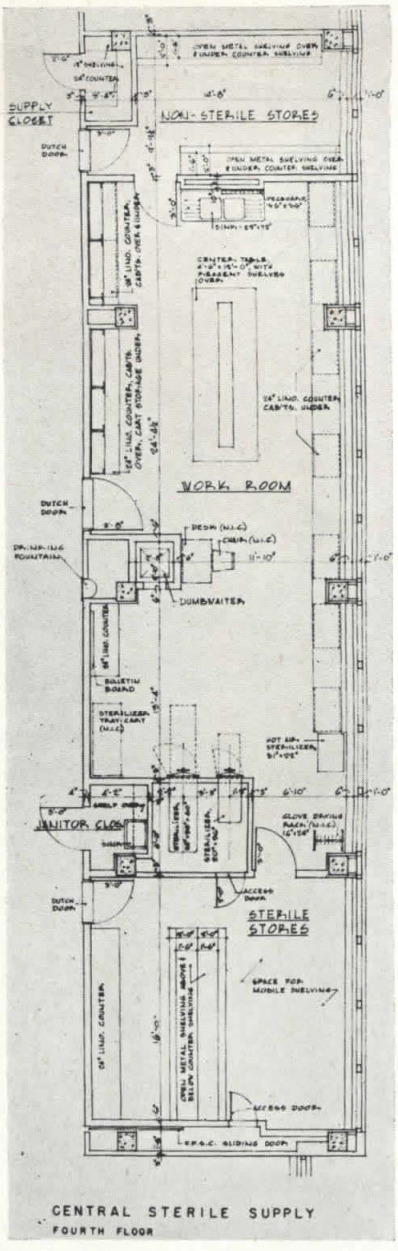
ings are single-line indications of spaces, drawn (frequently freehand) over a grid of uniform spans and column bays derived from previous experience. All features which are new, or which I think should be re-studied, are re-studied immediately at a large scale with all equipment shown and all clearances for plumbing, etc., indicated before they are incorporated into the single-line drawings.

"These newly determined spaces, together with the spaces previously determined from experience, are then combined into departments and typical nursing units. The departments and the nursing units are then stacked by floors and related to the shape of the terrain, orientation, view, etc. If an old space grid does not meet new requirements, it is modified or abandoned and a new one is established. In any case, all functional spaces, from boiler room to janitors closet, are shown in the preliminary-preliminary stage in accordance with the space that we know will later be actually required.

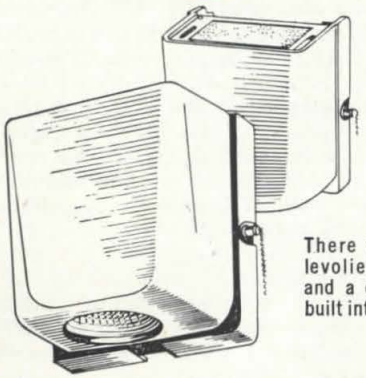
"No elevation studies are made during this stage. An isometric perspective *is* drawn, but without an exterior skin. Usually, a similarly conceived model is also prepared at this time, but this, again, makes *no commitment* as to architecture, and is merely a stacking of the floor plans.

"These studies are actively discussed with the hospital administration, if there is one, and with the medical advisory board and the planning committee of the board. Such roughly made, but realistically composed, studies are susceptible to quick variation and change. When they are finally adopted,

(Continued on page 20)



An example of the extent of study of units as part of the preliminaries.



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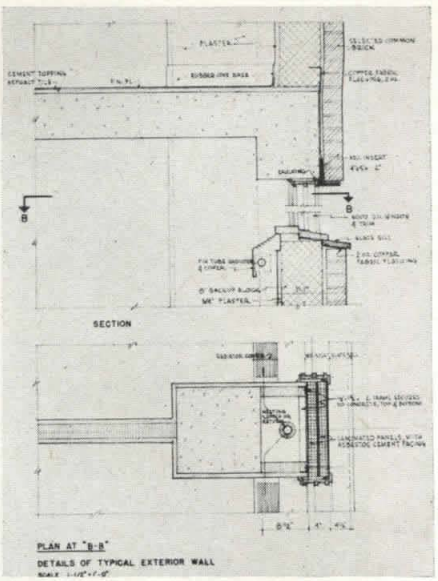
PROGRESS PREVIEW

(Continued from page 18)

they are accompanied by a cubage estimate based on a cost per cubic-foot current in the area at that time.

"During the preliminary-preliminary stage of development of the North Shore Hospital, because prices were rapidly rising, it appeared that the cost would exceed the anticipated funds. Instead of carrying this threat through the full development of the plans, it was immediately decided which omissions and substitutions should be considered when bids would be taken. These omissible items were to be carried in all drawing stages, but instead of being handled as 'reducing alternates' they were to be handled as 'additive alternates.' Thus, the owner would know from the beginning what the 'basic hospital' is to consist of and what he could add, and in what order he could add items, should the funds be sufficient or should additional funds become available.



The construction system is well determined during the preliminary stage.

final preliminary

"At this stage, all the final suggestions from the owner are incorporated and the studies made with full consciousness of the final building. All the rooms are drawn with all the basic equipment (fixed and mobile) and all the behind-scenes spaces that will be necessary. The structural system is well determined, pursuant to consultation with and study by the structural engineer; and a sheet of architectural and construction details is included with the preliminary set. The behind-scenes spaces allowed are largely determined by ourselves from previous experience, but a mechanical engineer is nevertheless consulted for unusual conditions or new ways of handling old problems.

"In some parts of the country, such as New York, engineers are not part of the architect's organization. In such cases, the architect usually retains professional engineers after his preliminaries are accepted. As he has no engineers on the project during the development of the preliminaries, the preliminaries do not as a rule reflect the engineering *realities*. In the writer's practice, engineers are engaged and appropriate business arrangements made for the preliminaries, as a consideration separate from final engineering services.

"The large-scale layouts of typical rooms, special rooms and, in any case, of spaces requiring complex hospital equipment, which were made for the preliminary-preliminaries are thoroughly revised at this time; and finally the architecture is studied in an intimate fashion. Until this point the esthetic considerations have been constantly *in our minds*, but not permitted to assume a position of preeminence until all major plan considerations have been settled. Thus, the final elevations and subse-

(Continued on page 152)

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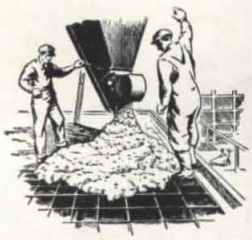

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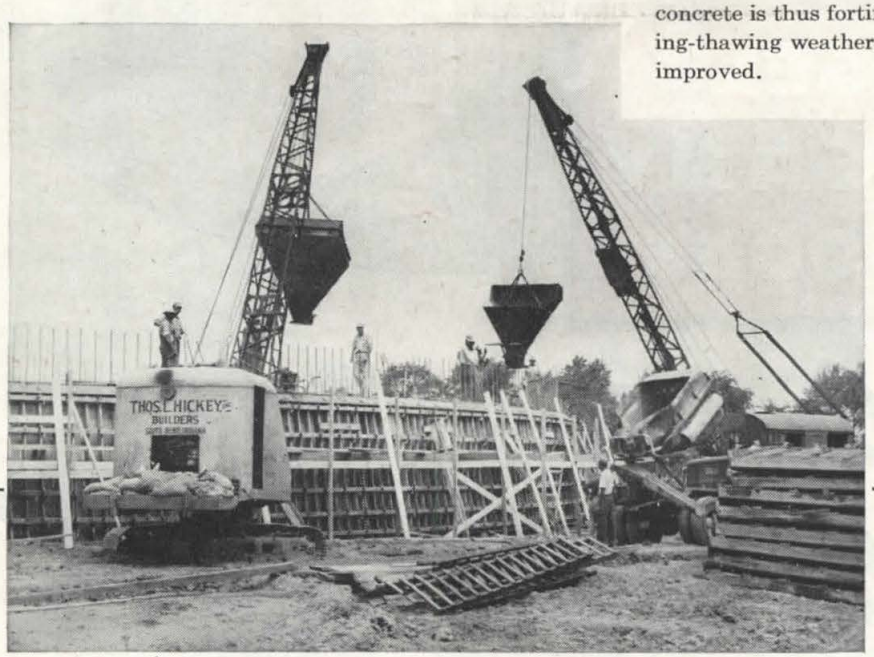

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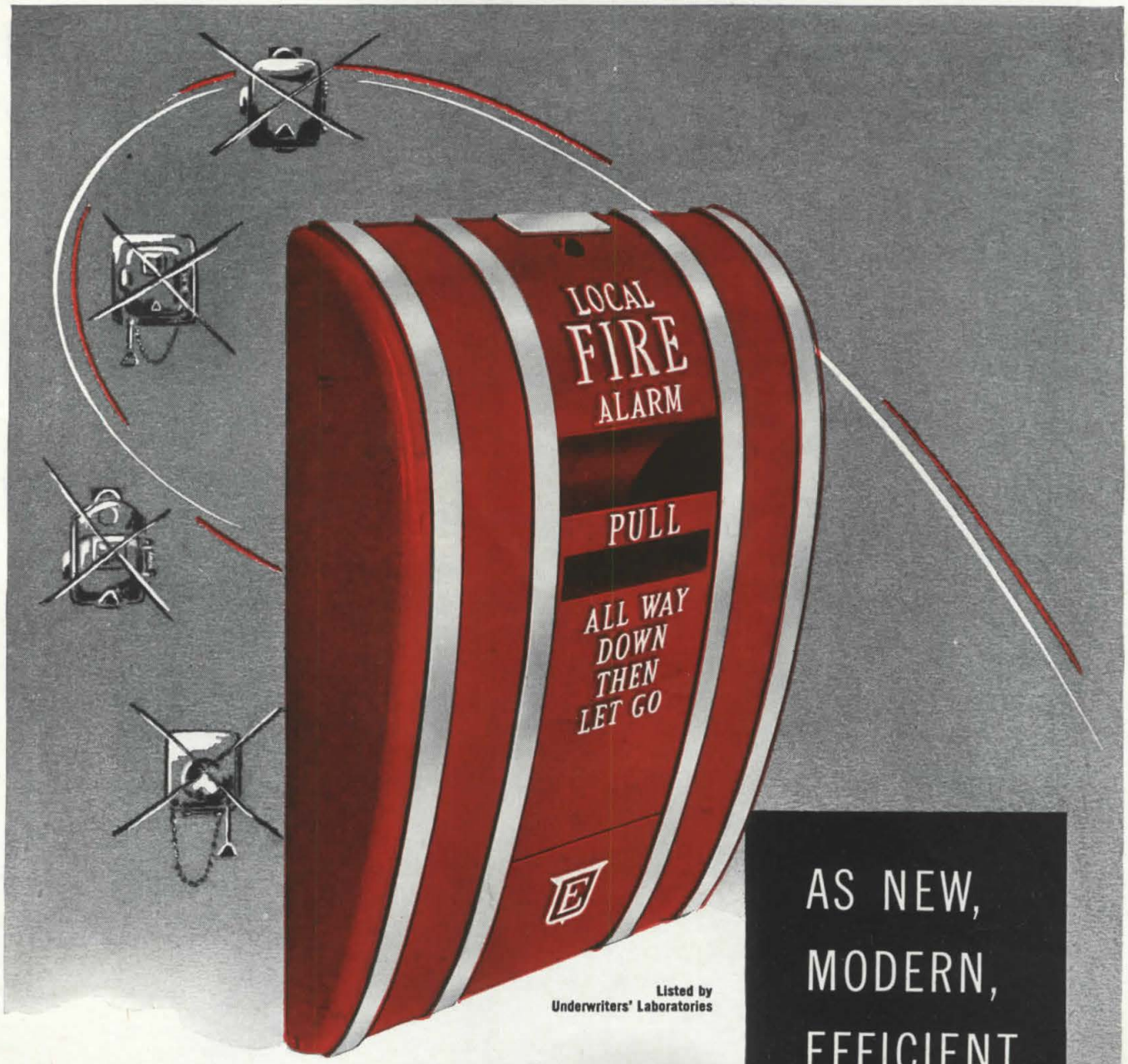

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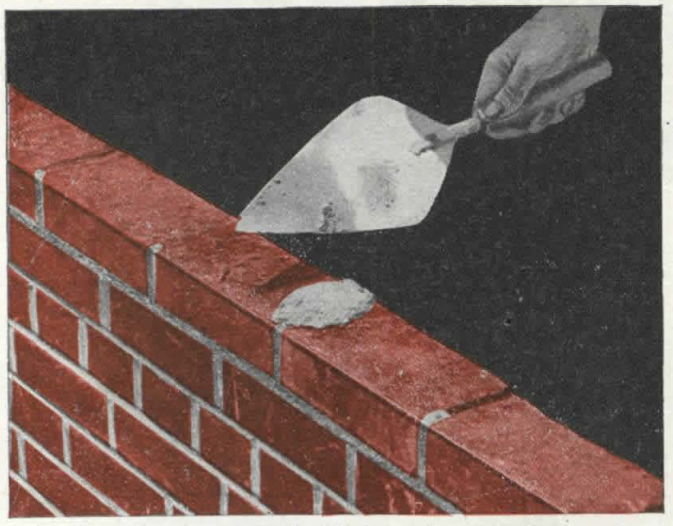
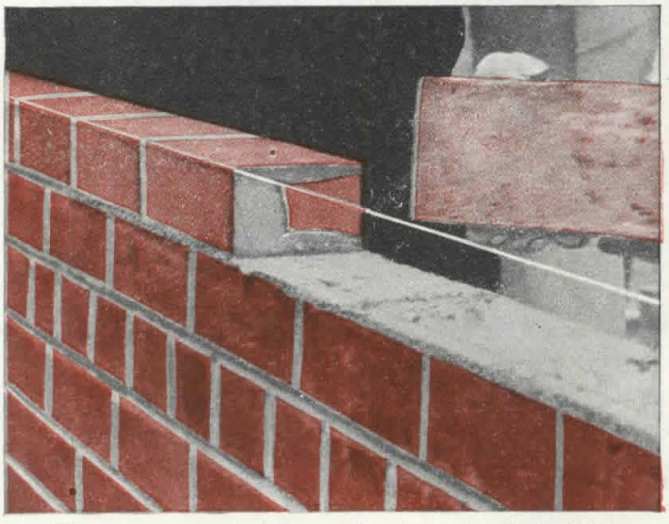
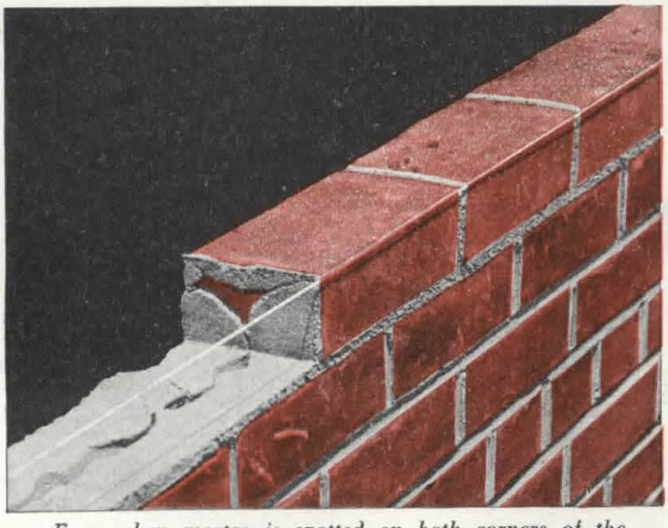


Slushing does not properly fill the voids in the head joints.



When mortar is spotted on only one corner of the brick, slushing seldom fills the voids.



Even when mortar is spotted on both corners of the brick, slushing will not always fill the voids.

"SLUSHING" INVITES LEAKAGE IN BRICKWORK

WE SUGGEST THAT—

Brick should always be so laid that when the brick is shoved into place, the head or cross joint will be *filled solid* with mortar, *without slushing*. If the joints are not completely filled, water may leak through the voids to the inside of the building.

The photos at the left show the voids that often result when slushing is used to "fill" a joint. Even when mortar has first been spotted on both corners of the brick, *slushing cannot be relied upon to fill the voids completely.*

The great plasticity of Brixment enables the bricklayer to throw plenty of mortar onto the brick to be placed — to use plenty of mortar in the bed joint — and still shove the brick easily into position, with excess mortar oozing out all around, and with all voids filled.

BRIXMENT

Brixment mortar has greater plasticity, higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

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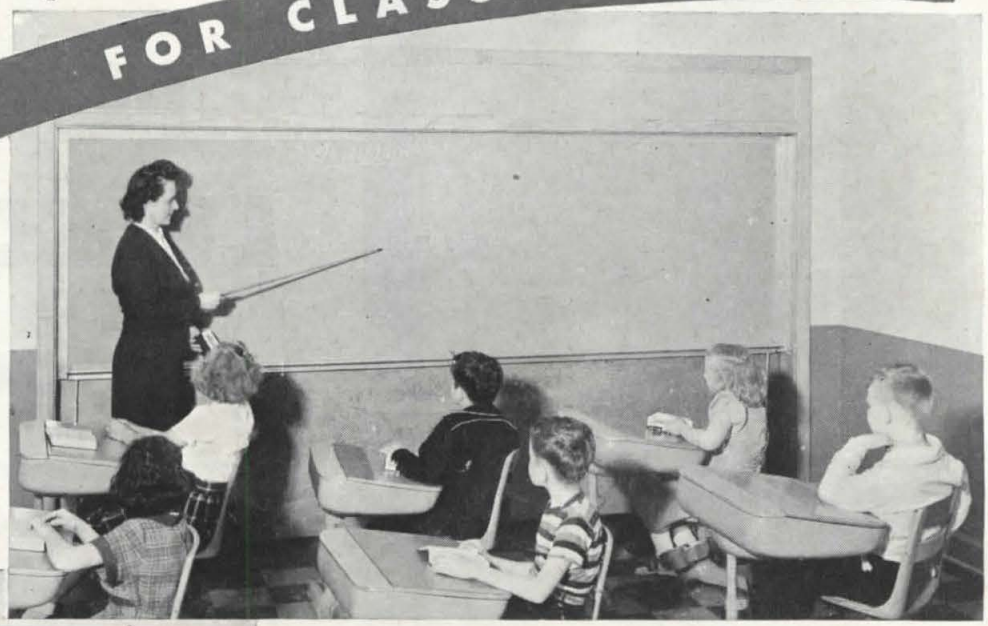
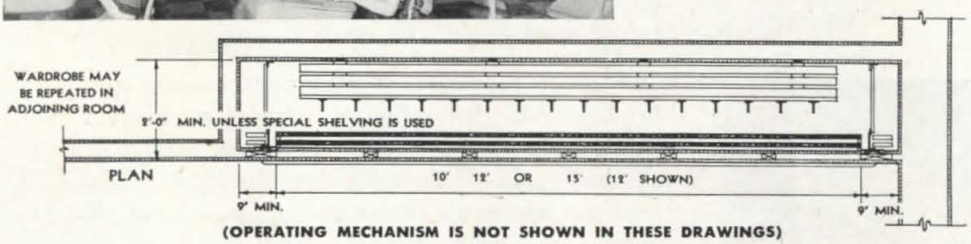
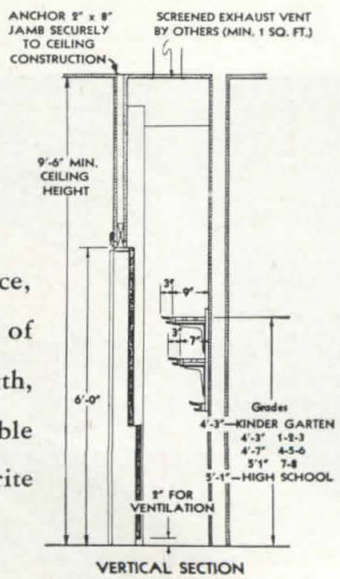


TWO-SECTION VERTICAL DOOR OFFERS IMPORTANT SAVINGS AND OPERATING ADVANTAGES FOR MODERN SCHOOLS



(OPERATING MECHANISM IS NOT SHOWN IN THESE DRAWINGS)



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This new door opens *upward* . . . the operating mechanisms at the ends are positively *tied together* — resulting in an easy-working door that cannot tip or jam. This all-vertical arrangement takes *no* floor space in the room. Space-saving, convenience, easy operation, neat appearance, concealment of clothing, protection of personal property, adaptability, strength, durability, high safety factor, reasonable cost — you get all these advantages. Write for Bulletin F-4644.

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Such a decisive action was fought at Augsburg, South Germany, in 955 A.D. Swarming out of Asia, savage Magyars overran the rich Danube Valley. They ravaged the prosperous lands of Germany, Italy and France. At last, under Otto, King of Saxony, the armored Knights of Christendom rallied. They faced a hundred thousand fierce foes. The battle raged all day. Thousands were slain. At last the tide turned and the Magyars fled. For three days the Knights pursued the scattered enemy, killing or capturing thousands more. Symbolic of the west's predominance in weapons and armor of iron and steel, victory was credited to King Otto's iron-tipped Holy Lance.

Augsburg ended the Magyars' attempts to conquer Europe. They settled down to peaceful living in their valley and within 50 years accepted Christianity. Again, history demonstrated the truism that no people or alliance can establish supremacy unless it first predominates in the production and use of iron and steel.

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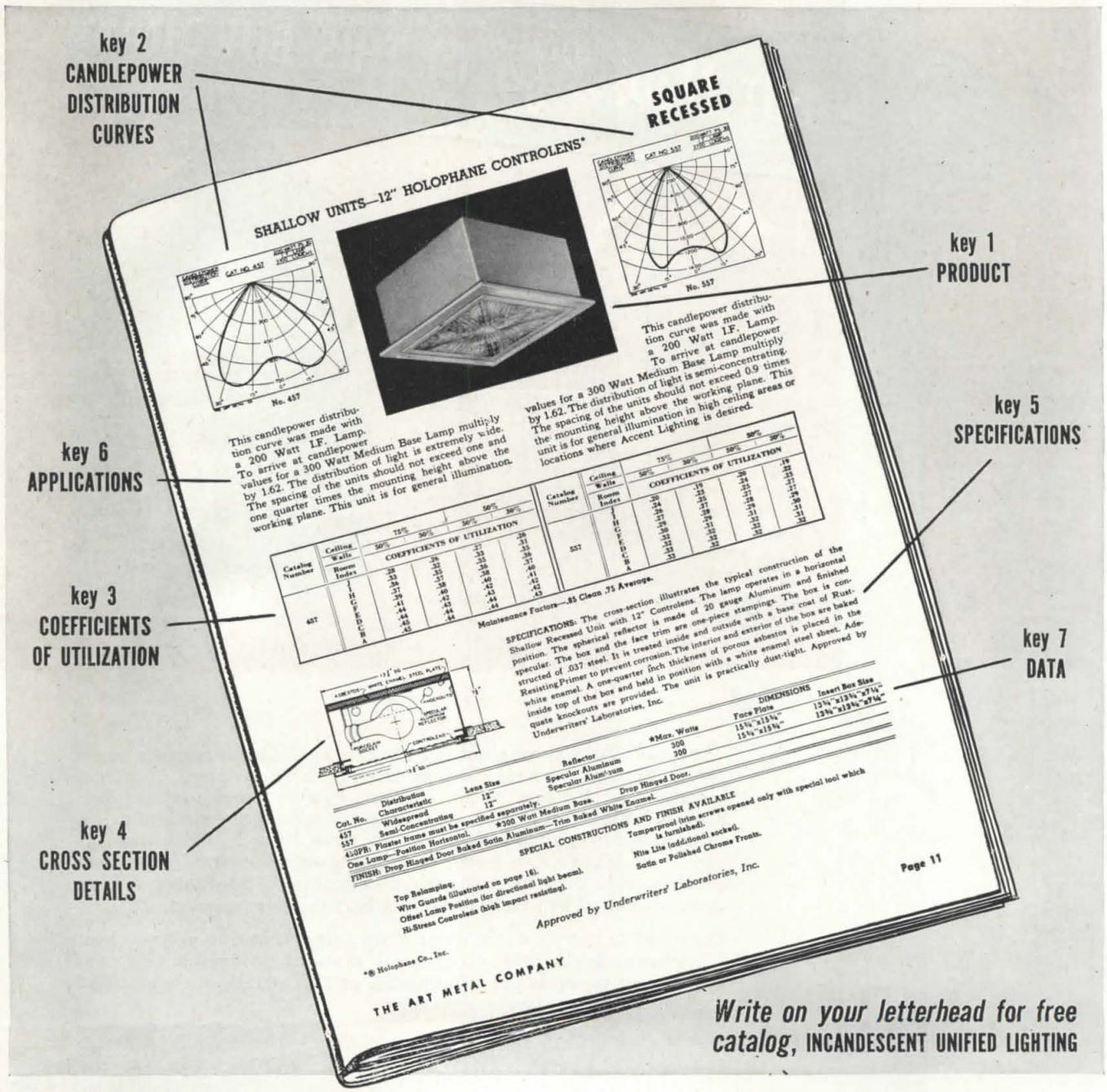

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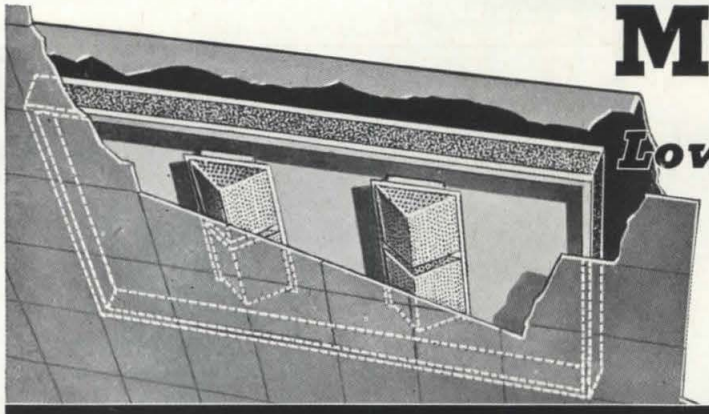

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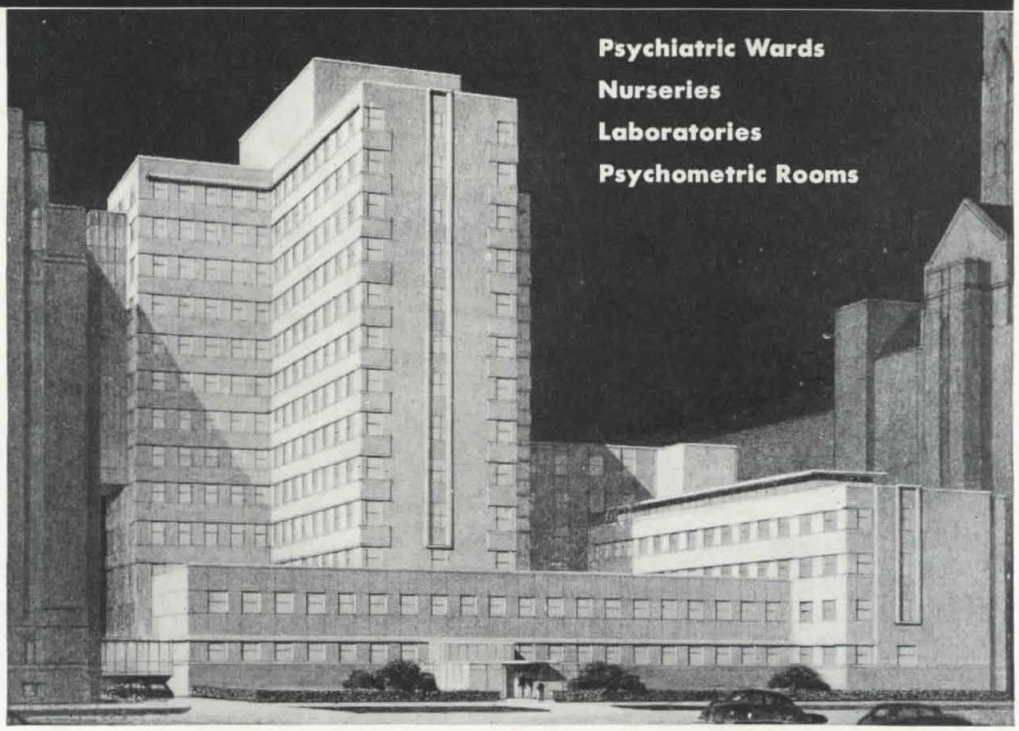

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Upholstery materials of VINYLITE Resins can meet fire-resistance requirements of New York City and Boston. Extremely workable, they shape and drape well around corners, curves, edges—tufting and channeling beautifully —fitting snugly.

These rich, colorful, durable, economical upholstery materials are an outstandingly safe investment for hospitals, cafeterias, institutions, restaurants, cocktail lounges, homes. For more facts and a list of many fabricators of upholstery materials made from VINYLITE Brand Resins, write Dept. JD-58.

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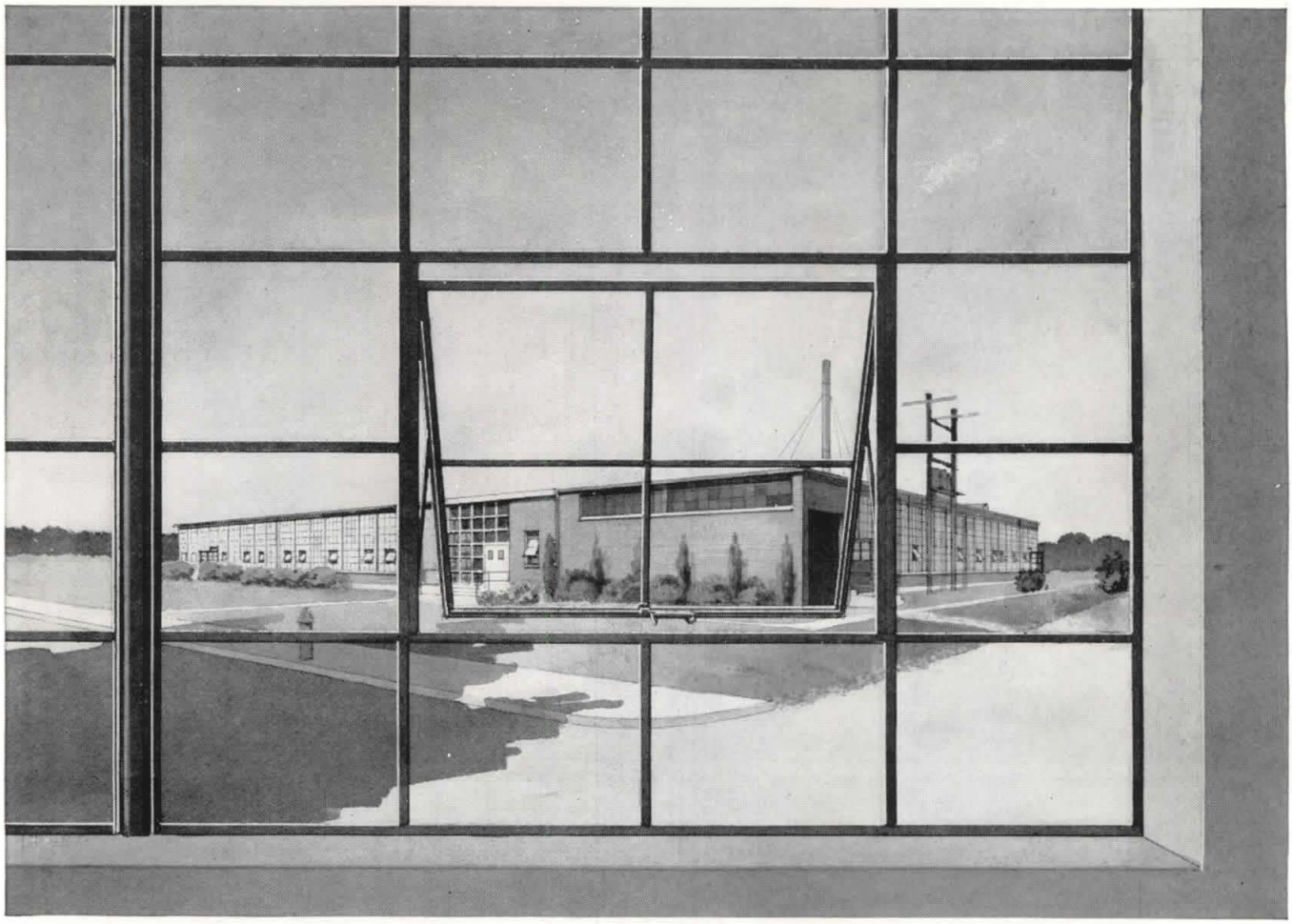

Harvey Clothing Co., Inc., Quakertown, Penna. Engineers and Contractors: Brown and Matthews, New York.

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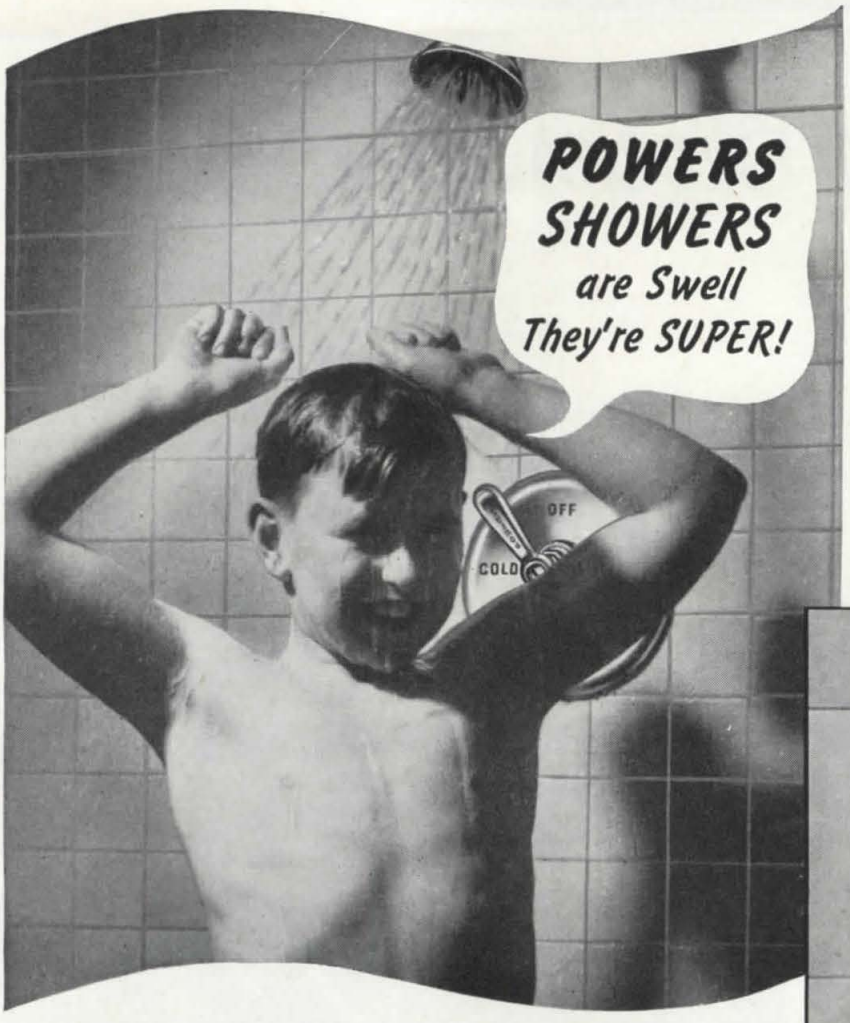
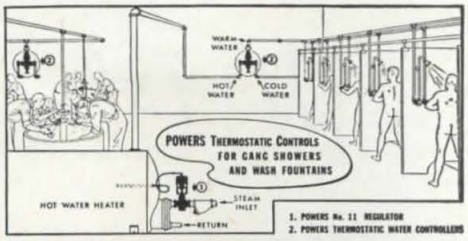
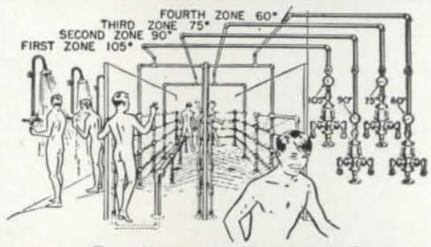




OTHER TYPES OF POWERS SHOWER CONTROLS



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POWERS Type H THERMOSTATIC WATER MIXERS will out-perform all other thermostatic or pressure actuated mixers

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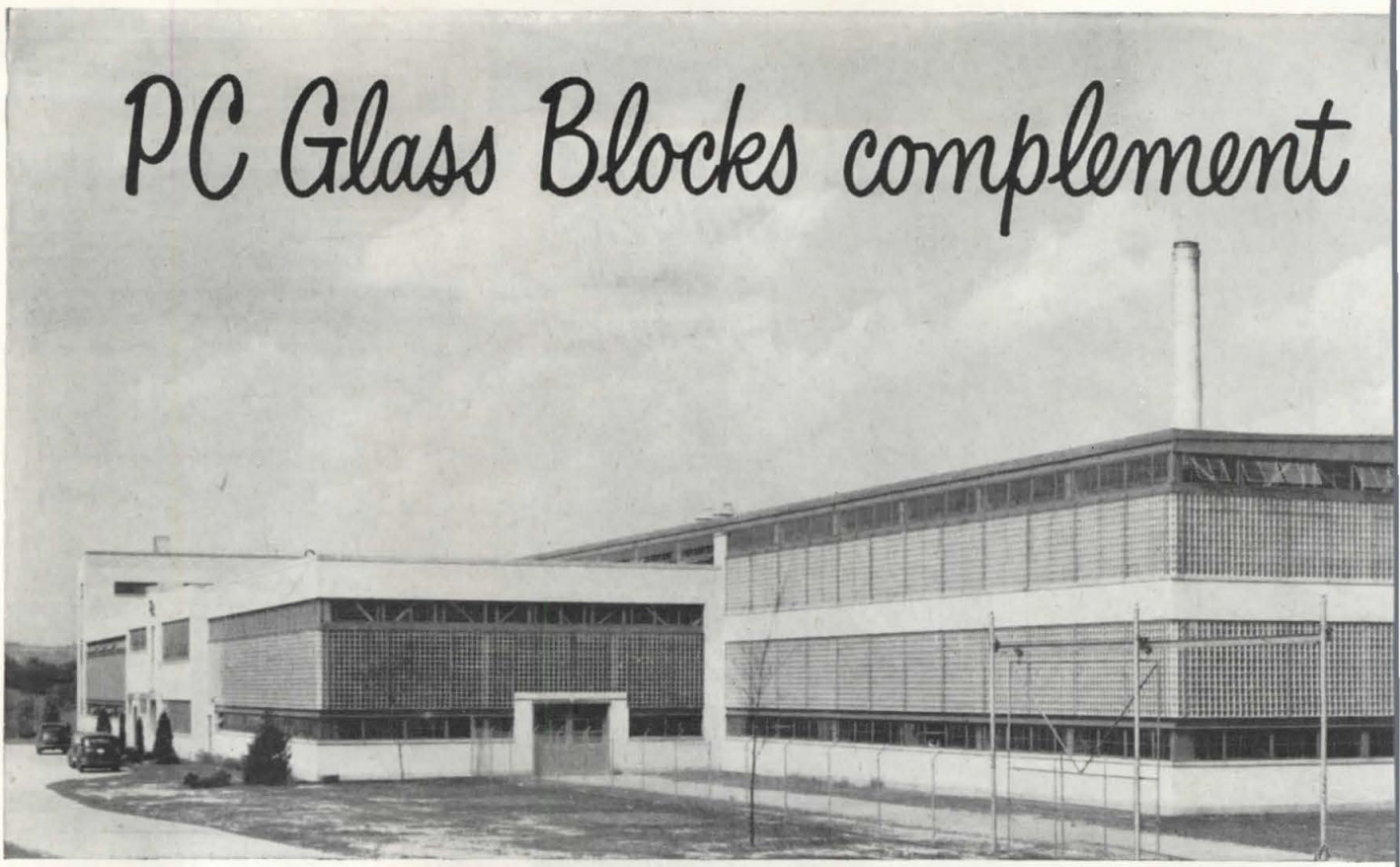
PC Glass Blocks complement



AT THE American Brake Shoe Company's Foundry and Press Room in the Brake Shoe and Castings Division at Meadow Lands, Pa., Architect Harry Lucht of West Englewood, N. J., effectively utilized PC Glass Blocks. Besides admitting an abundance of natural daylight, they heighten the architectural appeal of the building. They eliminate expensive sash maintenance, reduce heating and air-conditioning costs. And, at night, the interior illumination streaming through them affords protection for the surrounding grounds. The construction used in this handsome building is typical of the design used in the *PC Vision-Lighting Plan.* This plan consists of orientation-keyed areas of PC *Functional* Glass Blocks—selected for sun or non-sun exposure—used with vision-ventilation areas as required.

ARCHITECT William J. Theodor of St. Louis, Mo., used multiple sizes of PC Glass Blocks in the Painters' Building of that city, to achieve this ingenious decorative effect. Plenty of light is assured for the interior, maintenance of panels is easy, and complete privacy is afforded.

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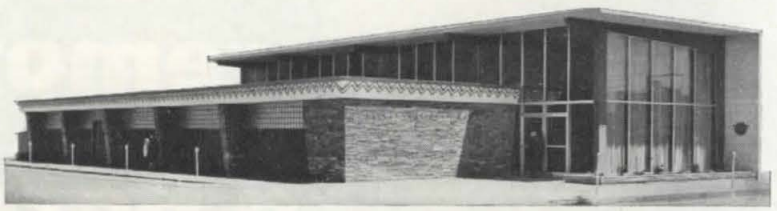
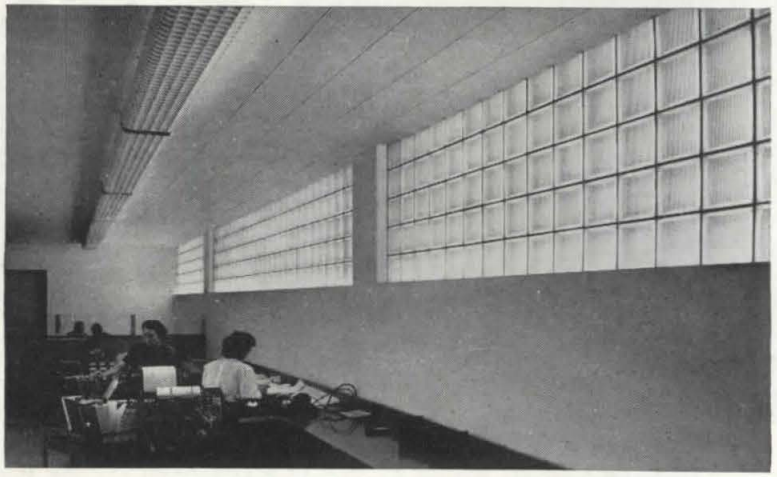
any architectural plan...

effect operating economies... make the most of daylight





THIS NEW air-conditioned building of the Valley National Bank, Winslow, Arizona, was planned to include PC Soft-Lite* Prism Glass Blocks. These glass blocks "make the most of daylight." That means the admittance of floods of natural daylight, softly diffused for employee eye-comfort. The exterior view shows to what extent panels of PC Glass Blocks can complement the architectural plan. And this is true, regardless of the architectural style. Architect: Edward L. Varney, Phoenix, Arizona.

PC Glass Blocks are immediately available... no construction delays

And this includes PC *Functional* Glass Blocks, especially designed for precision work. These glass blocks contain such features as light-directing prisms on the interior faces of certain patterns, light-spreading corrugations on outside faces, a fibrous glass insert to diffuse still further the light transmitted by the block itself, and the PC Soft-Lite* Edge Treatment, which creates a better, more comfortable "eye-ease" panel appearance. And the new "Clean-Easy Face Finish" provides an important short-cut for cleaning up the excess mortar on the panels after installation.

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Provides Privacy—keeps people from seeing in, yet lets in *light*. Can be *Satinol** finished for even greater obscurity and diffusion.

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Comes Complete—with sturdy hinges made especially by Stanley, and with handsome Sargent Hardware.

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And Not High Priced—you can afford to use this beautiful door in almost any interior.

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These slim, efficient Bryant Gas Forced-Air Vertical Furnaces will *fit* into your plans, will help *ease the squeeze* . . . to lower construction costs and provide more living space. Get full details from the Bryant Distributor nearest you or write direct: Bryant Heater Division, Dept. 124, Affiliated Gas Equipment, Inc., 17825 St. Clair Ave., Cleveland 10, Ohio.

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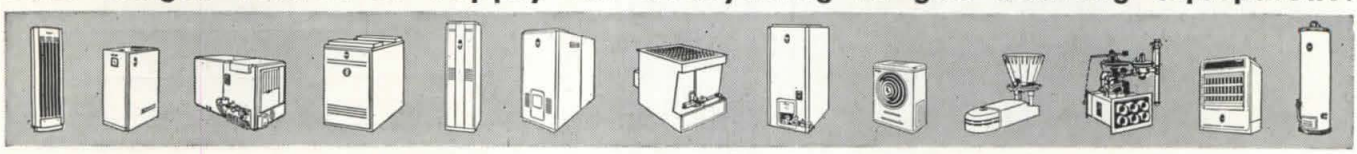

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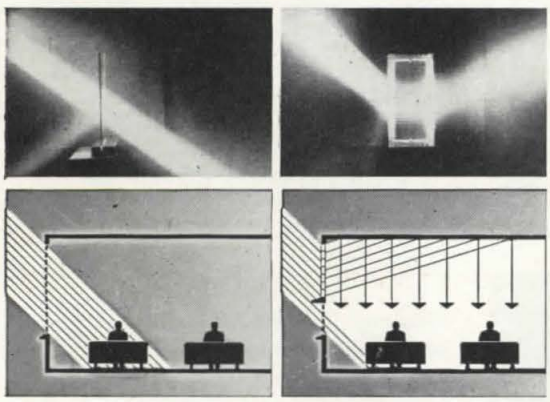

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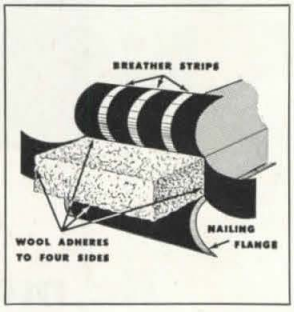

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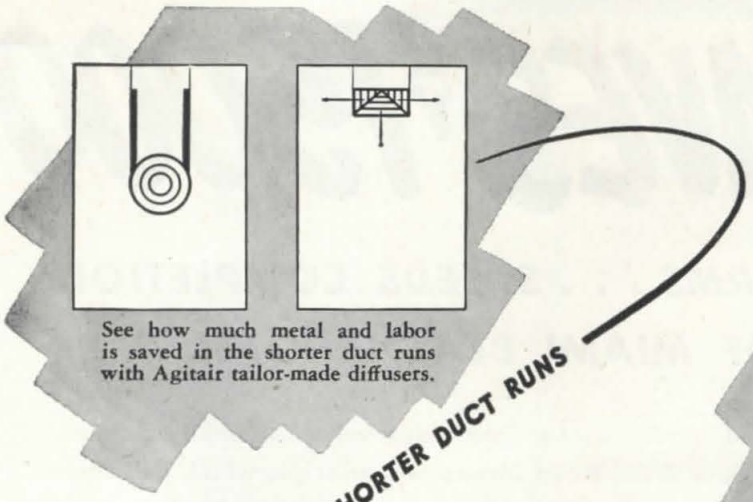

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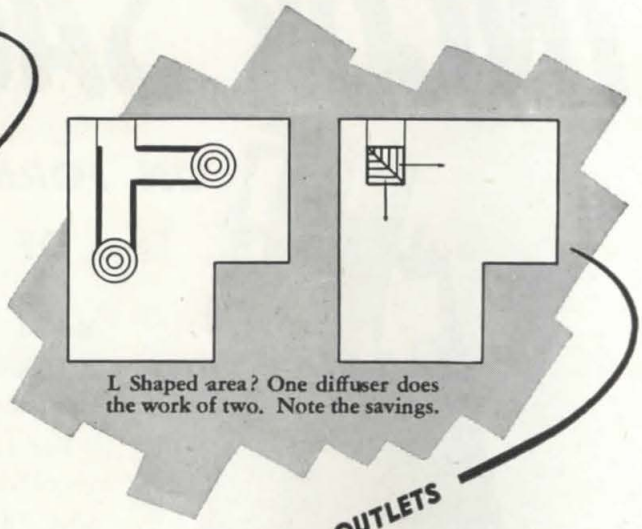

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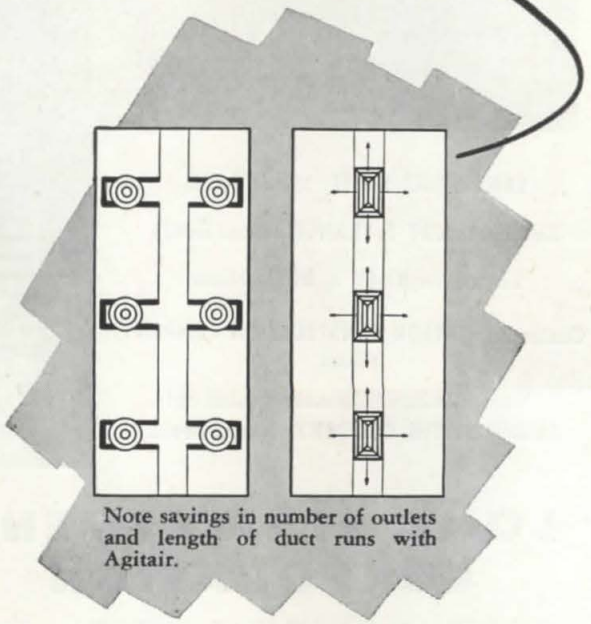

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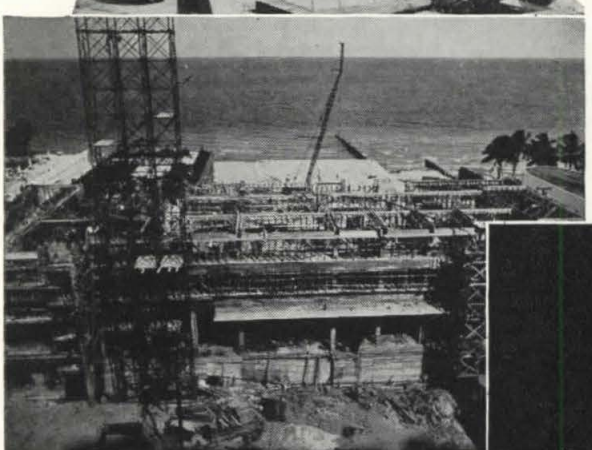

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Engineers: **RILEY & ROSS,** Miami

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the Architect and the Health of America

an editorial

by ISADORE ROSENFIELD

What is the architect's stake in the health of America? Can he shrug off the problem by saying, "Hospitals are designed by specialists . . . " or, "There are plenty of standards available for hospital planning . . . " or, "When I get a hospital commission, then I'll do some research . . ." or perhaps, "In any event, there aren't enough doctors and nurses to staff new hospitals even if they were built, so why worry?"

The architect cannot run away from the hospital planning problem. There is much work to be done, and many architects will have to do it. There is much research to be done, and many more designers will have to contribute their abilities. New types of health facilities are being proposed, for which there are no standards.

•

We are one of the healthiest nations in the world and we are better supplied with hospitals than most nations. (Switzerland has 15.8 beds per thousand of population; Great Britain 10.5; the United States 9.9). But being as good as, or even better than others is not good enough.

According to the recent, national, bed count made under the Hill-Burton Act—in the process of which many of our existing hospital beds were found too substandard to be counted—*we have about one-half the hospital beds which we should have, even on a rather low standard of beds-per-thousand. To design for the needed beds is the architects' job.*

Actually, the problem of beds is only one part of the whole health problem. Hospital beds should be provided primarily for catastrophic illness, unavoidable surgery, childbirth, and the like. Other "hospital cases" are evidence of our failure to defend the preventive front.

To strengthen the front line, we need health departments to protect the food supply, to provide immunization, to protect the workers from industrial hazards and occupational diseases, and to offer treatment to those still ambulant. *It is estimated that 40 million people in the United States live in communities which are not provided with health services. To design these facilities is the architects' job.*

Finally, we need enough well-trained doctors, nurses, and technicians to operate the health facilities and to carry on research and teaching. We are short about 40,000 physicians and 66,000 nurses. *To obtain more doctors and nurses we need more medical schools and more facilities for the education of nurses. To design these buildings is the architects' job.*

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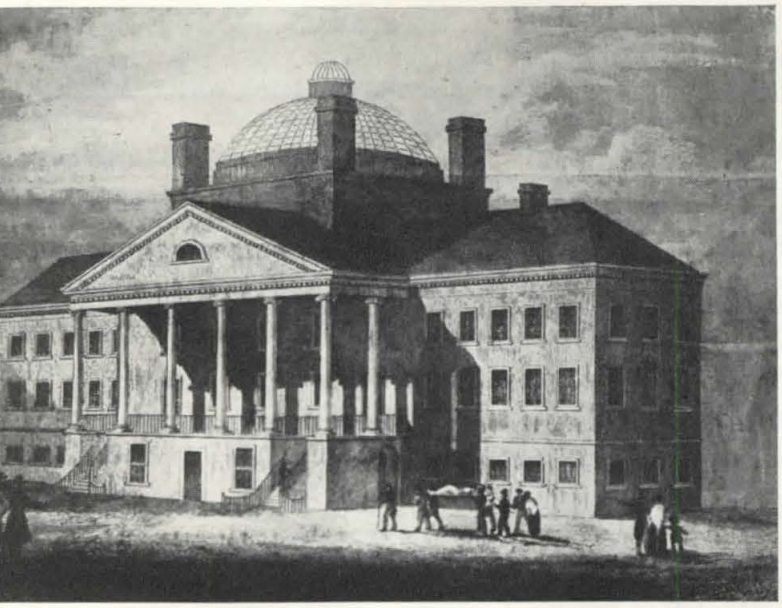
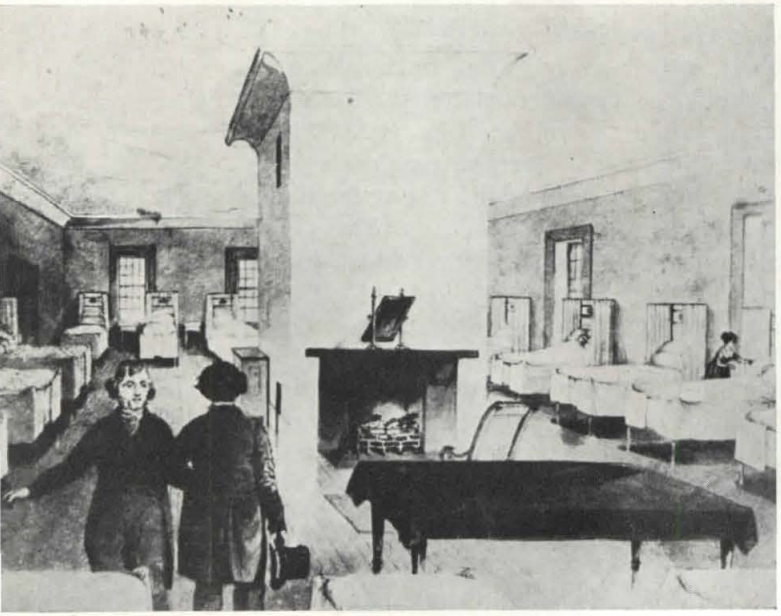
To study and plan these buildings we would need many more architects, engineers, and draftsmen competent in this field. If we are to be helpful to countries outside our borders we should certainly have to improve our own position, both quantitatively and qualitatively.

Hospital design requires constant specialized study and research based on a body of knowledge that is continually kept up to date. There can be no such body of knowledge accumulated, if each architect is to start each hospital project by a spurt of "research" which often consists of "asking the doctor," who himself does not know.

We need something more and I suggest the formation of a Society of Hospital Planners. At present, the architects who are members of the American Hospital Association and the members of the American Association of Hospital Consultants have no way of sharing their knowledge and experience. Such a Society would immediately have an active agenda, which might include: foundation of a journal exclusively devoted to hospital planning; working for special courses in hospital planning in the schools of architecture; working toward establishment of a national agency to conduct and publish continuing research in the problem of hospital planning.

The architect has had a large part in the development of health standards in the United States. Let him not become smug and bogged down in static standards. Much research lies ahead—and much work.





The original Bulfinch building (top left) shows in this print the elegant façade, glass dome, and chimneys for ventilation; while within (left) a rocker for convalescents before the cheery fire and the nurses' long work-table gave wards a cozy air. The fittings of the first laboratory building (top right) were a far cry from equipment of the labs built 55 years later. Bigelow Amphitheatre (1868) replaced the Ether Dome for surgery. The plush chair with straps predated anesthesia. *Photos: Massachusetts General Hospital*

A Case Study: Massachusetts General Hospital

By Mary Agnes Morel

Massachusetts General Hospital, Boston, one of the country's oldest, has functioned continuously as a private hospital since its first patient was admitted on September 3, 1821. During the 140 years that have elapsed, every advance in medical science and every design cliché have been reflected in its architectural planning. And many of these steps may still be studied in physical form by visiting Fruit Street.

The simple specification given Charles Bulfinch by Massachusetts Medical Society, in 1816, was that the building be "of stone and of that kind called granite." But the famous architect incorporated the latest improvements of the period—a glass dome for surgery, water closets, central heating (with pipes conducting hot air from the basement furnace and water pipes placed next to avoid freezing in winter), and chimneys (which critics felt destroyed the symmetry of the design) to provide ventilation for the wards. On the other hand, patients slept under mosquito nets in summer and the first screens were not installed until 1875. The operating chairs, with heavy straps to secure the (conscious) patient, were of plush; and the private rooms were elegantly furnished with heavy damask lambrequins, gilt cornices, lace draperies, and soft carpets.

The first public demonstration of ether, in 1846, led to a radical change in the hospital. Wings were added at either end of the original building, to care for the increase in surgery cases, and plans were made for the Bigelow Amphitheatre, though it was not to be completed until 1868. In 1872, the first step toward specialized wards was taken when surgical patients were moved to the west end of the Bulfinch building, to be nearer Bigelow.

In 1873, two new wards were built, incorporating the latest ideas of the time. As there was a theory that wards became "hospitalized" (infected) in a certain number of years and should then be discarded, these were temporary structures, with

frames and walls of corrugated iron. Such wards were constructed by M.G.H. until the turn of the century, when the 1899 Annual Report stated that with new aseptic methods hospitals should be usable as long as the structural parts. So a well-designed physical plant (such as the Bulfinch building, which still houses patients) must have a flexibility that will make it adaptable to yet undiscovered methods.

The medical development which most radically changed hospital planning was the introduction of aseptic methods in 1887. A doctor newly returned from Europe first prepared and used aseptic dressings; another staff member devised gauze sponges for use in surgery. The control of infection that resulted converted the Trustees who, in 1888, authorized the erection of Ward "E" for clean surgical cases, with Bradlee operating theater attached. The ward was 82′ x 36′ 6″ and 20 feet high. It had 15 one-bed rooms with a central, eight-foot corridor. Of particular interest to architects is the fact that all interior corners were curved and there were *no* unnecessary moldings.

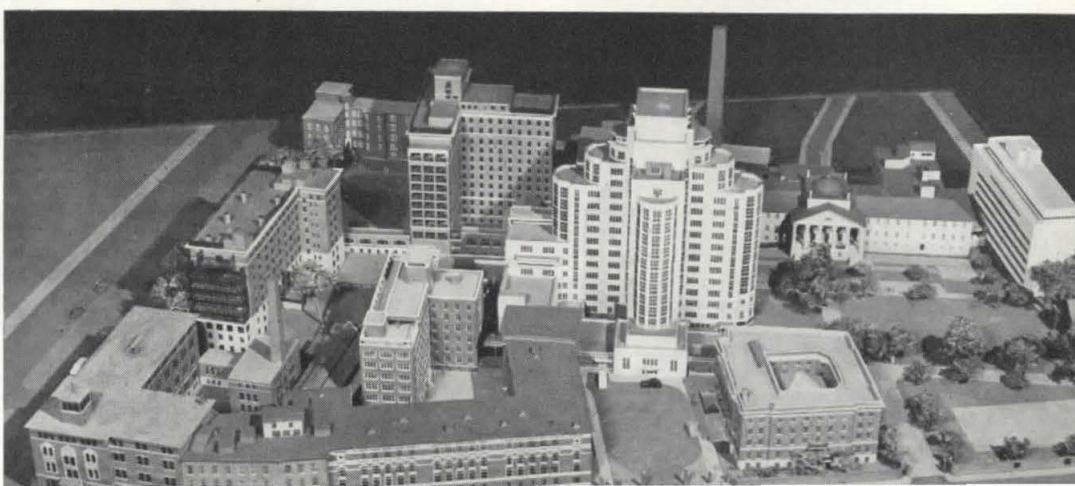
The Bradlee Amphitheatre was circular, 18 feet in diameter, with a wall of pressed brick and an asphalt floor. A north skylight (192 square feet) and hammered-glass roof provided light. A balcony for 100 standees, with tiers under the north window accommodating 25 more (as M.G.H. is a teaching hospital, affiliated with Harvard Medical School, this was important), provided for student observers. Bradlee was the *first* building in the United States for aseptic surgery only. Abdominal surgery without suppuration and brain operations (excluding compound fracture of the skull) were the only cases admitted. Among the rigid controls were: surgical instruments could not be loaned another part of the hospital; doctors must make the rounds of Ward "E" only before visiting the other wards; and no person with even a skin scratch was allowed in either ward or theater. As doctors then operated in street clothes (the fastidious in frock coats), the tremendous success of these small safeguards seems almost unbelievable.

The Nineties brought further medical advances to change hospital planning. Bradlee's success in asepsis led to introduction of the same precautions in general surgery. In 1893, a central sterilizing room for preparation of surgical instruments and dressings was planned. On the research side, increased use of photography, radiography, and bacteriology made a specialized building necessary and the Clinical-Pathology Laboratory was opened in 1896. In this two-story structure (90′ x 25′) researchers could rent working space for $25 a year. By 1899, more room was needed and the top floor of the Power House taken over. Since then, laboratories have invaded every building of the hospital. Even the handsome new Research Building (opened this spring) cannot accommodate Pathology and Bacteriology, and there are specialized labs in most of the buildings.

Planning of the New Bigelow Operating Rooms began at the end of the century. Completed in 1901, the surfaces (white tile floors, polished marble dadoes, shining brass) made for sterile conditions. The building was completely sealed and air conditioned, air being taken in through ducts, fanned over radiators, and puffed and wafted by innumerable "punkahs" until it was exhausted on the roof. (Although one defect was that the air intake was so near kitchen vents that cooking odors flavored the otherwise pure atmosphere.) The heating system was not changed until 1928.

Much building since 1900 has been for increased personnel and administrative needs, but construction of patients' quarters has continued for all income groups—Phillips House (1917) for the rich; Baker Memorial (1930) for the middle class; White Memorial (1938) to replace the temporary one-story wards; and Vincent-Burnham Memorial (1947), with special children's wards. The unit planning of work areas and the divided utility rooms (with "clean" and "soiled" areas) in White Memorial reflect design advance of the time. The Research Building (1951) is the latest unit of an over-all plan (developed by Coolidge, Shepley, Bulfinch & Abbott, M.G.H. architects since 1913) to provide integrated research, clinical, and treatment facilities.

Massachusetts General Hospital today, under the guidance of its present director, Dr. Dean A. Clark, is studying the current problem of integrating hospital facilities with community health care, which will, in time, influence future planning, as have other medical advances in the past.



This model of Massachusetts General Hospital today, viewed from Fruit Street with the Charles River to the left, shows a mélange of architectural styles that belies the hospital's administrative co-ordination for healing. Along Fruit Street are: Massachusetts Eye and Ear Infirmary (affiliated with M.G.H.) which connects with the L-shaped Out-Patient Building and, across the entrance court, Mosely, containing administrative offices. Overlooking the river (left) are Phillips House, with nurses' residence behind, Baker, at the back, and Vincent-Burnham (within the L), dwarfed by the mass of the White Building. And, to the right, the oldest—Bulfinch—neighbors the new Research Building.

The Present: Hospital Practice Today

By Roy Hudenburg*

Today's hospital architecture is widely influenced by the community's determination to bring to its citizens a quality of medical care considered a decade ago to be idealistic.

The forces of mechanization that are responsible for today's high standards of hospital care have, at the same time, raised new problems of hospital operation by elevating living standards, by raiding labor markets on which hospitals formerly relied, and in general making hospital help scarce and expensive. Hence, architectural development of the facilities necessary for that care has been made possible only by wide acceptance of the principles of functional design, by studies looking toward economy, and by a careful analysis of hospital operation and administration.

One of the excellent guides for architects in their approach to hospital planning has been the published work of the Technical Services Branch, Division of Hospital Facilities, U. S. Public Health Service. Carefully worked out plans for particular units of the small and moderate-size hospitals have become accepted guides for room design and have been used freely by architects new to hospital work as well as veteran hospital designers. They have become known as the Public Health Service "Elements of General Hospitals." These "Elements" have generally been used with a high degree of critical selectivity. Particularly it must be realized that they are not intended to solve for the designer the problem of relating one functional area to another.

*Secretary, Council on Hospital Planning and Plant Operation, American Hospital Association.

Federally aided construction of community hospital facilities comprises a substantial part of the total of hospital construction in the United States. In the year ending June 1950, according to best estimates, expenditures for hospital construction in the United States were approximately $802 millions of which $353 millions were being spent as a result of the federal-aid program. The general outlook for the next few years is that the construction of hospitals will owe at least half its volume to the federal program.

The unknown quantity, as this is being written, is what government assistance can be expected in the provision of hospital facilities for population centers that become swollen by defense activities. The only thing that seems fairly certain at this stage is that no one wants to see a repetition of the sins of shoddy construction that characterized operation under the Lanham Act during World War II.

Total war, the obvious manifestation of airborne destruction, requires a high degree of civilian health. Recognition of this principle by planners of strategy promises to offer a high degree of support to hospital maintenance and construction during the emergency.

Civilian health facility requirements are being interpreted to the Defense Production Administration through a division of the Public Health Service of the Federal Security Agency. In the early stages of the operation of this Claimant Agency, steel, copper, and other materials in short supply have been secured for hospital construction in specific hardship cases.

The Controlled Materials Plan will make available for school and hospital construction a portion of the available strategic materials, following an allocation of steel and copper which was made for hospital and school construction to cover the month of June 1951.

The immediate over-all picture, as well as it can be seen through the flickering light of early defense preparations, is that a hospital board of trustees now considering expansion plans will be extremely popular with the architect. With limitations on other types of construction, and with schools and hospitals assured of assistance in securing materials in short supply, local hospital construction should bulk as a greater percentage of the over-all construction total than ever before.

Entering the realm of pure speculation, it would not be surprising if these combinations of circumstances acted to reduce the level of hospital construction costs, in spite of increasing material costs.** Whether or not the opinion is correct, there has been a feeling within the last year that hospital bids have been higher than justified — partly because contractors had to protect themselves against delays due to material shortages and partly because the contractors were able to keep their crews busily occupied on contracts for less exacting buildings.

**Public Health Service reports that hospital construction costs have advanced continuously since the inception of the "National Health Program" in 1947—about 9% in the first three years, and another 15% since the outbreak of the Korean fighting. Total costs of hospital projects, including all equipment, architects' fee and supervision, but excluding site have increased from a national average of $13,500 per bed in 1947 to $17,000 a bed today. PHS experts look for another possible 4% increase during the remainder of 1951.

Particularly noteworthy in the General Acute Hospital for Polk County, Florida—a moderate-size general hospital—is the first-floor surgical suite, illustrating the trend that Hudenburg mentions in his discussion across-page. By placing the operating rooms in the center, a separate corridor can lead to them from the elevator, and the various work rooms, with good light, approach the concentration of nurses' activities which is proposed later in this issue. The central, sterile supply area is particularly well located in reference to the surgical suite and also for access to the rest of the hospital.

Study of recent plans which have been approved for federal grants indicates a seeming pattern of new spatial arrangements that appear to be growing more common in small and moderate-size hospitals.

In the smaller hospital, the operating room has descended to the first floor. In many contemporary plans a double-corridor arrangement brings the emergency department, the X-ray department, the fracture room, the cystoscopy room, and surgical facilities all into one hospital wing on the main floor. When the central, sterile supply department is brought into this area or into a closely adjoining area, the arrangement is perfect, from the standpoint of close supervision by the surgical supervisor.

Personnel experts and many hospital administrators for a number of years have been complaining about the architect's propensity for placing such areas as employe restrooms, central, sterile workrooms, and kitchens in basement areas with poor lighting and bad outlook. The repeated pleas and entreaties appear finally to have been taken seriously, and more and more plans for hospitals are appearing with basement use limited to storage, transformer vaults, boiler rooms, and other areas that can have no deleterious effect on employe morale.

The short supply of nursing personnel in relation to demand and the generally increasing cost of hospital care have exerted an interesting evolutionary force on the design of patient areas. As recently as five or six years ago, hospital authorities, recognizing the substantial amount of time spent by the nursing profession in handling bedpans, were advocating utility rooms and handwashing facilities in close proximity to patient rooms. At that time, bath or lavatory facilities adjoining the patient room were considered a luxury.

By 1947, when regulations were adopted under the Federal Hospital Survey and Construction Act to prescribe minimum requirements, it was required to install a lavatory in each patient room. While this was not an unusual practice, it was by no means universal until the nongovernmental advisors of the Public Health Service wrote the requirement into the regulations.

The "Elements" printed in 1946 show typical nursing units with no toilet rooms adjoining the average patient room; only contagious disease units were provided with toilet facilities. This year the Public Health Service has revised its typical nursing-unit elements to show each patient room provided with adjacent toilet facilities. Today the majority of hospitals being constructed are designed with toilets adjoining each patient room and no longer are they regarded as a luxury.

Design evolution in the larger and teaching hospitals, having had less opportunity to show itself, is not yet very clear. Certainly the large ward is disappearing and American hospitals of the future almost universally will have no ward containing more than four beds. Emphasis continues to be put on vertical construction, therefore it is surprising not to find more applications of the vertical conveyer system for pharmacy and sterile supplies.

Better provisions against fire hazards also are very evident in today's hospital planning. Architects' recognition of fire hazards has brought about improved exit design, and recognition of the need for compartmenting hospital corridors with smoke barriers, so as to provide for safer horizontal movement of the patients in time of fire. Examination of most hospital plans today reveals the architect's familiarity with the provisions of the National Fire Protection Association "Building Exits Code."

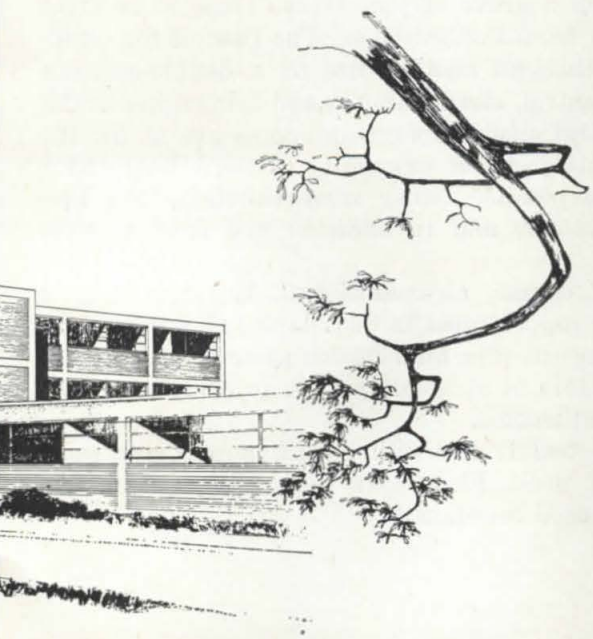
Fenestration of the hospital structure still is a ticklish problem for the hospital designer. Proponents of the wall-to-wall strip window seem somewhat less enthusiastic about their wide expanses of window, but generally patient-room windows are bigger than they were in the past. Patient gratitude, if not an honorary award, awaits the architect who solves the problem of controlling the natural light admitted by big hospital windows.

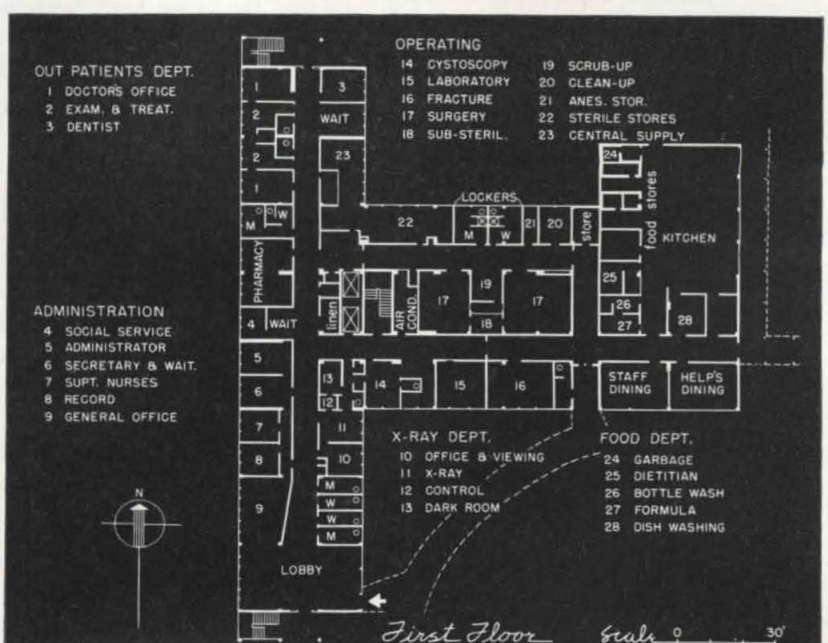
Medical care, hospital care, and hospital design are all in a continuing state of evolution. However, the improved care available to the patient in today's hospital is largely dependent on the work of the architect who has been willing to undertake research for his hospital clients.

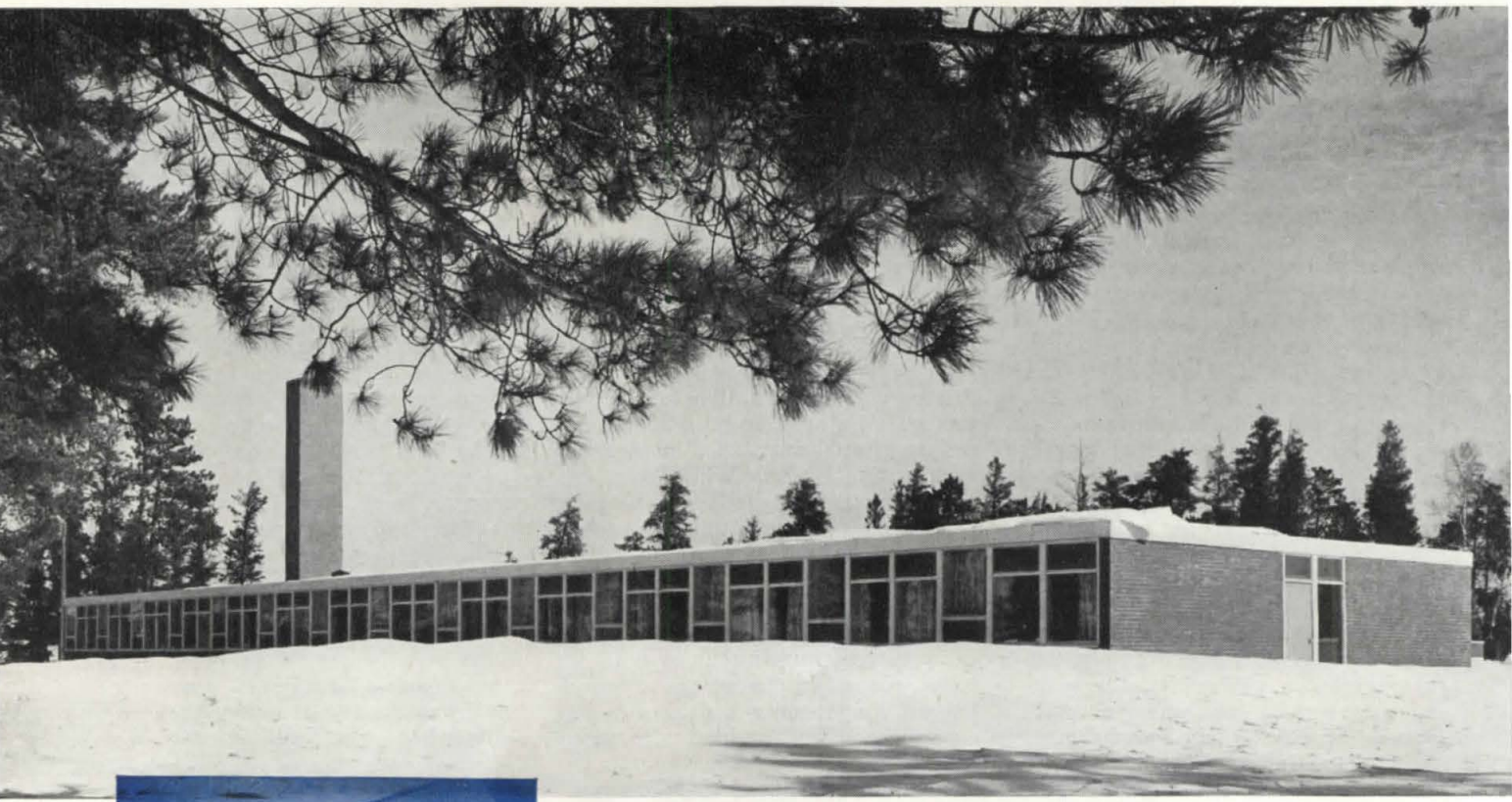
R.H.

A. L. Aydelott & Associates, Architects & Engineers

Bartow, Florida







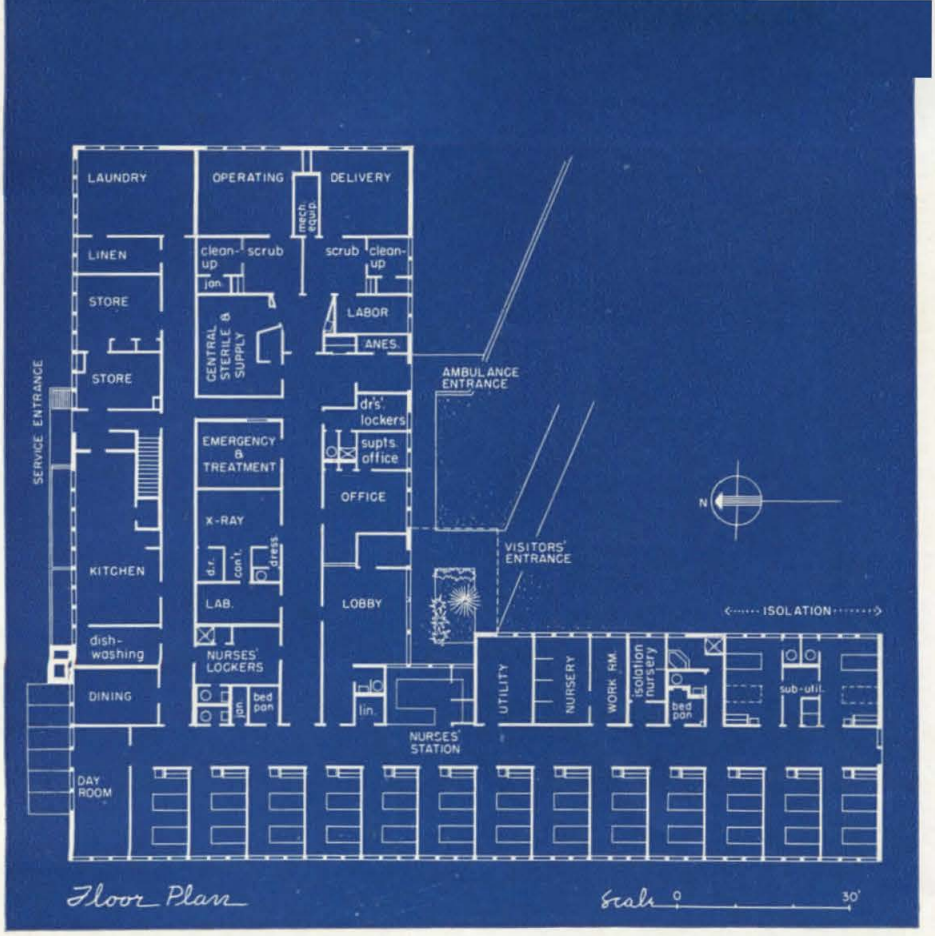
Thorshov & Cerny, Inc., Architects
Edward H. Noakes, Associate Architect
Ralph D. Thomas & Associates, Engineers

Bagley, Minnesota

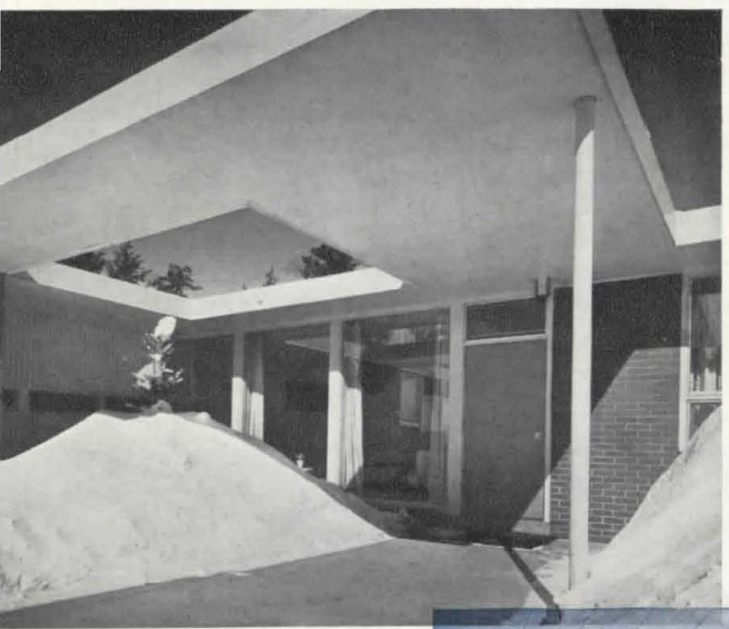
Clearwater County Memorial Hospital in Bagley—First Honor Award at this year's A.I.A. Convention in Chicago—was designed by the architects, from the landscaping to the interior finishes, thus allowing them to accomplish a degree of co-ordination which is unusual in such projects. All patients' rooms (except for isolation) face a most desirable view of Lake Como, through a grove of pine trees. Those same trees serve to screen western sun from the bedrooms. The plan of the building achieves compactness through another use of a double-corridor arrangement, with X-ray, central, sterile supply, and some other areas, in this case, using the central space. Operating rooms are at the far end of one corridor; laboratory at the extremity of the other; and a cross-through makes contact possible. Noisy areas (kitchen, etc.) face away from the patients' rooms, and in addition are finished with acoustical ceiling material.

Central spaces are, of course, air-conditioned. Heating is by a radiant, floor system, using copper pipes to distribute hot water; combined with an underfloor clay-tile pipe distribution system, which feeds tempered air into the corridors at strategic points, to compensate for air-exhaust in toilets and bathrooms.

The structure is light-steel frame with hard-burned brick walls and a structural-steel roof deck. Floors are generally asphalt tile. Double-glazed windows are used throughout.



Location of the nurses' station in a small hospital is most important; here the visual control is remarkable. Not only is the entire nursing unit under direct control, but also the lobby and, by means of windows, the visitors' entrance and the ambulance entrance, are within the range of observation.



Charles H. McCauley, Architect

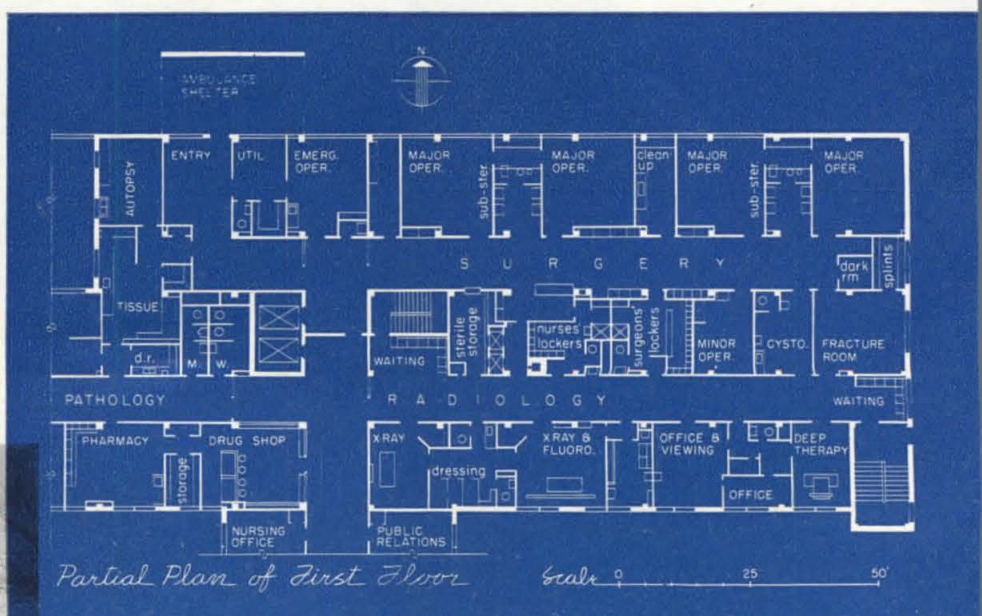
Pensacola, Florida

The Baptist Hospital, Pensacola (above) is a 136-bed project now being finished, which utilizes the first floor primarily for administration and out-patient spaces, and the floors above for surgical cases, maternity, and general medical care.

The Magic Valley Memorial Hospital, Twin Falls (below) is located in a section so isolated that the community has to be almost self-sufficient in medical care. For this reason, the hospital has very fully developed in-patient service facilities. The obstetrical department, in particular, is more generous than one would expect (the birth rate in the area is high). The first floor plan (below) is particularly interesting. Again, the double corridor scheme is used to good advantage.

Twin Falls, Idaho

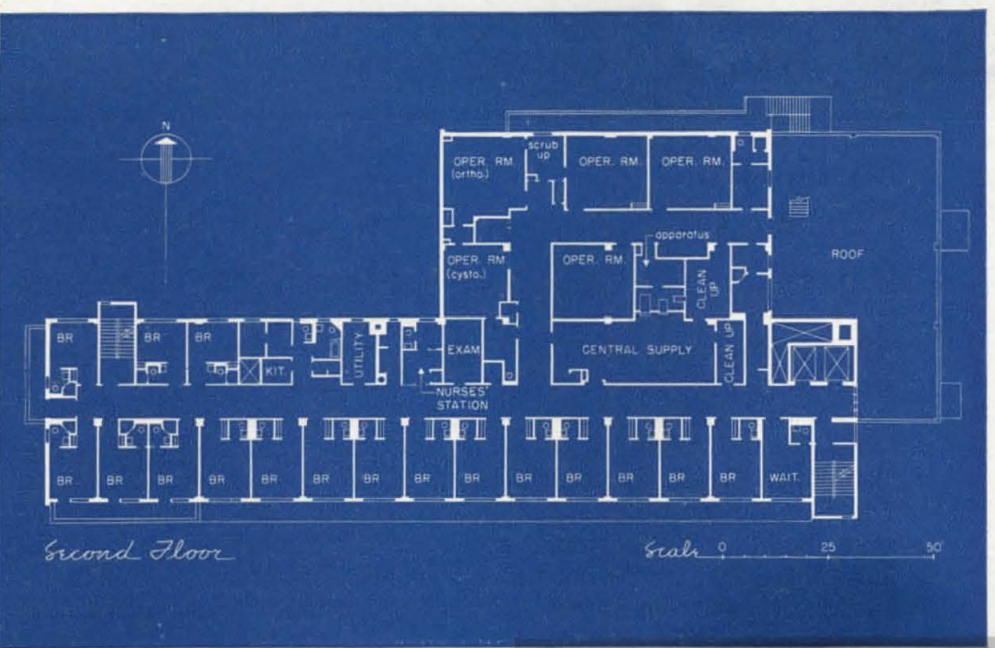
Fisher & Fisher, Architects



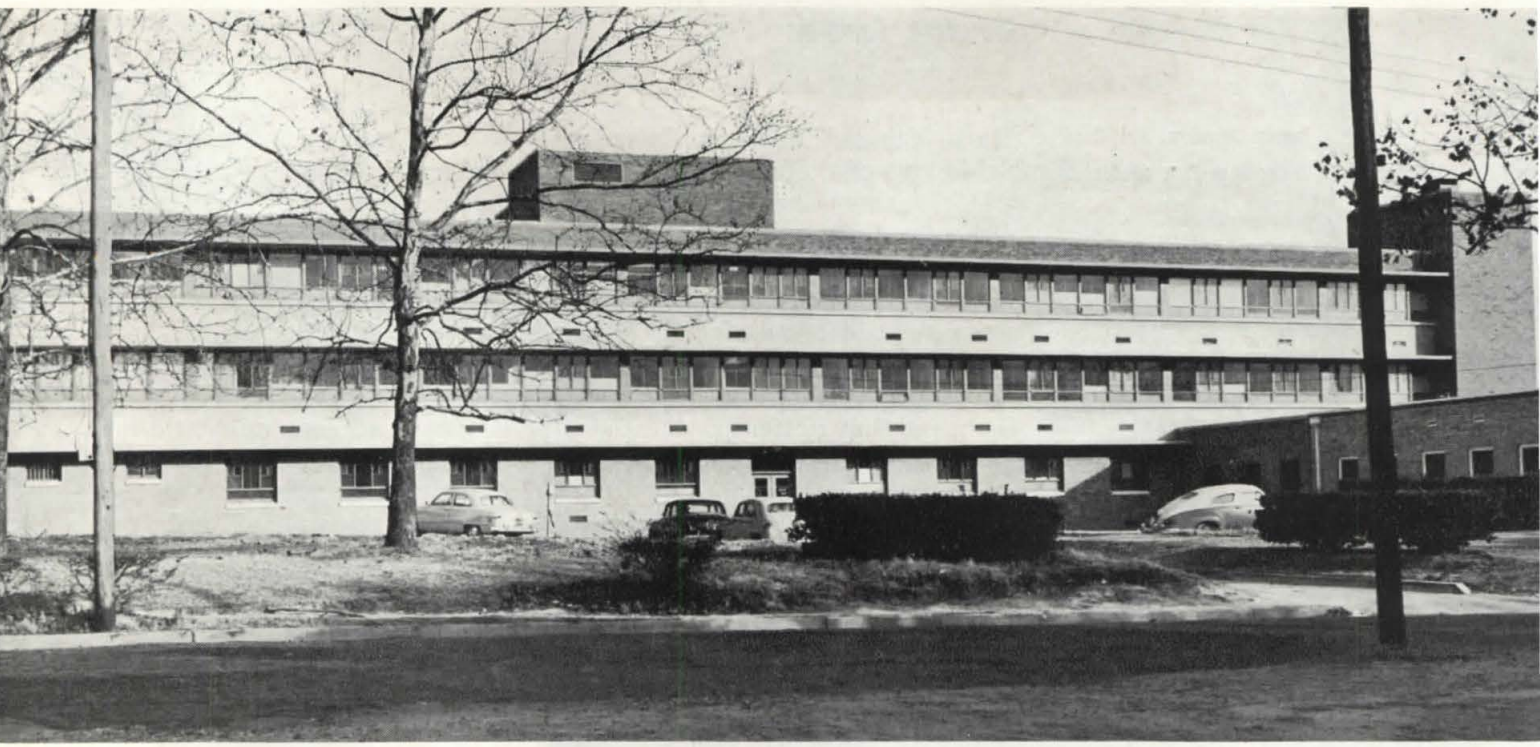
Greenbrae, California

Robert Stanton, Architect
Chester R. Phillips, Associate Architect

Marin General Hospital, Greenbrae, has been constructed under the provisions of the Hill-Burton Act, as were most of the hospitals illustrated in this issue. It has 100 beds (and 44 bassinets) at present, with plans for a future 100-bed addition. A pleasant, natural setting on a wooded hillside slope has been fully utilized, with existing trees screening service areas. The architect reports much time spent in studying a staggered-bed layout for the patients' rooms, which would give each patient a view regardless of the position of the cubicle curtains; but this was not pressed in the final plans because it had generated so much comment that he feared discussion of its pros and cons might tie up approval of the hospital in endless controversy. First floor contains administration, clinical, X-ray, and laboratory areas; surgery is on the second floor; maternity on the third; and general medical and pediatric cases on the fourth floor.



The surgical suite is worthy of particular notice in this building. Conventional planning standards have been departed from, in the interest of centralizing equipment and work areas, with the central, sterile supply room particularly tied into the surgical function and a high-speed sterilizer for minor sterilizing processes placed in the operating corridor. It is interesting to compare this arrangement with the studies and comments on pages 84 and 85.

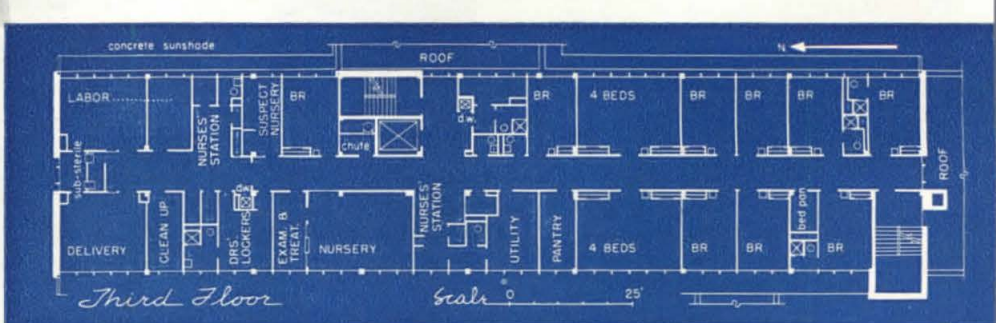


Longview, Texas

Wilson, Morris & Crain, Architects
Staub & Rather, Consulting Architects

The additions to Gregg County Hospital, Longview, illustrate the problems an architect faces when existing buildings are in a community that has outgrown the available health facilities. Here, the solution is a three-story structure that forms a link between an existing two-story in-patient building on the east and a one-story out-patient building to the west. The third floor shown here (above the levels of the two existing buildings) is the maternity unit, with delivery rooms at the north end of the floor and nurse's station at the center. Eventually, the older hospital building will be wholly replaced by future additions that will be integral in design with the unit shown here. Currently, the old building has been converted into an administrative unit, isolation area, and nursing space for 35 patients.

The new building contains, in addition to 65 beds, service facilities required by all 100 patients, with sufficient space allowed—in kitchen areas, storage, boiler rooms, etc.—to serve the entire future hospital complex. On the first floor are emergency, operating, X-ray, general storage, central sterile supply, kitchen, staff dining, pharmacy, etc. The second floor is the main surgical and nursing floor, with operating rooms at the north end. Continuous fenestration reaches from ceiling height down to 4′ 6″ above floor levels; to control glare, a 3′ 6″ concrete canopy occurs above all such window areas.

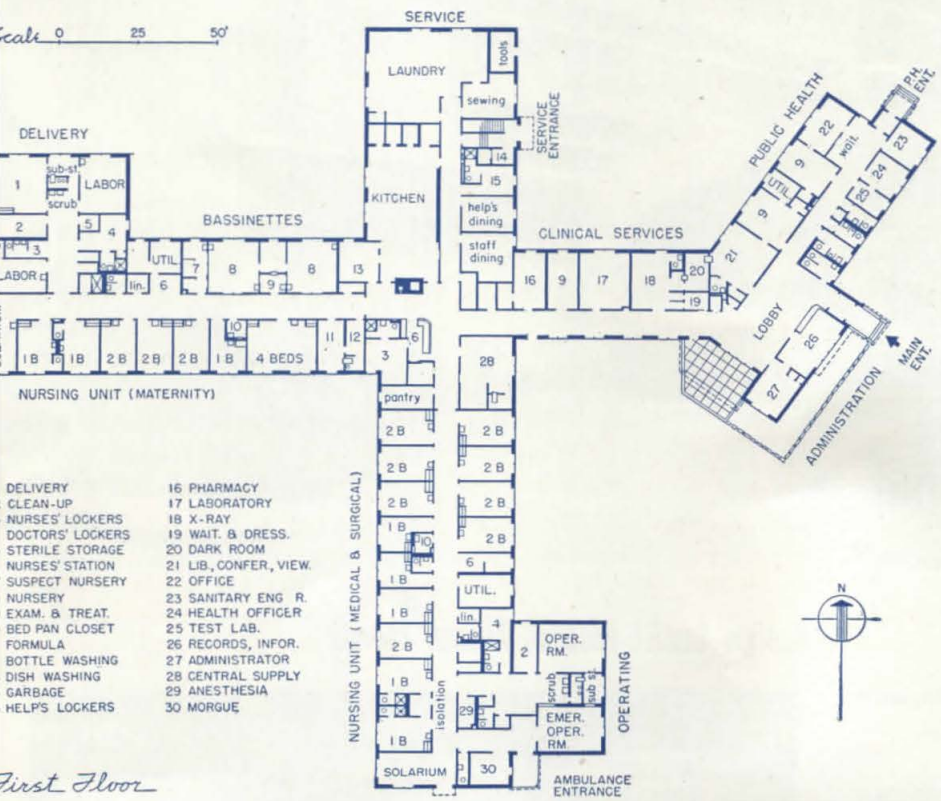


Washington Court House, Ohio

Inscho, Brand & Inscho, Architects

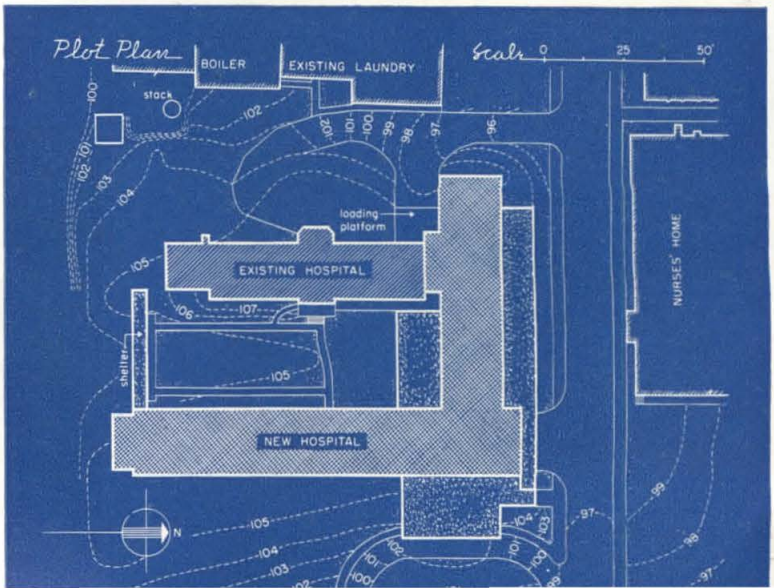
Fayette County Memorial Hospital, Washington Court House, is an instance of the trend toward integrated health facilities within the community. (Compare Crossett Health Center on page 62, and the program and project for community health care which starts on page 86). Here public health offices, clinical services, obstetrical and maternity care, surgery and medical hospitalization are all included under one roof. The diagnostic services (laboratory, X-ray, pharmacy, clinical treatment, etc.) are between the public health offices and the hospital proper, serving as a separation while being available to both activities. The two nursing wings are separated from one another, yet a central nurses' station allows supervision of both at night.

Future expansion at the ends of the hospital wings has been allowed for by an ingenious offset of the operating and delivery rooms. The question of centralized vs. decentralized food service is met in a hospital of this size by the fact that the kitchen can be almost as close to patients' areas as floor pantries would be—in fact, the pantries provided within the nursing units have been found unneeded and are now converted to other uses.



Georgia Baptist Hospital, Atlanta, Georgia

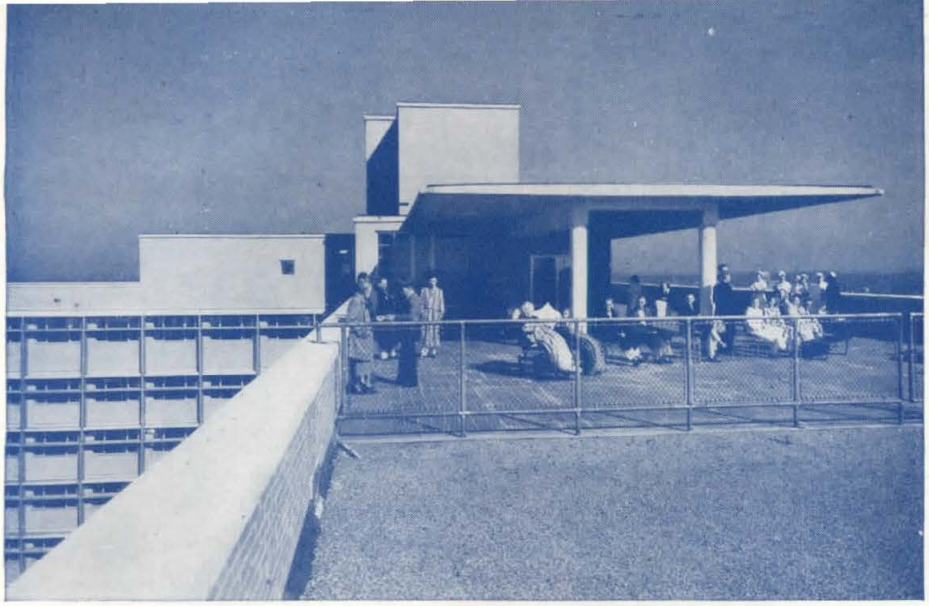
Stevens & Wilkinson, Architects-Engineers



This eight-story, 376 bed addition to an existing hospital (see plot plan) was built while the old hospital remained in operation. The building received an Award of Merit at the recent A.I.A. Convention. To protect east and west windows of the L-shaped structure from solar radiation, the architects utilize an all-over grid, consisting of concrete eyebrows (extensions of the floor slabs) above windows, and a cross-grid of 18-gage aluminum louvers at the level of the meeting rail; vertical, louver panels occur at the columns, 26′-4″-o.c.

Interior views are of the main lobby and the Memorial Waiting Room. Henry C. Beck Company was general contractor.

Photos: (this page) F. S. Lincoln; (all others) Gabriel Benzur



GEORGIA BAPTIST HOSPITAL

The program was to design a 376-bed addition to an old hospital (229 beds), including within it new central facilities—administration suite, kitchen and food distribution areas, emergency clinic, physiotherapy department, storage space, pharmacy, obstetrical suite, pediatrics department, surgery, central supply, and radiology department—that would be sufficient in area and equipment to serve the existing hospital, as well as the new patient areas.

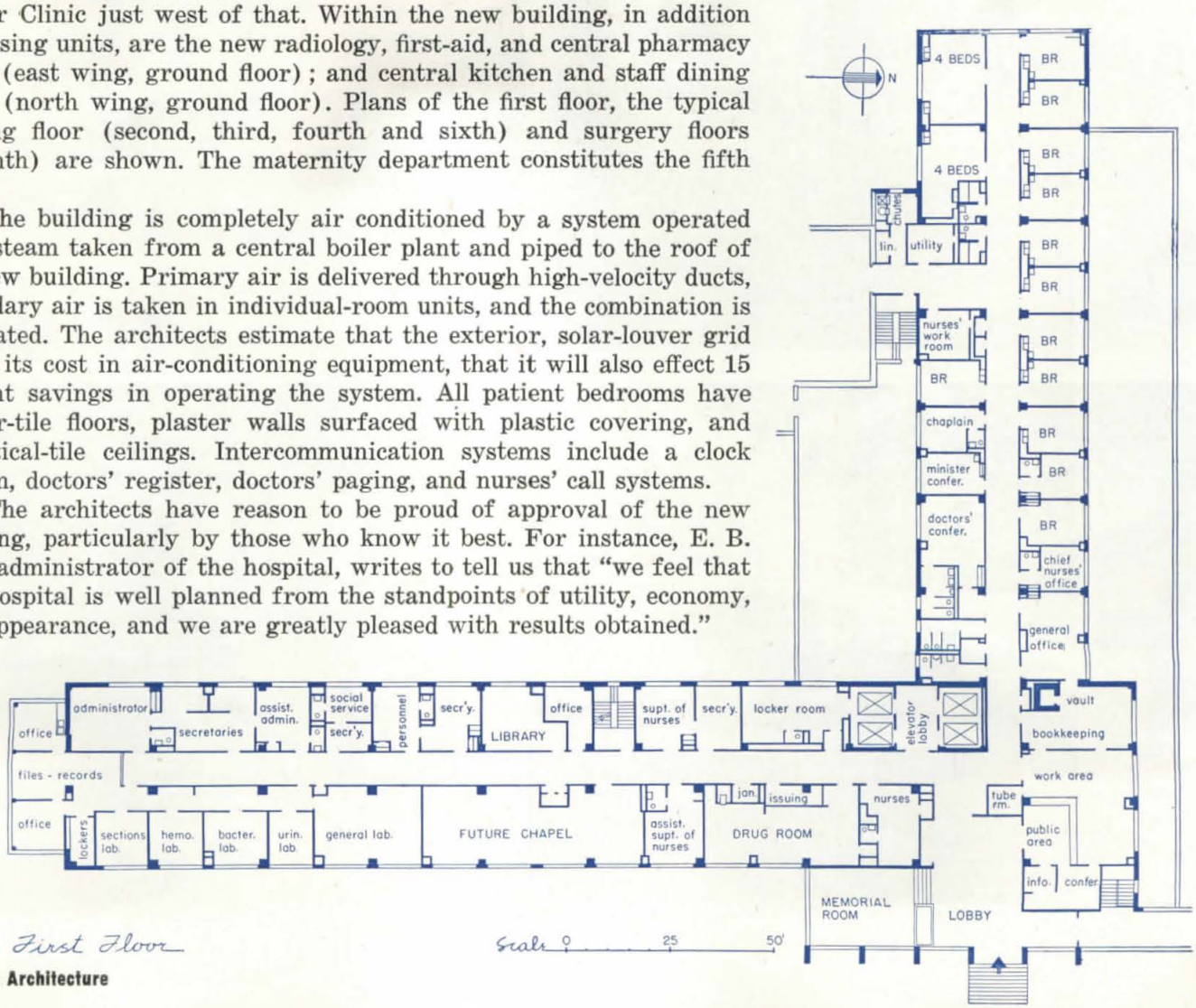
The middle of the site was occupied by the existing hospital; across a narrow street to the north was a nurses' home, with the Sheffield Cancer Clinic just west of that. Within the new building, in addition to nursing units, are the new radiology, first-aid, and central pharmacy areas (east wing, ground floor); and central kitchen and staff dining areas (north wing, ground floor). Plans of the first floor, the typical nursing floor (second, third, fourth and sixth) and surgery floors (seventh) are shown. The maternity department constitutes the fifth floor.

The building is completely air conditioned by a system operated with steam taken from a central boiler plant and piped to the roof of the new building. Primary air is delivered through high-velocity ducts, secondary air is taken in individual-room units, and the combination is circulated. The architects estimate that the exterior, solar-louver grid saved its cost in air-conditioning equipment, that it will also effect 15 percent savings in operating the system. All patient bedrooms have rubber-tile floors, plaster walls surfaced with plastic covering, and acoustical-tile ceilings. Intercommunication systems include a clock system, doctors' register, doctors' paging, and nurses' call systems.

The architects have reason to be proud of approval of the new building, particularly by those who know it best. For instance, E. B. Peel, administrator of the hospital, writes to tell us that "we feel that this hospital is well planned from the standpoints of utility, economy, and appearance, and we are greatly pleased with results obtained."

CONSTRUCTION

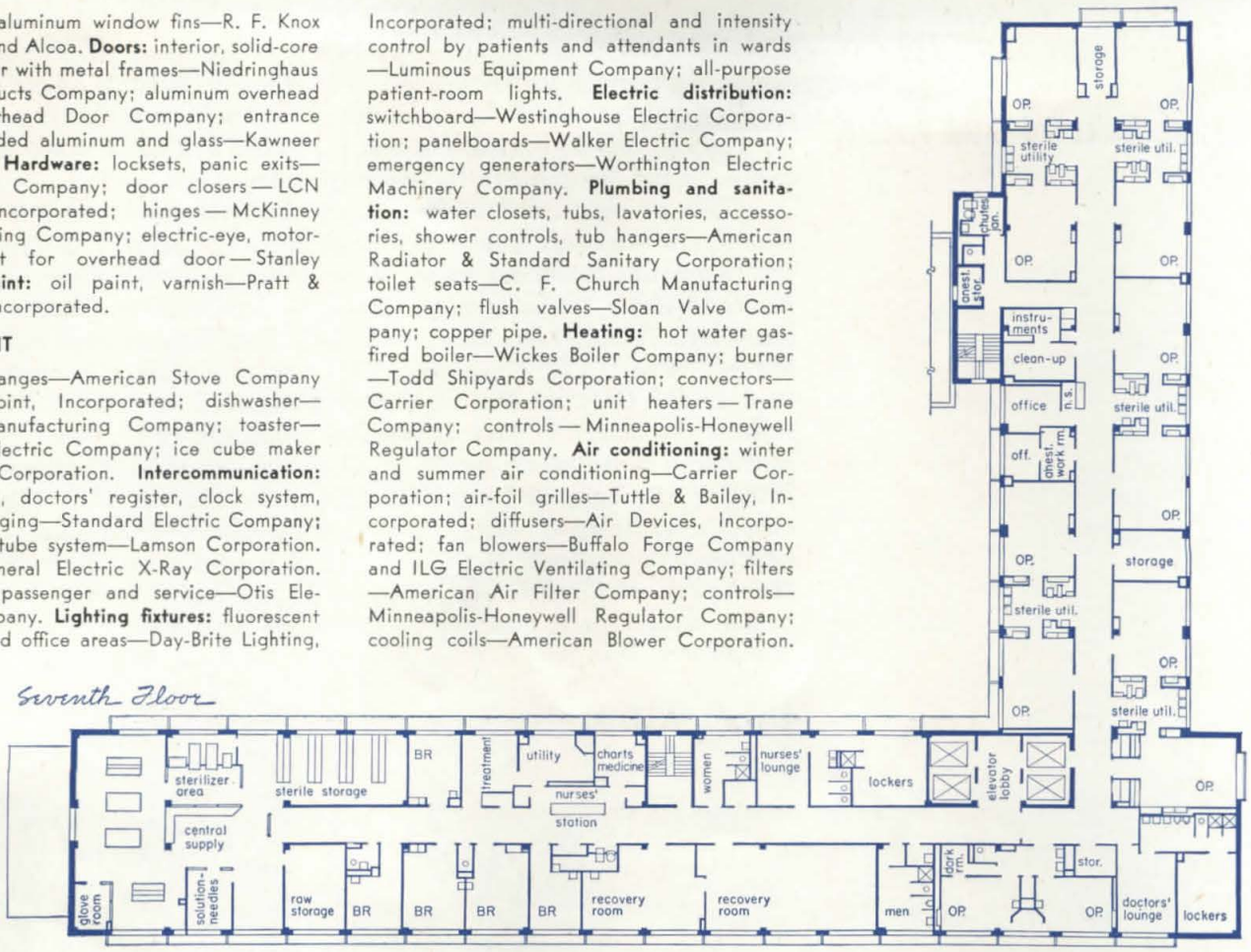
Foundation: reinforced-concrete spread footings. **Frame:** reinforced concrete—Universal Atlas Cement Company; reinforcing bars—Republic Steel Corporation. **Walls:** exterior: face brick with hollow clay-tile back-up—Goshen Brick & Clay Corporation; corrugated-aluminum siding—R. F. Knox Company; interior: glazed structural tile—Arketex Ceramic Corporation; plastic wall—Frederick Blank & Company; ceramic tile covering—Mosaic Tile Company; plaster. **Floors:** concrete. **Floor surfacing:** gray Portland cement—Lehigh Portland Cement Company; marble-chip terrazzo—John J. Craig Company; oxychloride terrazzo—Marbelette Flooring Company; plastic dividing strips—Manhattan Terrazzo Brass Strip Company; rubber tile—Wright Manufacturing Company. **Ceilings:** mechanical attachments for erecting acoustical tile—W. J. Haertel & Company. **Roof:** built-up—Barrett Division, Allied Chemical & Dye Corporation. **Waterproofing and dampproofing:** membrane. **Insulation:** acoustical: incombustible ceiling tile—Owens-Corning Fiberglas Corporation; thermal: cellular glass—Pittsburgh Corning Corporation; rigid fiberboard tile—Armstrong Cork Company. **Roof drainage:** wrought iron downspouts, roof drains—Josam Manufacturing Company. **Partitions:** hollow clay-glazed-tile for interiors, structural tile in toilet partitions—Arketex Ceramic Corporation. **Windows:** extruded-aluminum double-hung sash—Adams & Westlake Company; fixed 1/4" light plate-glass, double glazing—Libbey-Owens-Ford Glass

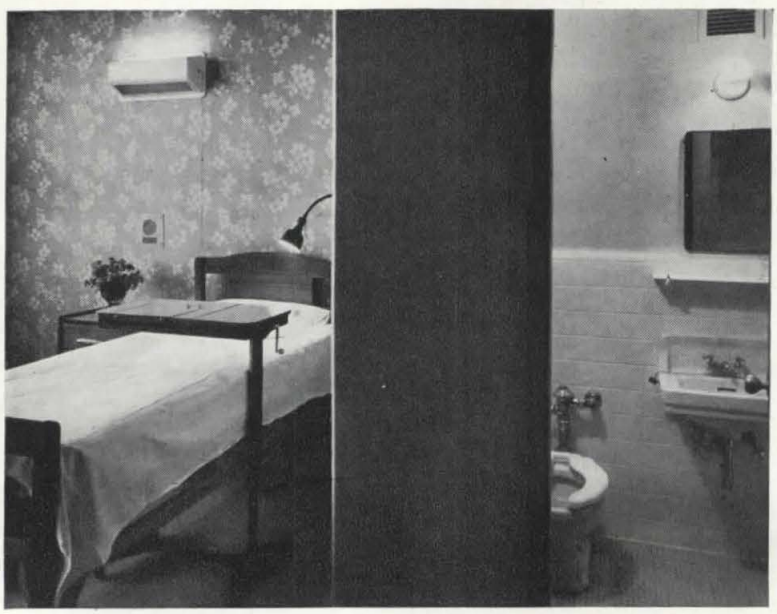


Company; aluminum window fins—R. F. Knox Company and Alcoa. **Doors:** interior, solid-core wood veneer with metal frames—Niedringhaus Metal Products Company; aluminum overhead door—Overhead Door Company; entrance door, extruded aluminum and glass—Kawneer Company. **Hardware:** locksets, panic exits—Sargent & Company; door closers—LCN Closers, Incorporated; hinges—McKinney Manufacturing Company; electric-eye, motor-driven unit for overhead door—Stanley Works. **Paint:** oil paint, varnish—Pratt & Lambert, Incorporated.

EQUIPMENT

Kitchen: ranges—American Stove Company and Hotpoint, Incorporated; dishwasher—Hobart Manufacturing Company; toaster—McGraw Electric Company; ice cube maker—Carrier Corporation. **Intercommunication:** nurses' call, doctors' register, clock system, doctors' paging—Standard Electric Company; pneumatic tube system—Lamson Corporation. **X-ray:** General Electric X-Ray Corporation. **Elevators:** passenger and service—Otis Elevator Company. **Lighting fixtures:** fluorescent in lobby and office areas—Day-Brite Lighting, Incorporated; multi-directional and intensity control by patients and attendants in wards—Luminous Equipment Company; all-purpose patient-room lights. **Electric distribution:** switchboard—Westinghouse Electric Corporation; panelboards—Walker Electric Company; emergency generators—Worthington Electric Machinery Company. **Plumbing and sanitation:** water closets, tubs, lavatories, accessories, shower controls, tub hangers—American Radiator & Standard Sanitary Corporation; toilet seats—C. F. Church Manufacturing Company; flush valves—Sloan Valve Company; copper pipe. **Heating:** hot water gas-fired boiler—Wickes Boiler Company; burner—Todd Shipyards Corporation; convectors—Carrier Corporation; unit heaters—Trane Company; controls—Minneapolis-Honeywell Regulator Company. **Air conditioning:** winter and summer air conditioning—Carrier Corporation; air-foil grilles—Tuttle & Bailey, Incorporated; diffusers—Air Devices, Incorporated; fan blowers—Buffalo Forge Company and ILG Electric Ventilating Company; filters—American Air Filter Company; controls—Minneapolis-Honeywell Regulator Company; cooling coils—American Blower Corporation.





The Present: Clinics and Group Practice

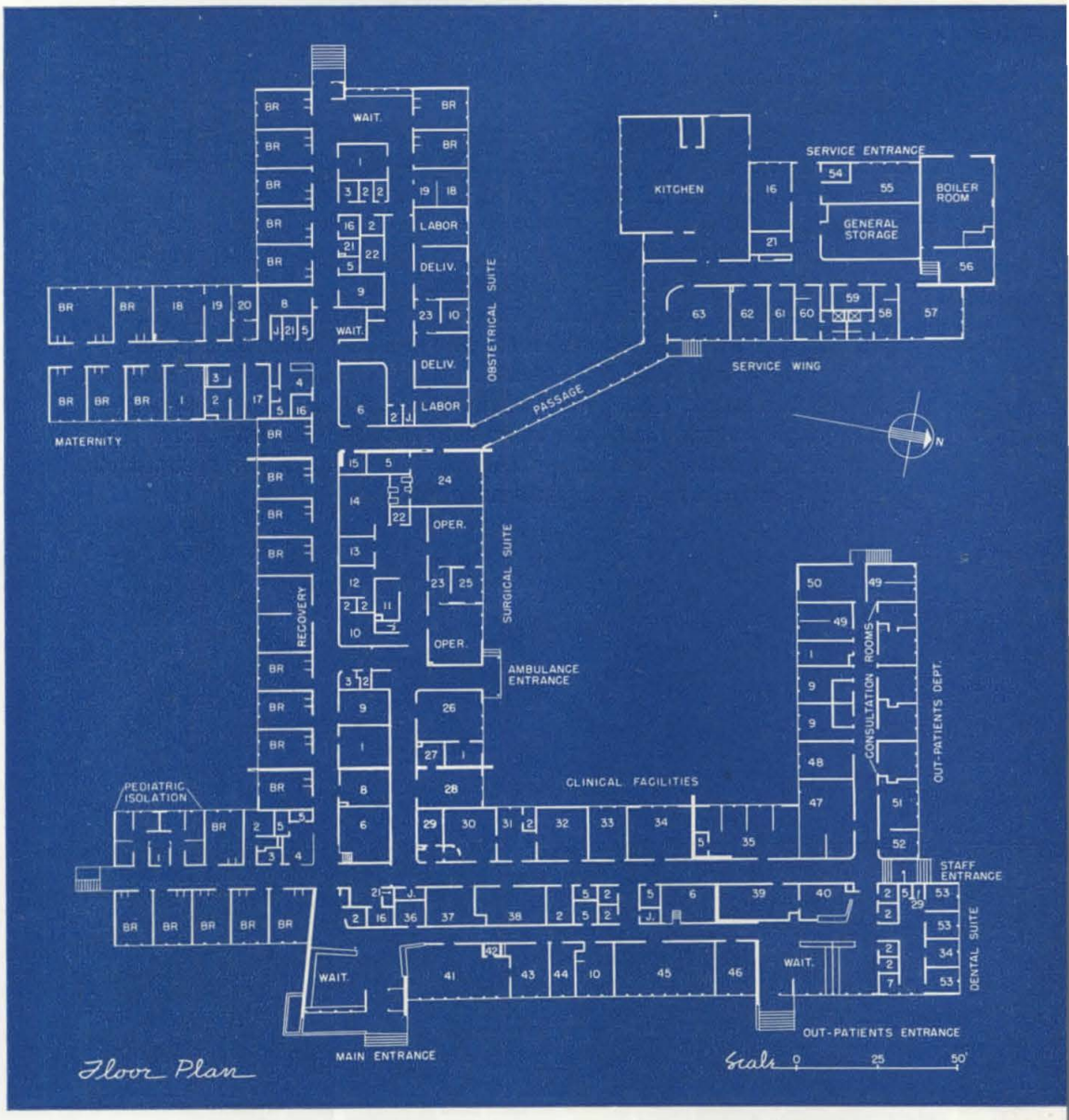
Starting as the out-patient department in the general hospital, combining during the last few years with doctors' private offices, and extending now into the fields of preventive medicine and health education, the "clinic" has become a building type that will draw much attention and see much progress in the coming period.

Two primary, concurrent trends have been responsible for the plan studies that are now being made in many quarters: both are illustrated on the following pages. One arises from the desire of public health officials to integrate, within the community, preventive and diagnostic facilities, with sufficient in-patient beds so that reference to nursing care can be facilitated. This tendency results in such a structure as the Crossett Health Center illustrated here. The other trend reflects the desire of private medical practitioners to co-ordinate their services in some "group practice" arrangement. While the original urge was for efficiency and economy (there are obvious advantages to an obstetrician, a gynecologist, and a pediatrician sharing office space and expensive equipment, for instance), in a project such as the Upper Manhattan Medical Group Center, the medical program is for integrated health care, and the architectural plan must reflect an understanding of this. T.H.C.

Crossett, Arkansas

William Lescaze, Architect
***Neergaard*, Agnew & Craig, Hospital Consultants**

1. utility
2. bathroom or toilet
3. bed pan closet
4. nurses' station
5. storage
6. air cond. equip.
7. recovery
8. pantry
9. treatment
10. doctors' room
11. sterile
12. nurses' room
13. anesthesia
14. surgical supply & sterilizing
15. switchboard
16. linen supply
17. formula room
18. nursery
19. nurses' workroom
20. suspect nursery
21. soiled linen
22. clean-up
23. scrub-up
24. general supply & sterilizing
25. sub-sterilizing
26. emergency room
27. splint closet
28. fracture room
29. dark room
30. x-ray
31. x-ray workroom
32. cystoscopic room
33. EKG & BM room
34. laboratory
35. physical therapy
36. admitting room
37. radiologist's office
38. future deep therapy
39. medical records
40. office & information
41. business office
42. vault
43. superintendent's office
44. director of nurses
45. library and confer.
46. office
47. minor surgery
48. urology room
49. examination
50. eye, ear, nose & throat
51. medical director
52. secretary
53. dental operating
54. anesthetics storage
55. bulk food storage
56. compressor room
57. maintenance room
58. male employees' lockers
59. bed storage
60. female employees' lockers
61. employees' dining
62. doctors' dining
63. nurses' dining



Photos acrosspage: above—main entrance with nursing unit at left and administrative office at right. Typical wall construction is of 4" x 4" posts 4'-o.c., with 2"x4" studs 16"-o.c. between posts; diagonal sheathing, building paper, and vertical exterior siding; wood sash. Bottom—main waiting room, with business office counter in background.

Photos: Clarence John Laughlin

The Crossett Health Center, located in an Alabama lumber town of 5000 population, is designed to serve that community and the rural district within a 50-mile radius. While emphasis is on the clinical facilities, a 56-bed hospital wing and a surgical suite make it an important contribution toward the conception of an integrated community health facility. Clinical and "out-patient" departments are in the fore wing, with physiotherapy, urology, eye, ear, nose, and throat departments, and an unusually complete dental suite. Provisions for radiological diagnosis lie between this area and the surgical suite. The remainder of the nursing area is devoted principally to obstetrics and maternity care, with a general medical nursing suite separated by use of the double-corridor plan which Neergaard has made well known.

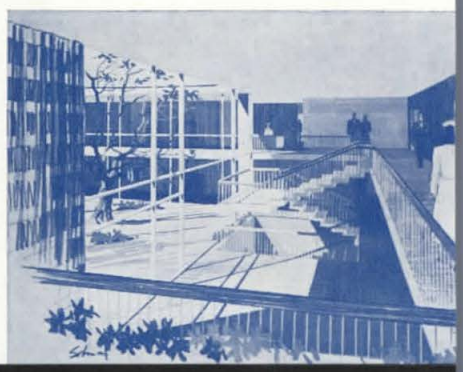
These various health activities are combined in a one-story structure which avoids the usual, rigid, pavilion scheme—at the expense, perhaps, of making the surgical suite corridor a passageway from the nursing unit to the administrative and clinical departments. The building is completely air conditioned. Roof overhangs have been carefully studied in relation to penetration of the sun into south-facing bedrooms.

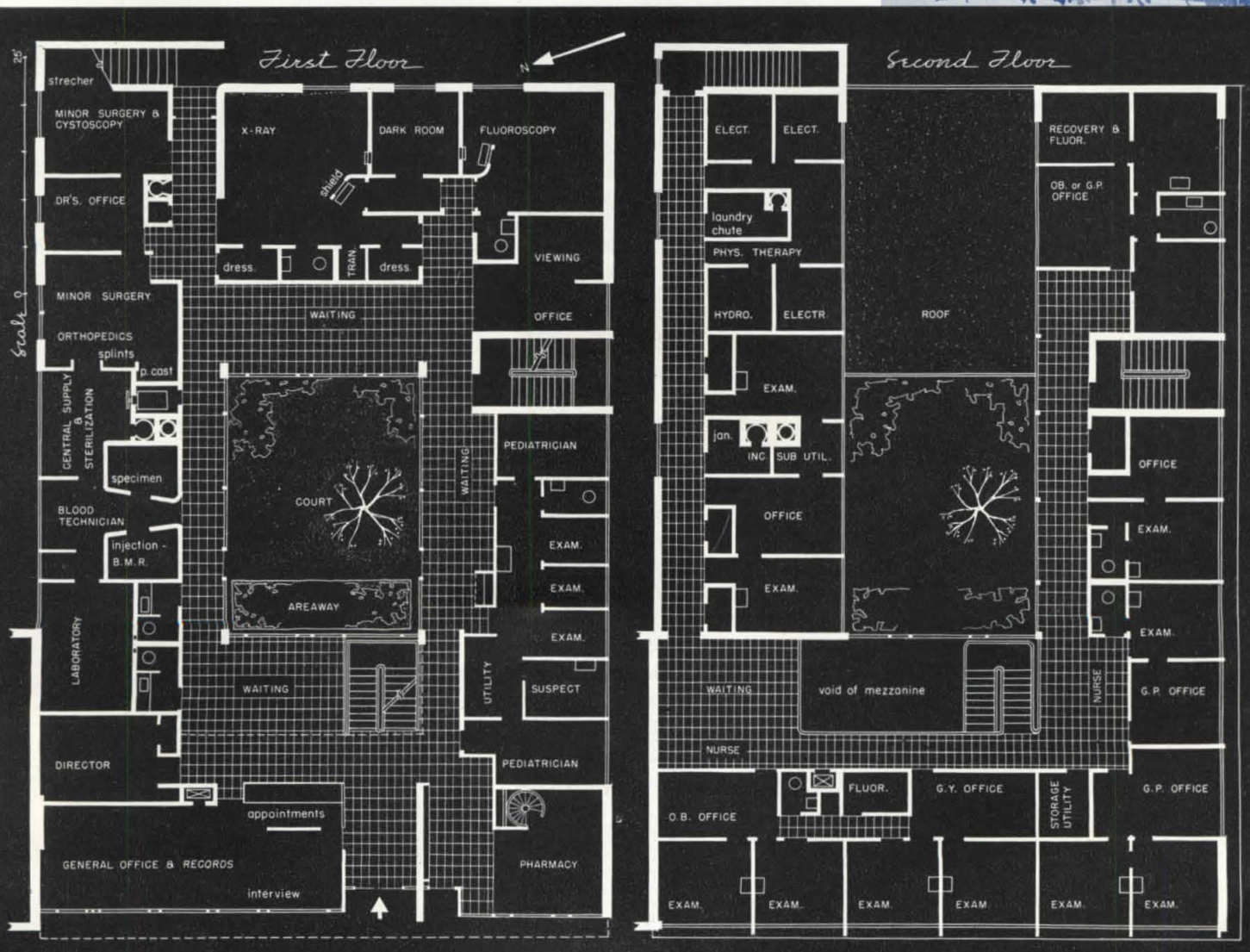
New York, New York

Nemeny, Geller & Yurchenco
Associate Architects

The Health Insurance Plan in the city of New York is a rapidly growing voluntary association of doctors providing health care on a prepayment basis. In most instances doctors participating in H.I.P.—who also have their own independent practices—have preferred to work from their separated offices, to be near the patients' homes. In the Harlem area, however, ten doctors have banded together to build a Center which will be used for H.I.P. work, for joint and separate research, and for their individual practices.

The architects were limited by existing walls on a tight city plot—restrictions which they have overcome to produce a court arrangement and an openness which should be most pleasant. Library and lounge are in the basement. The group business office and general spaces—laboratory, pharmacy, etc.—are near the front of the first floor. The open mezzanine acts as waiting space, as well as access to specialized offices and treatment rooms on the second floor.





The Present: Specialized Hospitals

Specialized hospitals at the present time are serving more patients in the United States than are general hospitals. In 1948, 60% of the hospital beds in this country (847,061) were in specialized hospitals, which included mental institutions and tuberculosis hospitals (the two dominant groups) and other categories such as chronic disease, cancer, neurology, eye, ear, nose and throat, orthopedics, special women's and children's treatment, and convalescent facilities. Within these specialties there are even more restricted fields, such as the "crippled children's" institutions that are shown on following pages.

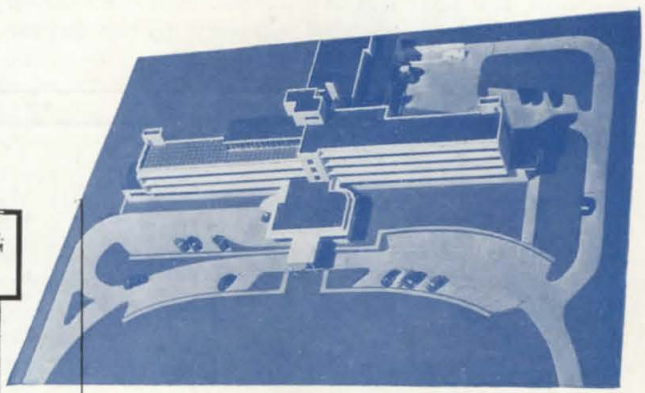
The reasons for the existence of the special hospital are that the general hospital is not usually fitted for specialized clinical work of this nature and, since many of the "specialized" patients are chronic or nearly chronic in their ailment, they would occupy, for long periods, beds in general hospitals which might otherwise be used for a succession of acute cases.

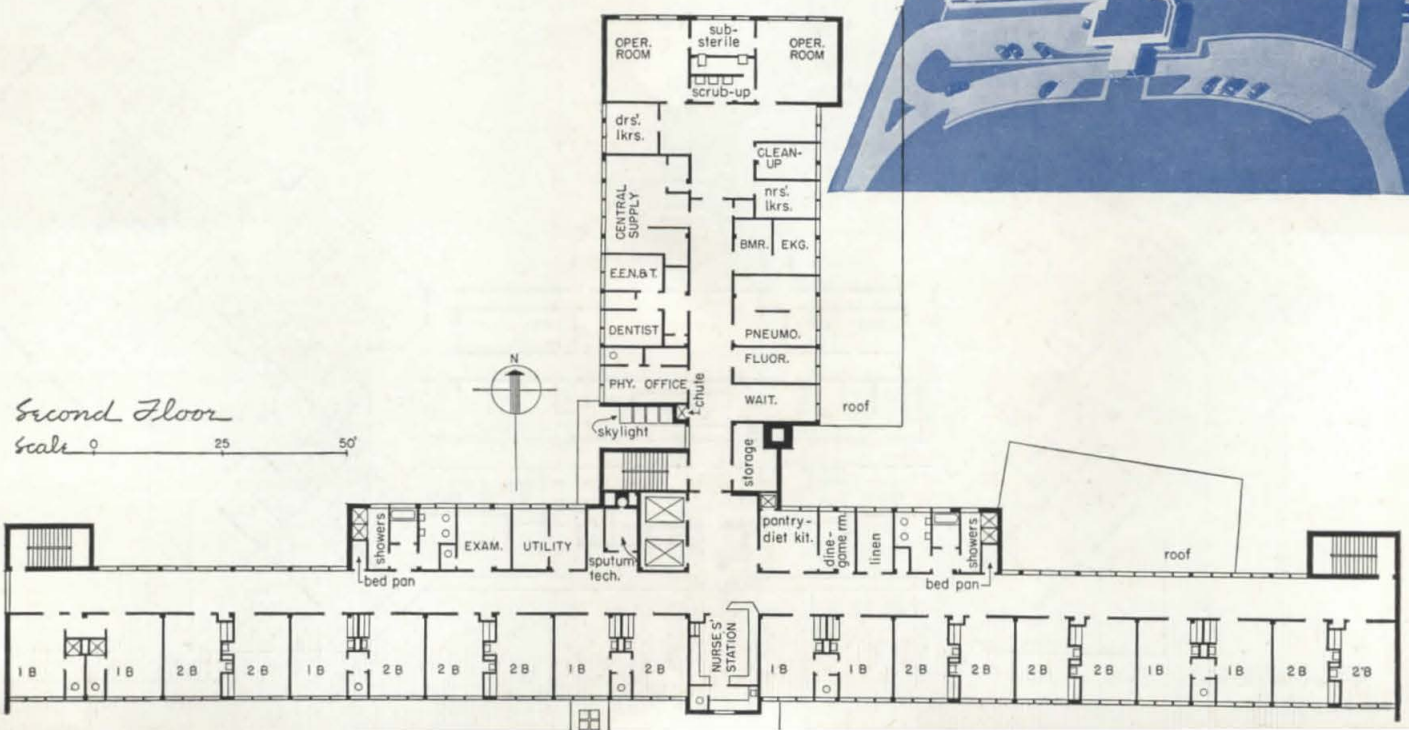
The architect soon discovers, in planning a specialized hospital, that research and teaching are a large part of the program. Not only are there specific requirements in the planning of treatment rooms, as in tuberculosis hospitals, and special precautions needed, in the case of communicable diseases, but also the opportunity for clinical research in specialized fields, and the need for teaching of doctors, technicians, and nurses, all make this hospital building type much more difficult to design—though admittedly much more interesting than the general hospital. T.H.C.

Tuberculosis Hospital, Mobile, Alabama

Harry Inge Johnstone, Architect

The District VI Tuberculosis Hospital, Mobile, illustrates many of the characteristics of this specialized type of building. Since the patients' stay is apt to be long, good orientation of bedrooms is important; light and air are desirable; the openness of the corridor in this scheme is commendable. Flexibility in use of patients' rooms is necessary, as the disease goes through various phases. The primary special treatment—surgical collapse treatment of the lung—requires a pneumothorax suite, with waiting space, treatment room and fluoroscopic examination room, which is provided in the stem of the T, along the corridor to the operating suite.



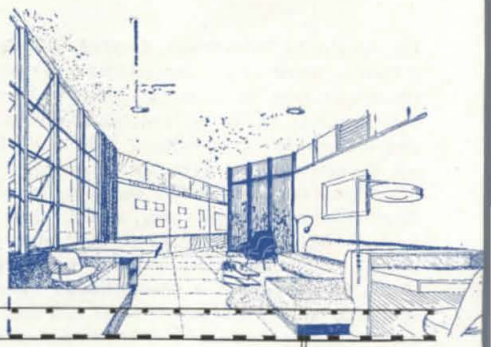


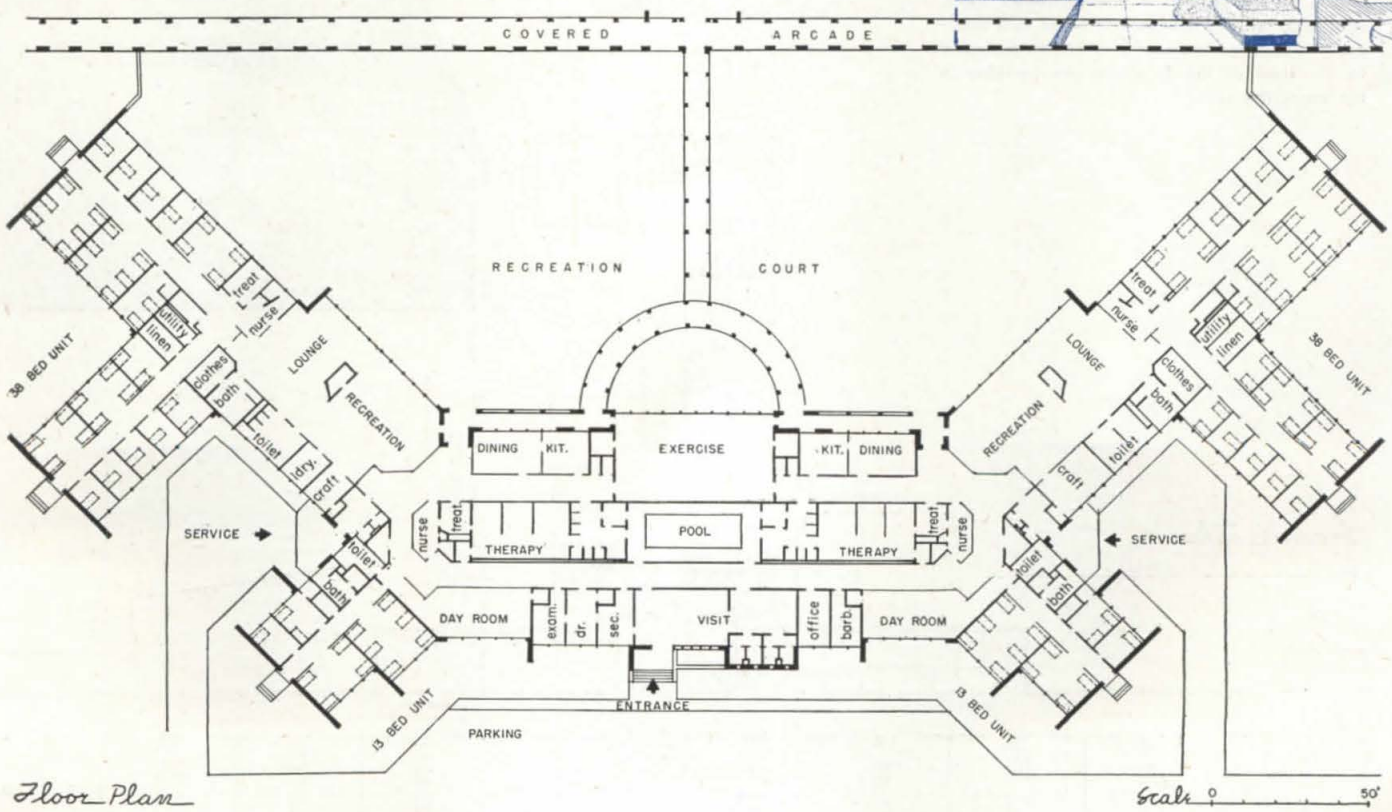
State Hospital, Little Rock, Arkansas

Trapp & Clippard
Ginocchio, Cromwell & Associates
State Hospital Architects

The Arkansas State Hospital, Little Rock, has launched a program of design and construction for care of the mentally ill which is highly regarded by experts in the field as an example of advanced planning in the psycho-neurotic field. On the grounds of the State Hospital will be erected new units for intensive treatment, maximum security, neurology, geriatrics, physical therapy, and, on the more hopeful side, convalescent patients. One reason that the plans have been applauded is that emphasis will be on rehabilitation and recreational activities, such as craft and games. Another is that the institution is planned in relation to a medical center.

The neurological building, plan of which is illustrated, is a 100-bed structure which will operate as a self-contained treatment unit. Hydro and physical therapy are an important part of the treatment, and a therapeutic swimming pool is planned in the center of the building. Dayrooms, recreational areas, and lounges are provided and, since most of the patients are at best semi-ambulatory, toilet facilities and utility areas are provided adjacent to the dayrooms as well as the bedrooms.

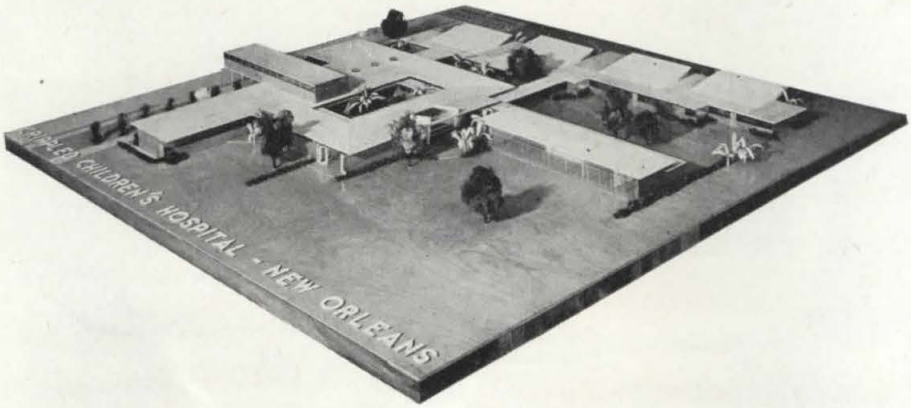




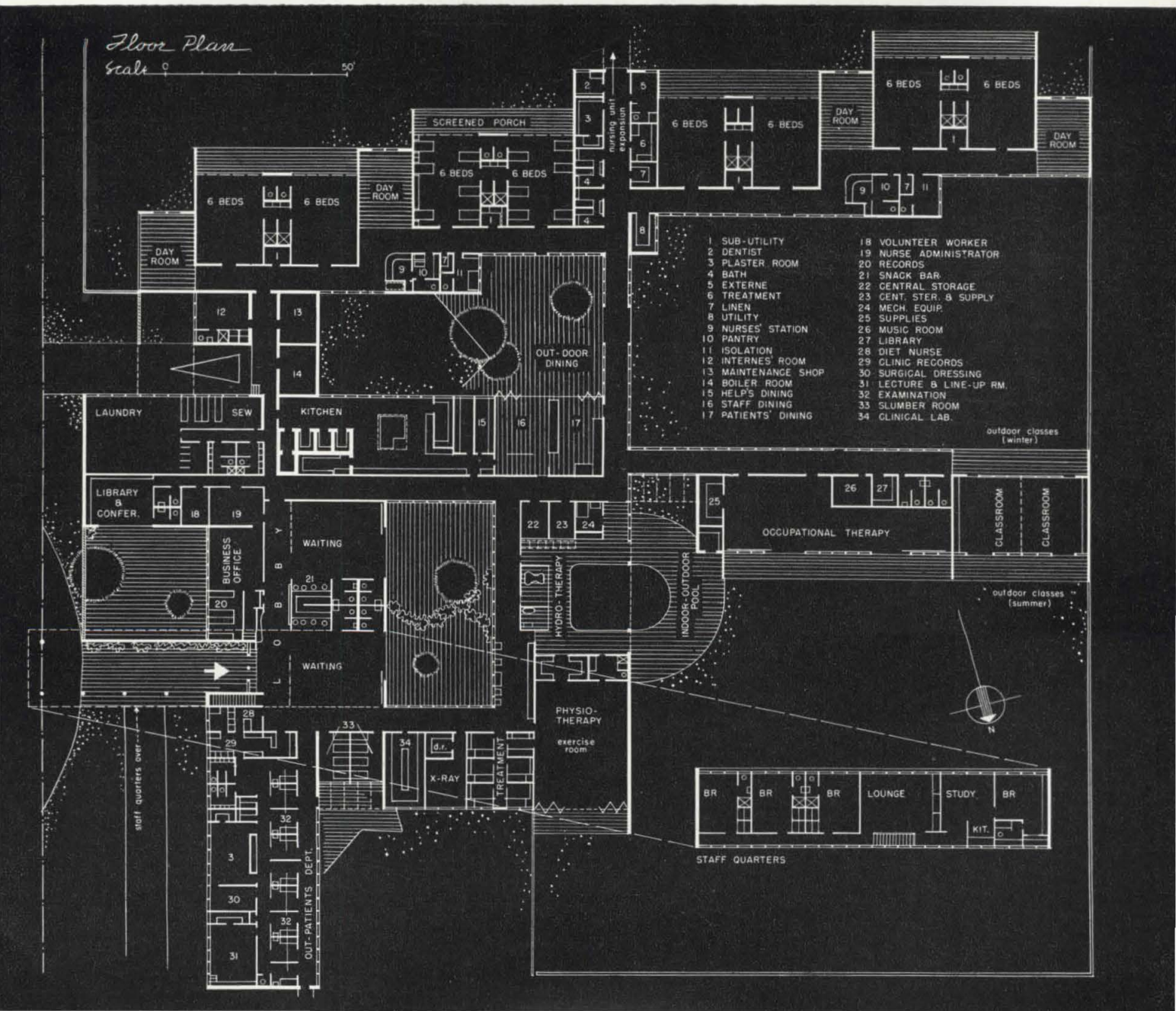
Floor Plan

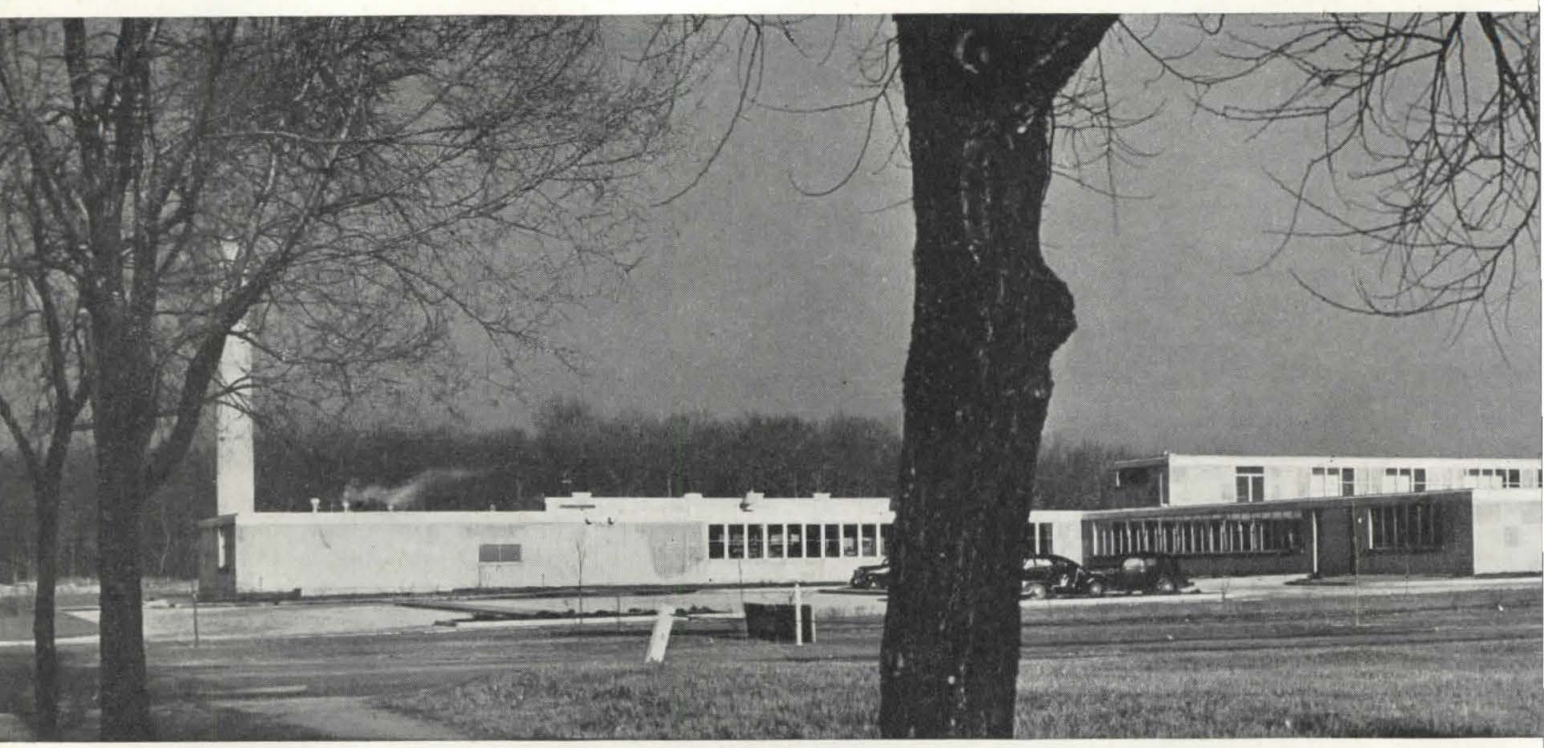
Crippled Children's Hospital, New Orleans, Louisiana

The Crippled Children's Hospital, New Orleans, is an instance of the specialized medical problem too often ignored, with the result that general hospital beds are occupied by those better cared for elsewhere. (This project will free 116 general hospital beds desperately needed in New Orleans). The new hospital is designed for the rehabilitation and convalescent care of more or less chronic cases. Pediatric examination and treatment will be provided, before and after surgery performed at other hospitals. Hydrotherapy and physical therapy are of utmost importance, with particular attention to occupational therapy. An out-patient clinical facility of more than ordinary size was a necessary provision of the program. Another requirement was demonstration space for teaching interns and nurses.



Ricciuti, Stoffle & Associates, Architects





Northern Indiana Children's Hospital, South Bend, Indiana

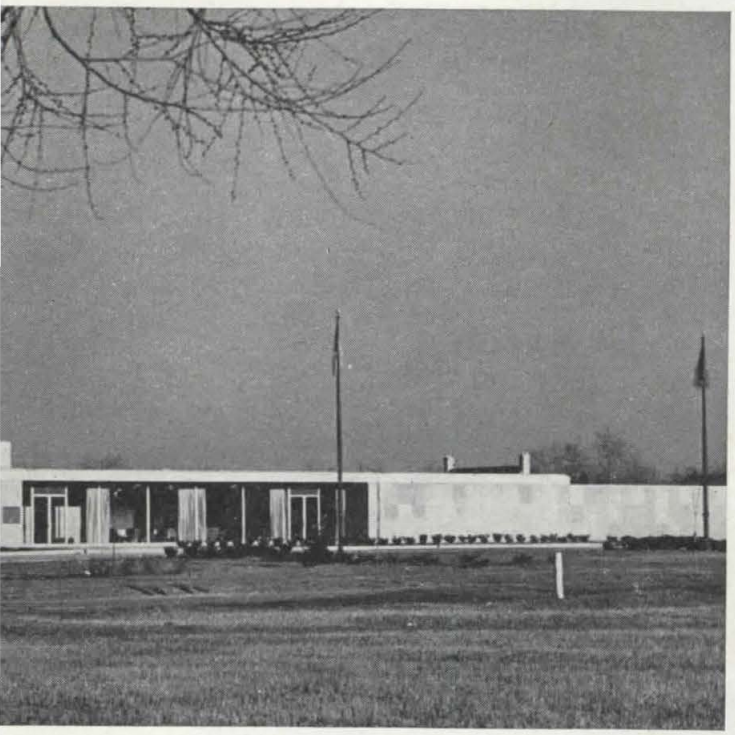
Pohlmeyer & Pohlmeyer, Architects
Skidmore, Owings & Merrill, Associated Architects
W. T. Priestley, Chief Designer and Project Manager
Lawrence Sheridan, Landscaping

Growing largely out of the devotion and persistence of the late Dr. Walter H. Baker of South Bend, who ran a clinic for crippled children in that city, this hospital was built by the State of Indiana, with the Governor and a four-member appointed board acting as the client. The building won an Award of Merit at the A.I.A. Convention this year. In the development of the plans, expert advice was obtained from the director of The Alfred I. DuPont Institute of the Nemours Foundation, Wilmington, Delaware, and from Mrs. Helen E. Young, at that time superintendent of the Shriner's Hospital, Chicago.

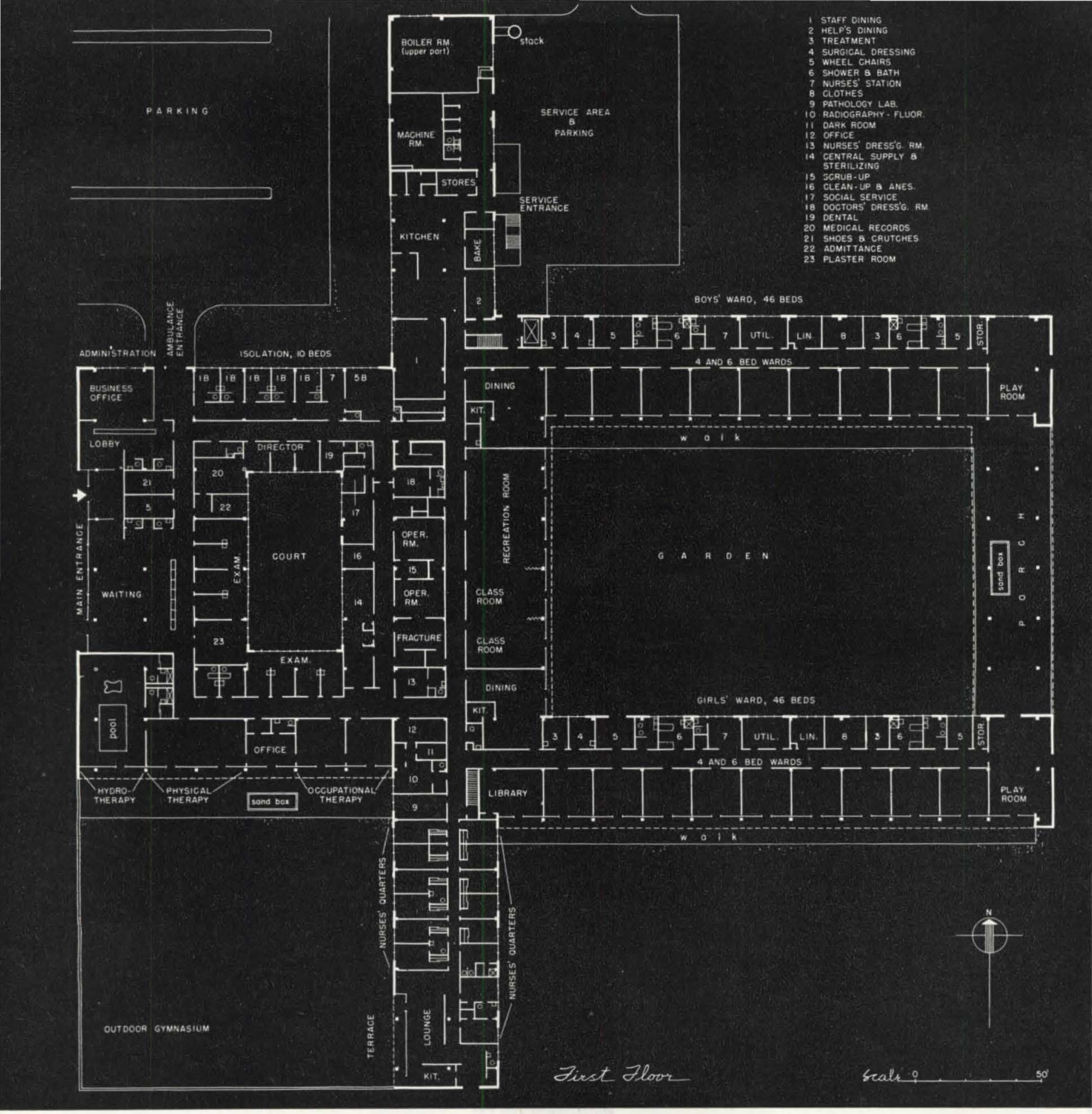
In general, the program called for facilities for 100 in-patients, up to 21 years of age, plus an out-patient clinic to serve all northern Indiana. Wards for in-patients are in two parallel, almost identical wings, one for boys and one for girls, with all ward rooms opening out to sunny southern terraces; at the end of each of the wings is a large day-playroom, and these are joined (forming the fourth side of a large courtyard) by a covered porch used in bad weather for outdoor play. In addition, entirely separate from these, is an isolation unit, complete with its own nursing and sterilizing services, consisting of five single bedrooms and one five-bed ward. These are used for newly admitted patients and to avoid the possibility of cross infection. Educational space providing for through-high-school study includes classrooms and a recreation hall (that may be thrown together) and a library.

At the front of the building, in addition to administrative offices, are the main clinic waiting room, examination rooms, and observation areas. Elements used by both in- and out-patients include therapy, surgery, X-ray, pathology lab, and dental department. Dining areas are planned with the premise that about 50 percent of the patients would be able to walk to their meals, with the remainder receiving tray service. A separate wing contains nurses' quarters, opening onto a walled outdoor gym-garden; a small second floor houses the doctors.

Construction is of reinforced concrete and exterior walls are surfaced with large units of native limestone. Peter Schumacher & Sons, Inc., were the general contractors. *Photos: Torkel Korling*




1948



CONSTRUCTION

Foundation: reinforced-concrete spread footings. **Frame, floors, roof:** reinforced concrete. **Walls:** limestone with brick facing, glass. **Waterproofing:** 3-ply membrane waterproofing — Ruberoid Company. **Insulation:** acoustical; perforated fiberboard tiles — Armstrong Cork Company; thermal; asbestos-cement coating — Spray-O-Flake Company. **Floor surfacing:** asphalt tile, rubber tile — Thomas Moulding Floor Manufacturing Company; white terrazzo in kitchen area — H. H. Robertson Company. **Wall surfacing:** Indiana limestone on exterior; plaster, interior — United States Gypsum Company. **Roof surfacing:** over 1" Celotex roof insulation, 4-ply coal-tar pitch, tarred-felt and gravel. Roof to have 2" water for evaporative summer cooling. **Roof drainage:** copper gutters and cast-iron downspouts — Josam Manufacturing Company. **Partitions:** interior, precast gypsum tile — United States Gypsum Company; toilet, flush-steel panels with baked-enamel finish — Henry Weis Manufacturing Company. **Windows:** aluminum sash — Adams & Westlake Company; plate glass — Libbey-Owens-Ford Glass Company. **Doors:** interior, hollow-core flush doors; aluminum entrance doors — Michaels Art Bronze Company. **Hardware:** door closers — Russell & Erwin Manufacturing Company; panic exit — Vonnegut Hardware Company. **Paint:** O'Brien Paint & Varnish Company.

EQUIPMENT

Kitchen: 3-section baking oven — G. S. Blodgett Company; stove — Detroit Michigan Stove Company; electric refrigerators; walk-in type refrigerators, powered by — Carrier Corporation; dual-drive dishwasher — Hobart Manufacturing Company. **Laundry:** United States Hoffman Machinery Corporation. **Intercommunication systems:** nurses' call, doctors' in and out, and automatic-reset clock-control systems — Edwards & Company. **X-ray equipment:** Dick X-ray Company. **Lighting Fixtures:** all surface-mounted fluorescent type; slimlines in wards, *recreation* and play rooms — Belson Manufacturing Company. **Electric distribution:** service-entrance switch and panelboards — Westinghouse Electric Corporation; asbestos cement ducts — Johns-Manville Company; branch-wiring and lead-covered main-service feeder — General Cable Corporation; rigid conduit, electrical metallic tubing — Youngstown Sheet & Tube Company; wiring devices — Bryant Electric Company. **Plumbing and sanitation:** American Radiator & Standard Sanitary Corporation. **Heating: boilers** — Kewanee Boiler Corporation; convectors and unit heaters — Trane Company; controls — Minneapolis Honeywell Regulator Company.

NORTHERN INDIANA CHILDREN'S HOSPITAL

Above—looking from the west-facing entrance vestibule into the main clinic waiting room.

Right—rear portion of clinic waiting room, with doors to examination rooms along wall at right; the door at the far end leads to the administrative-office area and isolation ward.

Within patient areas, there are neither stairs nor ramps, making circulation in wheelchairs as simple as possible. The garden area between the east-extending ward wings is to be fully landscaped, providing considerably more privacy than the current photographs suggest.

Above—the large courtyard formed by the two children's wards (the wing for boys in background, right), the educational rooms (background, left, with second-story doctors' quarters, above) and the play porch joining the play rooms of the two wards. In the latter, notice the louvered portion of the ceiling that allows patients to be outdoors in controlled sunlight.

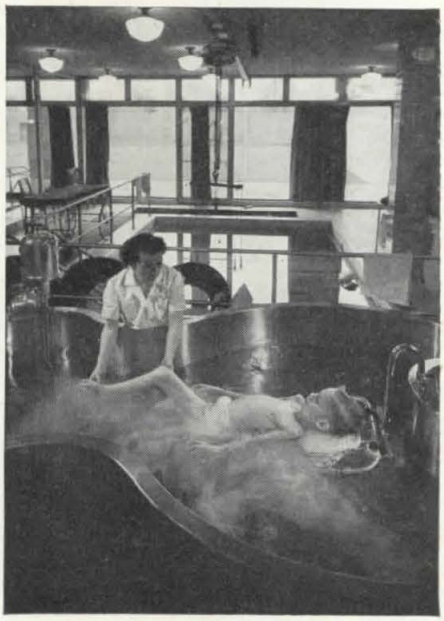
Right—lounge of nurses' quarters, in the south wing of the building; through the windows at right is the walled gym-garden.

NORTHERN INDIANA CHILDREN'S HOSPITAL

Left—one of the playrooms at the east end of a ward wing; covered porch beyond.

Below—hydrotherapy room, with Hubbard tank in foreground and pool beyond.

Bottom of page—south elevation of one of the in-patient wards, showing roof overhang for sun control, concrete terrace for patients' beds and wheelchairs.



Two recently completed Veterans Administration Hospitals: right—Franklin Delano Roosevelt Veterans Hospital, Montrose, New York, designed by the VA staff; below—Brooklyn Veterans Hospital, Brooklyn, New York, designed by Skidmore, Owings & Merrill.
Photo below: Martin Helfer

The Veterans Administration Hospital program begun in postwar years, with Congressional authorization in 1946, has had a substantial impact on hospital design in the United States, although as of 1951 it has ceased to be a factor of construction significance. Nearly 40,000 additional beds in some 70 new institutions were added to existing veterans' facilities for health care, and the first part of this huge program was given out to private architectural firms throughout the country. The work of the civilian architect in this program contributed materially to elevation of the standards in this type of institutional care, particularly in the field of neuro-psychiatry.

Now that many of the buildings in the original program are reaching completion, the job for the private architect in this field seems to be over. The Veterans Administration has called upon the last unit of available medical personnel for staffing such facilities, and will not expand further. Any additional construction will be limited to existing stations and will be designed by VA engineering personnel.

ROY HUDENBURG

The Present: VA Hospitals

Veterans Administration Hospital, Wilkes-Barre, Pennsylvania

Kelly & Gruzen and Isadore Rosenfield
Architects-Engineers

Severud, Elstad & Kreuger
Structural Design

Edward E. Ashley
Mechanical Engineering Services

Alfred and Michael Burris
Civil Engineering and Landscaping

Baltimore District, Corps of Engineers
Construction Administration

Right—the main approach (west) front, with emergency, admitting, and outpatient departments; labs, X-ray, physical therapy facilities, and operating rooms, in lower wing at left; nursing units (480 beds) in tall block at right. This hospital won an Award of Merit at this year's A.I.A. Convention.

Below—view from south, showing the tiers of sun-flooded nursing units. Merritt-Chapman & Scott Corporation was the general contractor. *Photos: Ben Schnall*

Below—the close-up view reveals the bold pattern on the south front formed by the brick-surfaced reinforced concrete frame, 4-unit aluminum sash, and continuous 2'-6" cantilevers above windows.

Bottom—main entrance lobby, with O.P.D. waiting room at far end. Terrazzo floor, marble-surfaced wall, acoustic-tile ceiling, stem-mounted combined-type light fixtures.

The Veterans Administration's program was for a 480-bed hospital to include, besides general medical beds, the following specialized facilities: 60 beds for neurological and neurosis patients; 32 beds for "disturbed" psychiatric cases; 42 beds for "quiet" psychiatric patients; 10 isolation beds; and 10 beds for women patients. Since the average stay in the hospital is 37 days, with 50 percent of the patients more or less ambulant, there also had to be provisions for social, occupational, and recreational activities.

The original project for this hospital was shown in November 1946 P/A. The general scheme remains the same, though the budget required elimination of certain features, such as a large auditorium and chapel, and the VA decided to eliminate numerous balconies intended for patients' use.

On the page opposite are shown plans for the *First* (main entrance), *Fifth* (typical nursing units), and *Eighth* (disturbed psychiatric) floors. Briefly, the other floors contain:

Basement: admitting and emergency departments: garages, boiler room, laundry, main kitchen, employees' dining, delivery-receiving.

Second: main cafeteria, library and recreation rooms; chapel and assembly rooms; radio rooms, music rooms, staff dining; medical library; chaplains' rooms; physical therapy department; X-ray; radiography, X-ray therapy.

Third: two complete nursing units (private rooms, semi-private rooms and 16-bed wards); doctors' offices; exam rooms; supply rooms; basal metabolism; cardiography; hospital labs.

Fourth: two nursing units (in south wing); six operating rooms (north wing), one equipped with a viewing gallery; cystoscopy; endoscopy, ear, eye, nose, and throat suites. The operating section is air conditioned and mechanically ventilated.

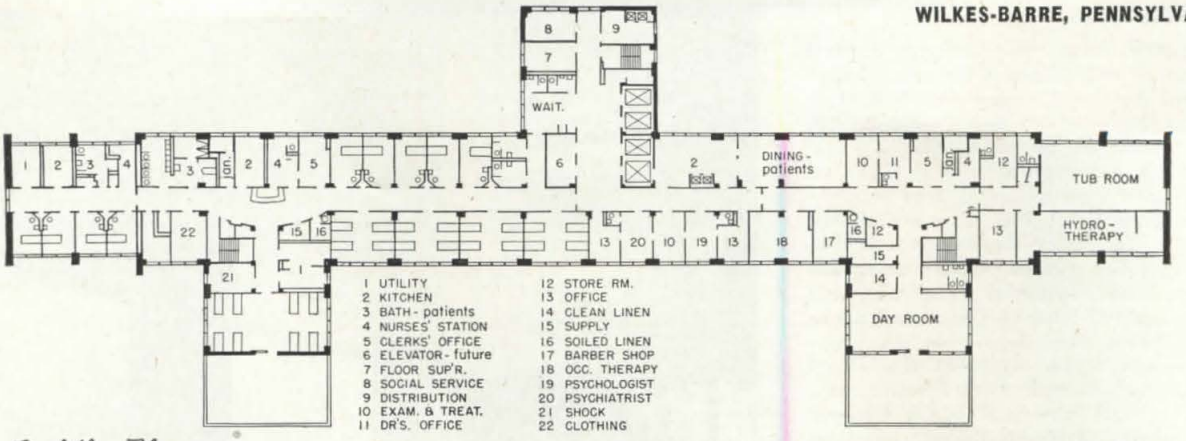
Sixth: identical with the Fifth Floor.

Seventh: neurological and neurosis patients—with layout generally like the typical nursing floors, except for detention screens and shatterproof glass areas.

Ninth: quiet psychiatric patients—most patients in 4-bed rooms and wards; as on the eighth floor, there is a separate dining room.

Tenth: two sections—one for isolation cases; the other for women patients; large promenade deck.

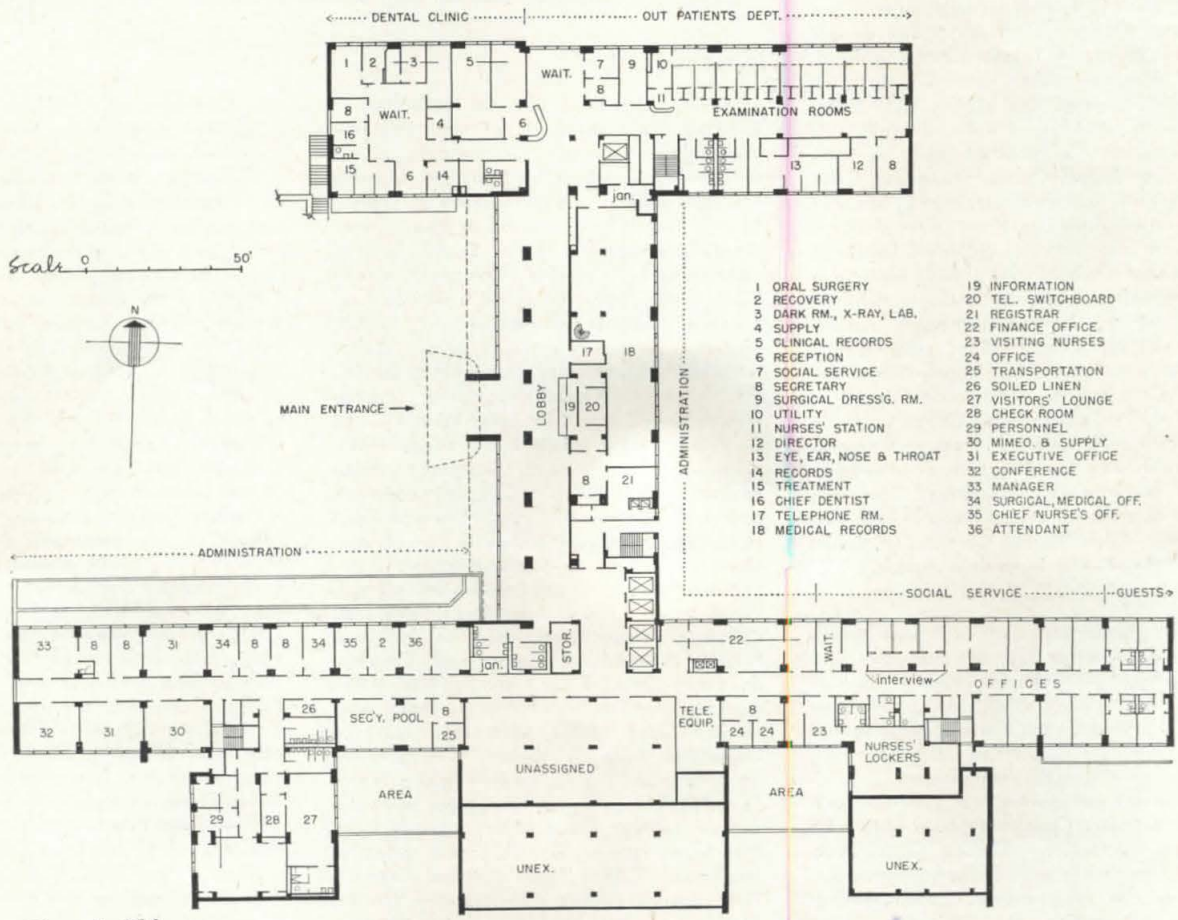
Eleventh: internes' and visiting doctors' quarters, with lounge, library, promenade decks, etc.



Eighth Floor

PSYCHIATRIC DISTURBED, 33 BEDS

Fifth Floor



First Floor

CONSTRUCTION

Foundation: frame, roof: reinforced concrete —Universal Atlas Cement Company, Lehigh Portland Cement Company, Alpha Portland Cement Company and Keystone-Alpha Products Company; deformed, new-billet-steel reinforcing bars—Bethlehem Steel Company. **Walls:** manganese-spot, gray, face-brick masonry—Stone Creek Brick Company. **Floors:** concrete slag block—Republic Fireproofing Company, Incorporated. **Waterproofing and dampproofing:** membrane, asphalt-prime and mastic asphalt. **Insulation:** acoustical tile in all corridors, cafeteria, library, recreation areas, main lobby, wards — Kimberly-Clark Corporation; thermal, 1½" standard corkboard in main roof—Cork Import Corporation; asbestos millboard behind radiators—Johns-Manville Company. **Floors:** quarry tile —United States Quarry Tile Company; ceramic tile—Sparta Ceramic Company; asphalt tile—Master Tile Corporation of America; terrazzo (nonslip marble chips) — Norton Company. **Ceilings:** acoustical tile units—American Acoustics, Incorporated; mechanical attachments for erecting tiles—W. J. Haertel & Company; painted plaster—United States Gypsum Company. **Walls:** exterior: granite—Cold Spring Granite Company; aluminum, brick and glass; interior: marble—Friedman Marble Company; travertine—Colonna & Company; structural glazed tile, ceramic tile—Arketex Ceramic Corporation. **Roof surfacing:** built-up roofing and promenade tile—Ludowici-Celadon Company; gravity type ventilators—Hirschmann-Pohle Company. **Roof and floor drainage:** cast-iron spouts, bronze beehive strainers and drains —J. A. Zurn Manufacturing Company. **Partitions:** metal—E. F. Hauserman Company and Sanymetal Products Company; metal enamel toilet enclosures—Milwaukee Stamping Company. **Windows:** steel sash—Detroit Steel Products Company; double-hung sash—S. H. Pomeroy Company; double strength, 1" double glazing, ¼" polished plate, ¼" polished wire—Libbey-Owens-Ford Glass Company; hospital detention screens—Chamberlin Company of America; insect screens—Kane Manufacturing Company. **Doors:** tempered plate glass—Pittsburgh Plate Glass Company; wood—Kawneer Company and Fox Brothers Manufacturing Company; garage doors—Overhead Door Corporation; stainless-steel and metal enamel elevator doors—Globe-Van Doorn Corporation; stainless-steel canopy; canopy door—Truscon Steel Company; metal door frames—Aetna Steel Products Corporation. **Hardware:** locksets, door closers—Lockwood Hardware Manufacturing Company; hinges—Lawrence Brothers, Incorporated; miscellaneous—Glyn-Johnson Corporation. **Paint:** exterior—M. J. Merkin Paint Company.

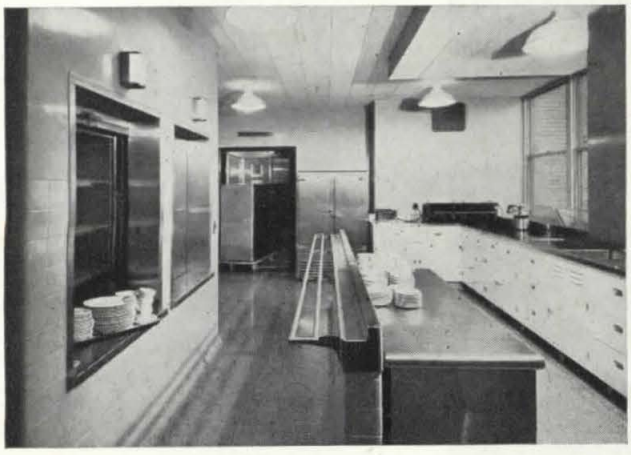
EQUIPMENT

Kitchen: central and diet, with distributing *pantries* — Universal Corporation; complete general laundry—American Laundry Machine Corporation and United States Hoffman Machinery Corporation. **Intercommunication:** complete public-address and radio-broadcasting *system*—*Operadio* Manufacturing Company; nurses' and doctors' call systems—Auth Electric Company; pneumatic tube system for message distribution — Lamson Corporation. **X-Ray:** complete standard departments—Bar-Ray Products, Incorporated. **Public seating:** lobby and waiting areas—Herman Miller Furniture Company. **Medical cabinets:** S. Blickman, Inc. **Elevators:** cars and fixtures—Westinghouse Electric Corporation; dumbwaiters—Elevator Supplies Company. **Lighting fixtures:** service areas — Benjamin Electric Manufacturing Company; office areas: incandescent, semidirect; chapel, lobby, hospital ward areas—Holophane Company; street-lighting standards—American Concrete Corporation. **Electric distribution:** air circuit-breaker type service-entrance switch, busbar into main switchboard room—Metropolitan Electric Manufacturing Company; copper wire, cable—Crescent Insulated Wire & Cable Company; rustproofed steel conduit—National Electric Products Company; wiring devices—Bryant Electric Company; lightning arrestors—Continental Copper Products Company; starters and disconnects for all mechanical equipment — Cutler-Hammer, Incorporated. **Plumbing and sanitation:** vitreous china water closets with flush valve and siphon jet, enamel cast iron tubs and lavatories — American Radiator and Standard Sanitary Corporation; composition toilet seats; generator water-storage tank; flush valves — Sloan Valve Company; unit-type incinerator — Joseph Goder, Incorporated; drinking water supply system—Filtrine Manufacturing Company; cast-iron pipe, brass and copper tubing; fire-sprinkler system—Hodgman Manufacturing Company; fire-protection equipment—Croker Fire Prevention Corporation; marble shower enclosures — Vermont Marble Company; automatic shower-temperature controls—Lawler Automatic Controls, Incorporated; supply water-tower and tank with pumps—Pittsburgh Des Moines Steel Company; drains for all floors and roofs—J. A. Zurn Manufacturing Company. Wound, suction, central system with outlets in operating rooms and some private rooms—McKesson Appliance Company and Nash Engineering Company. **Heating:** type: high-pressure vacuum steam; bent-tube, forced-draft, coal-fired stoker furnace—Wickes Boiler Company; coal conveyor—Fairfield Engineering Company; automatic soot-blower system, located in boiler, for cleaning of coal—Bayer Company; copper-fin convectors — Stedco Products; cast-iron radiators; steel piping; copper-fin, down-blast, front-blast unit heaters —Herman Nelson Division, American Air Filter Company; pneumatic thermostatic controls—Minneapolis-Honeywell Regulator Company; turbine—Coppus Engineering Corporation; ash disposal system—Chicago Firebrick Company. **Air conditioning:** service, treatment, and surgery areas air-conditioned by built-up type, field-assembled unit—New York Blower Company; centrifugal compressor—York Corporation; stamped-steel grilles, aluminum diffusors—Tuttle & Bailey, Incorporated; washable type filters—American Air Filter Company; pneumatic thermostatic controls—Powers Regulator Company; cooling of refrigeration rooms—Dole Refrigerating Company; fin type copper coils—McQuay, Incorporated; cooling tower—J. F. Pritchard & Company; a-c fans—Clarage Fan Company.

The main cafeteria (above) is in the center of the second floor, on the south front. Through the outsloping windows is glimpsed the broad view of wooded hills that all patients' rooms command across the 51½-acre hilltop site. Quarry-tile floor, glazed structural units on wall, acoustic-tile ceiling.

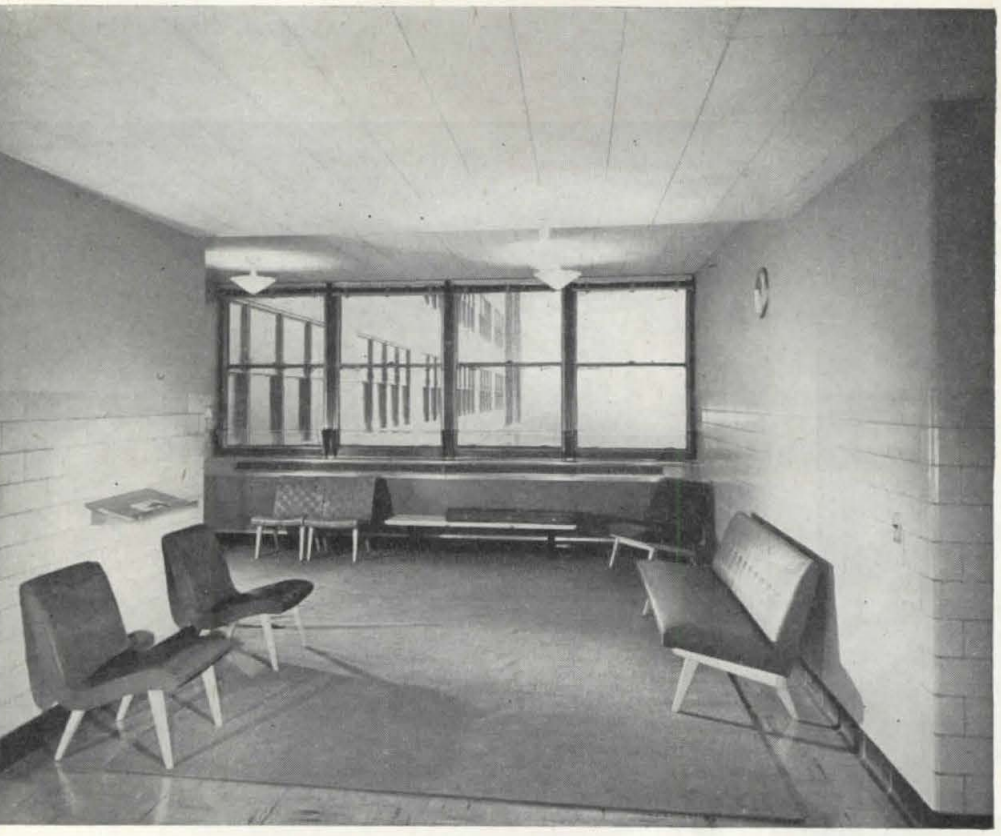
Below—serving pantry on north wall of fifth-floor nursing unit; elevator in rear corner; dumbwaiters in wall at left.

Right—a typical, 16-bed Riggs ward, at the east and west ends of typical nursing-unit floors. Asphalt-tile floor, terrazzo-cove base, plaster walls, acoustic-tile ceiling, shaded ceiling-mounted light fixtures to allow individual use without disturbing other patients.



Left—one of the six operating rooms in the north wing of the fourth floor (in the northwest corner, with a mezzanine gallery for visiting doctors to observe through a continuous, concave glass area, provided for clarity). Sterilizing equipment and scrub-up rooms occur between each pair of operating rooms. The entire operating section is air conditioned and mechanically ventilated, in addition to having mechanically operated windows admitting north light, that will be used for ventilation in emergencies.

Right—nurses' station at intersection of corridors in a typical nursing unit. The curved front (and curved wall opposite) offer ample room for regular hospital traffic. Asphalt-tile flooring; glazed, structural unit-base and wainscot up to 5 feet in height; plaster, above; acoustic-tile ceiling.

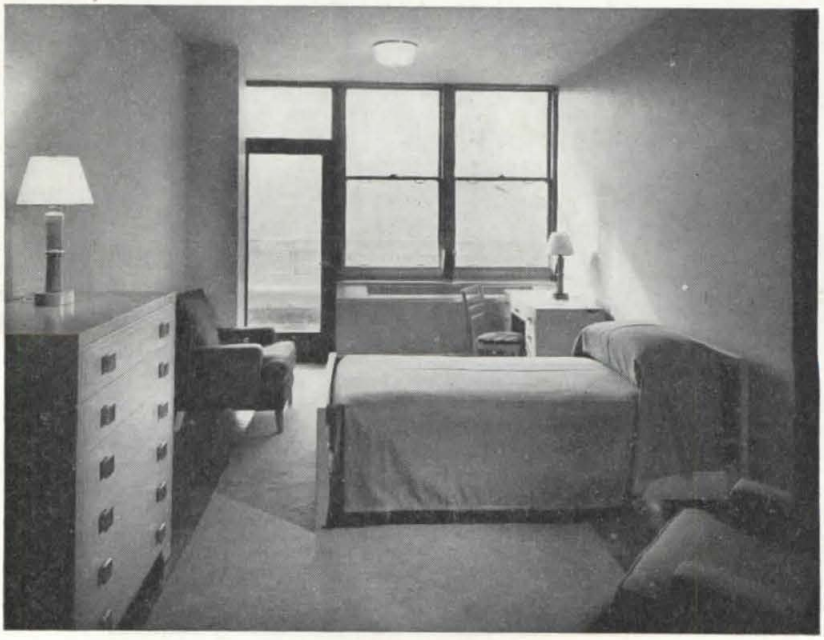


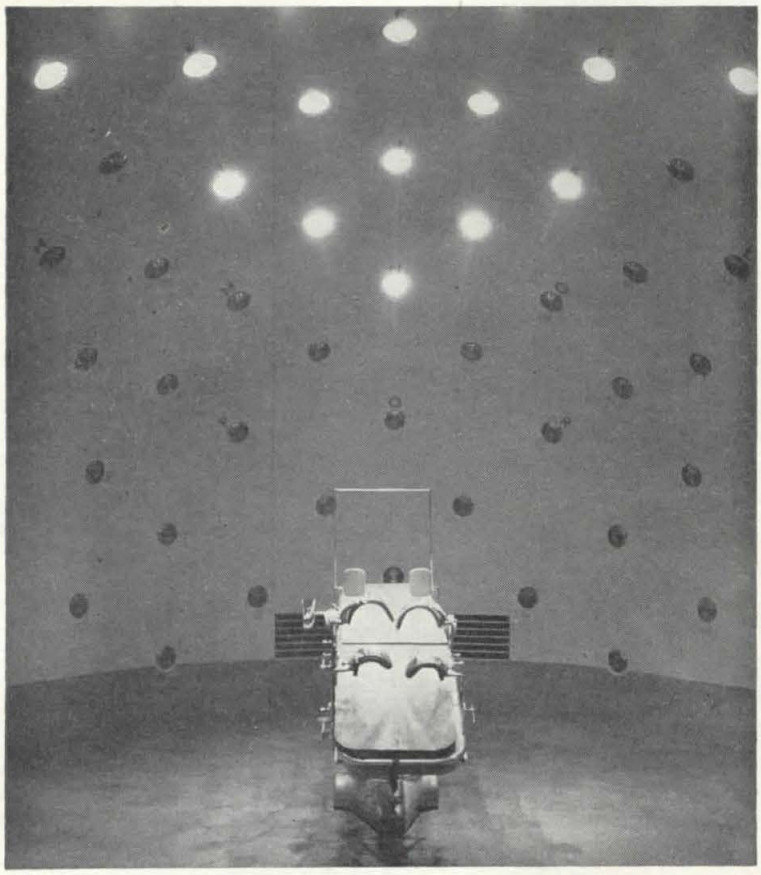
Top—waiting room, at entrance to physical therapy, X-ray therapy, X-ray, and radiography departments, in north wing of second floor.

Immediately above—corridor along the private rooms for internes on the eleventh floor; doors at end lead out to roof terrace.

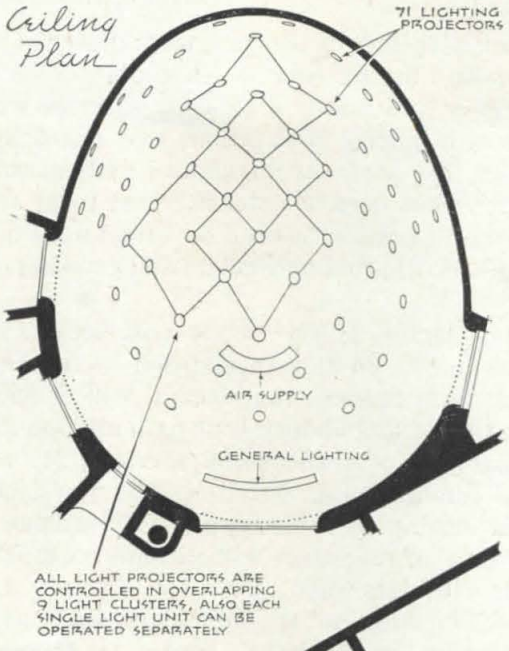
Right—typical south-facing interne's room, with door out to promenade deck. Each pair of rooms has a shower room and toilet.

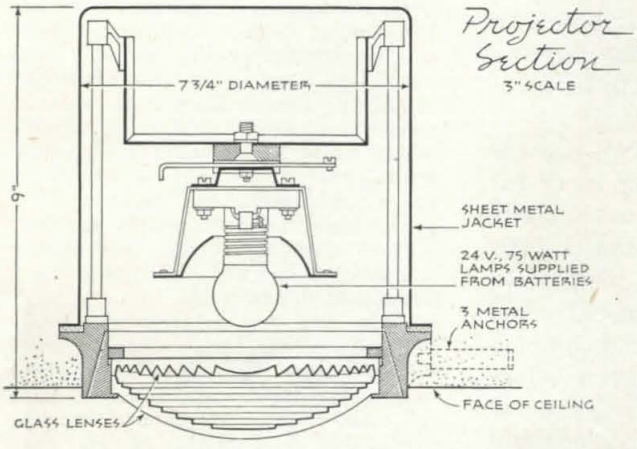
WILKES-BARRE, PENNSYLVANIA

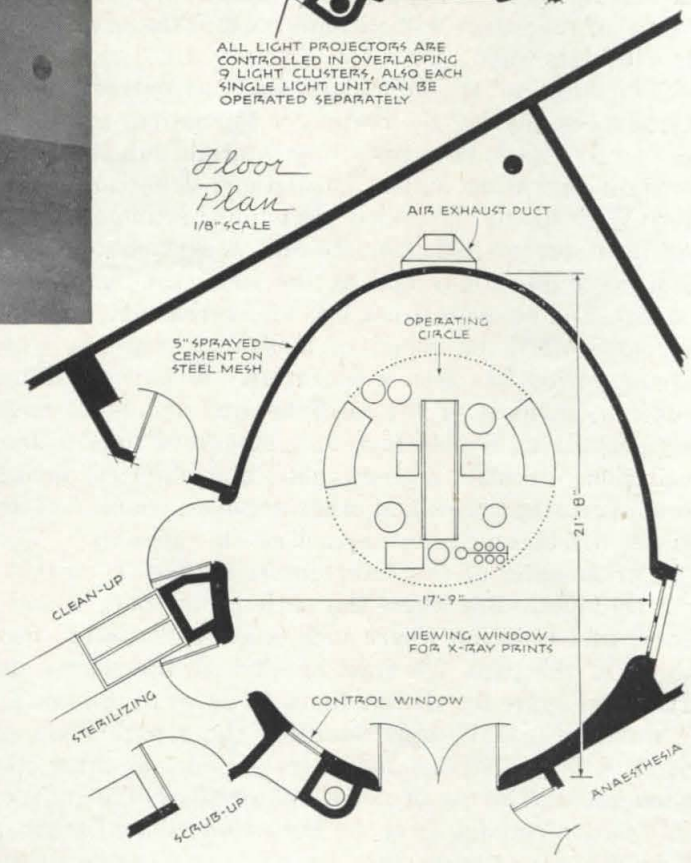




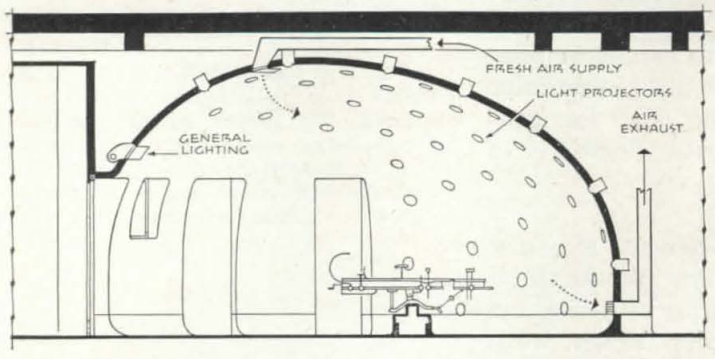
MAYWALD

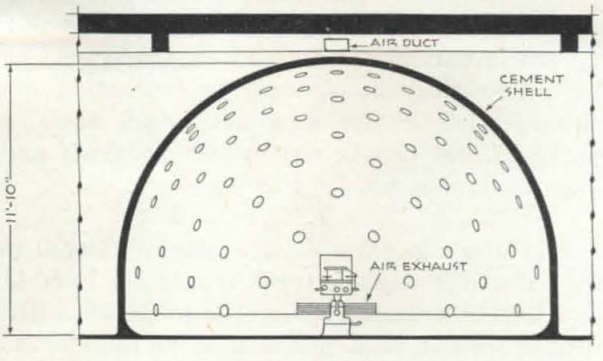






Longitudinal and Cross Sections 1/8" SCALE





General Hospital, St. Lo, France, by Nelson-Gilbert-Sebillotte, architects, Paris. With this Selected Detail from a hospital abroad which is attracting much attention, P/A's study of The Architect and the Health of America moves from the Present to the speculative Future. Paul Nelson's earlier studies of operating rooms were a first step beyond present planning standards, and in St. Lo he is developing them further.

Some of the advanced thinking in the United States, on operating rooms and on nursing units and on the broad subject of community health care, are presented on following pages.

The Future: Fields for Research in Hospital Design

By Eugene D. Rosenfeld, M. D.*

Most hospitals of the past were designed with a singleness of purpose, usually nursing care which could not be given at home; later, major surgery and finally diagnostic services were added, until they took on the multiplicity of functions that characterize our present-day institutions. The scope of intramural and extramural health and medical activities has been so extensive that today no more than 15% of the total area of a hospital is used for direct nursing care. Yet such a ration only begins to approximate actual and growing needs.

●

The hospital of the future will become a community health facility. (See pages 86-91.) In addition to functioning for the acutely ill and long-term patient, the hospital will develop far more facility for integration of ambulatory (out-patient) and in-patient care, for preventive, rehabilitational and social services, for research, teaching, home-care and public health activities. The physician will be drawn into closer relationship with his hospital. It becomes apparent, therefore, that the hospital of the future will combine most of the advance practice of medicine within its walls.

The hospital of the future will concentrate service facilities in central cores, leaving the periphery for patient comfort. (See pages 83 and 84.) We have been installing multiple sub-sterilization and utility rooms in operating suites, out-patient departments, and on nursing floors. With highly developed mechanical communication arteries, sufficient floor storage and adequate central services, we can eliminate these expensive duplications and at the same time gain greater efficiency, economy, and control. It has become increasingly apparent that we can no longer afford the luxury of inefficient hospitals. Unfortunately, the postwar period has seen a conformity of pattern, almost a monotony of design, in most of the medium- and small-size hospitals. Hospital design featuring double corridors, staggered bays to increase light and ventilation, circular, semi-circular, and elliptical layouts for nursing floors, operating suites and other services, which now seem to be innovations, will become commonplace as time goes on.

The hospital of the future must be flexible so that it can provide for a communal life where the patient may best benefit from it, or for privacy and isolation where such is ncessary. Large wards are already a thing of the past. We must break with the slavish devotion to fully partitioned space for all functions. In order to provide light, ventilation and flexibility, while still retaining the separateness of function and control which partitions and doors provide, we must open and combine related areas. The use of newer materials will help make such developments possible and will, at the same time, allow for greater use of color and imaginative design, thereby creating more beautiful, spacious and livable interiors.

The hospital of the future must humanize its patient, working and recreational areas. Progress in architecture and design, together with progress in administrative and organizational patterns can accomplish this. Integration of services, concentration of equipment, minimum communication distances which retain sufficient unit size for good supervision, maximum mechanical progress and greater flexibility of design are trends toward this end.

●

Is it too much to expect that these functional improvements may also result in a new architectural beauty for hospitals? The administrator is not nearly so concerned as the architect with exterior esthetics, but it would indeed be a pleasure to administer a hospital which, while combining a high degree of utility and assurance of a high quality of medical care, was also a beautiful structure.

*Executive Director, Long Island Jewish Hospital.

We see here an approach to the nursing unit which reduces nurses' walking distances and should increase efficiency and result in economy of operation. It is based on a semi-circle, which in various combinations lends itself to a number of interesting possibilities. Utility facilities and nurses' work areas are concentrated in a "core" which is readily accessible to all parts of the nursing floor. The distance from this central core to the farthest patient's bed appears never to exceed 50 feet and on the average would be less.

This unit has the advantage of providing two separate approaches to the nursing unit from the major cross corridor without making of the unit itself a through corridor. At the same time, however, it is not a cul-de-sac. A very quiet atmosphere for patient care should result.

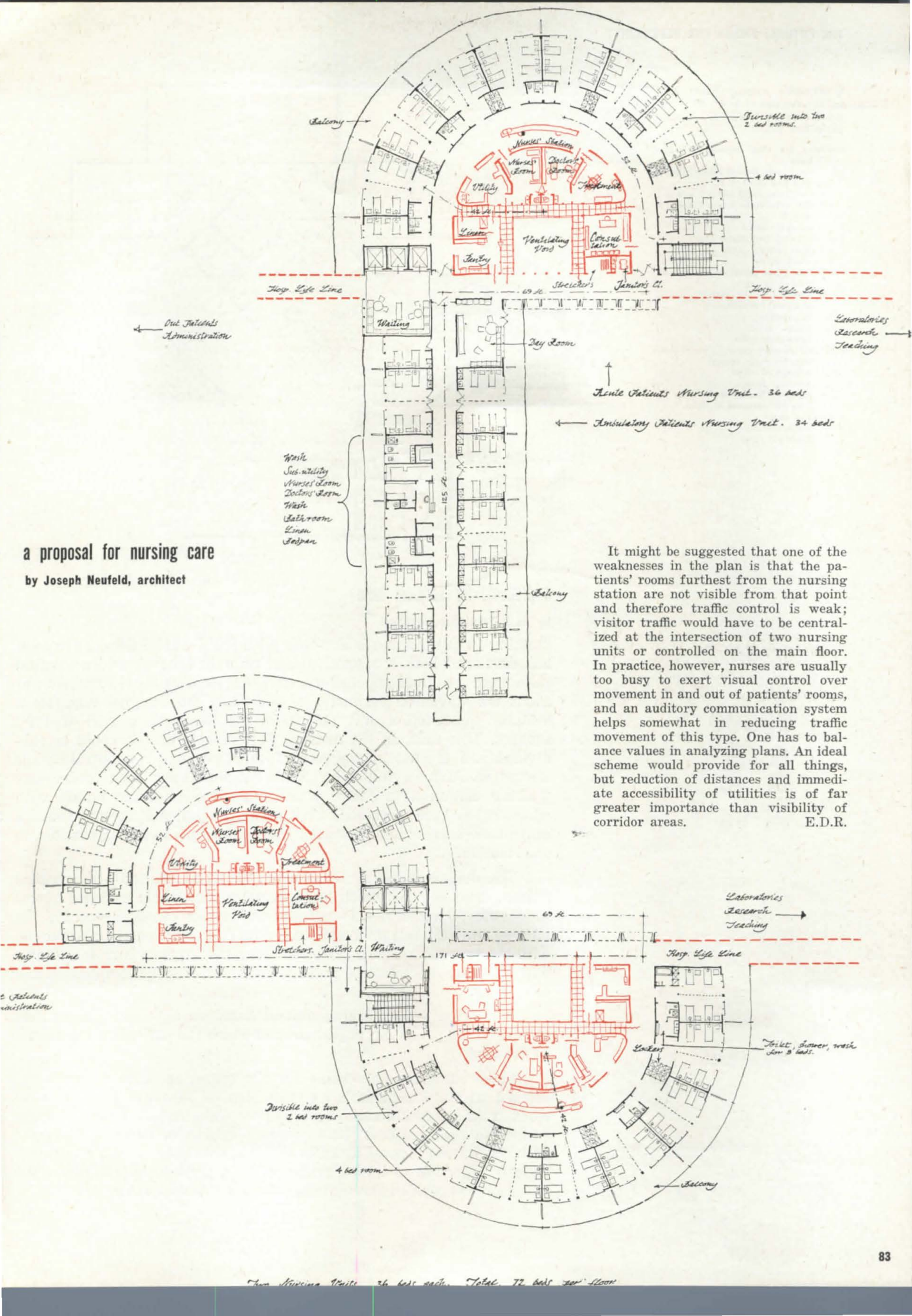
As with all planning in depth, mechanical ventilation is required for the interior rooms of the core. In the unit shown, however, it is theoretically possible to provide supplementary air circulation through a ventilating flue exhausting through the roof, which should draw air from the core, the interior corridor, and the patients' rooms. The circular form in combination either with rectangular or other circular units would lend itself to the care of acutely ill patients (particularly if the nursing service is organized on a group nursing basis), could be combined with a non-acute patients' division, as shown in the upper sketch, and could enjoy a good relationship with nearby ancillary services such as X-ray, laboratories, occupational and physical therapy, and out-patient department.

Floor area per bed and cubage per bed are slightly larger than in more standard plans. However, the periphery is greatly reduced and this should make the construction cost, on a unit basis, comparable. As a matter of fact, some of the toilet and utility facilities shown in the core could be reduced, thus reducing cubage.

Although the designs shown here indicate 4-bed or 2-bed interchangeable rooms, it is theoretically possible to use single or double bedrooms exclusively if desired. The shape of the patients' rooms, being wider at the window side than at the corridor side should increase light and ventilation, and assure that no two patients are facing one another.

a proposal for nursing care

by Joseph Neufeld, architect

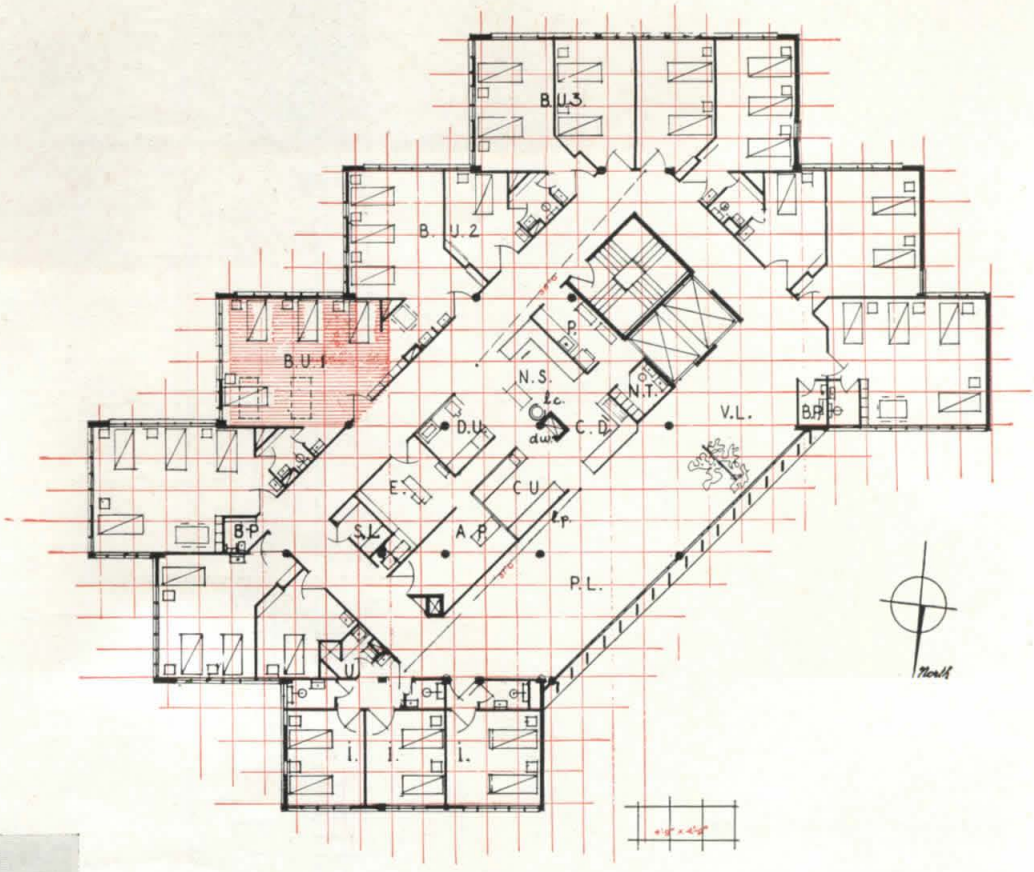


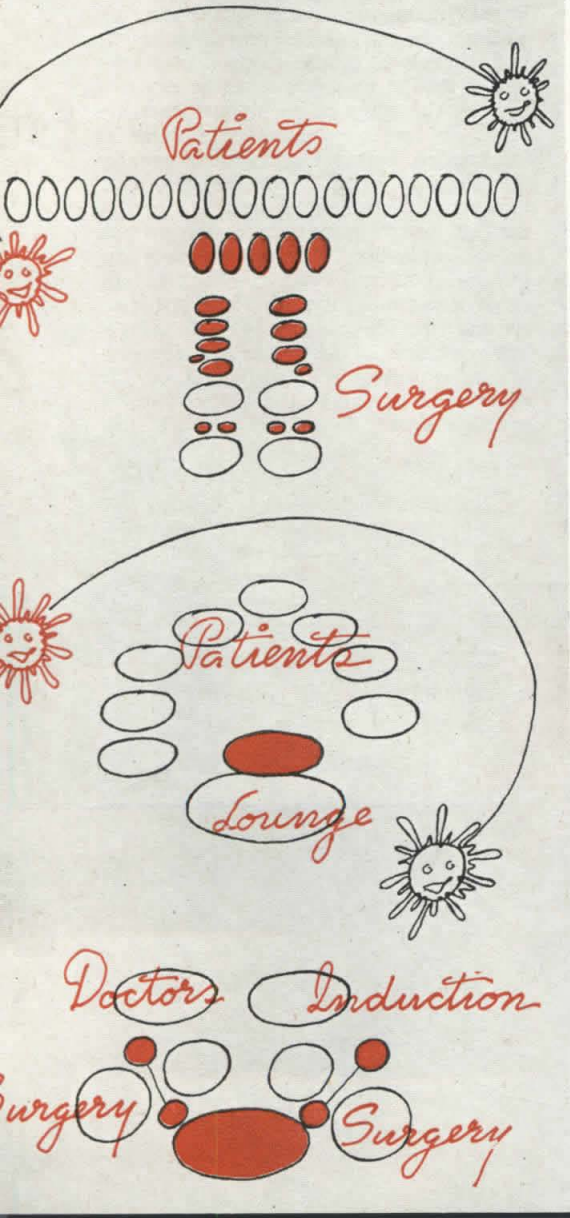
It might be suggested that one of the weaknesses in the plan is that the patients' rooms furthest from the nursing station are not visible from that point and therefore traffic control is weak; visitor traffic would have to be centralized at the intersection of two nursing units or controlled on the main floor. In practice, however, nurses are usually too busy to exert visual control over movement in and out of patients' rooms, and an auditory communication system helps somewhat in reducing traffic movement of this type. One has to balance values in analyzing plans. An ideal scheme would provide for all things, but reduction of distances and immediate accessibility of utilities is of far greater importance than visibility of corridor areas. E.D.R.

Two Nursing Units 36 beds each. Total 72 beds per floor

Gross area nursing floor: 8690 sq. ft.; number of beds: 43 to 46; gross area per bed: 201 sq. ft.; perimiter: 475′-0″

Structure: flat slab; square horizontal bays
B.U.1 basic unit before subdivision; 4 or 5 bed ward
B.U.2 unit subdivided into a 3 and a 1
B.U.3 unit subdivided into a 2 and a 2 or a 3
N.S. nursing station
C.D. charting and doctor desk
D.U. dirty utility
C.U. clean utility
L.P. low glass partition; acoustically treated ceiling
D.W. dumbwaiter to central supply, pharmacy, records, etc.
L.C. linen chute
N.T. nurses' toilet
E. examining room
A.P. all purpose room for team nursing, teaching, therapy
S.L. storage of linens
P.L. patients' lounge
V.L. visitors' lounge—note glass to floor for optimum of light
B.P. bed pan
I. isolation suite
U. utility for same





a proposal for surgical care

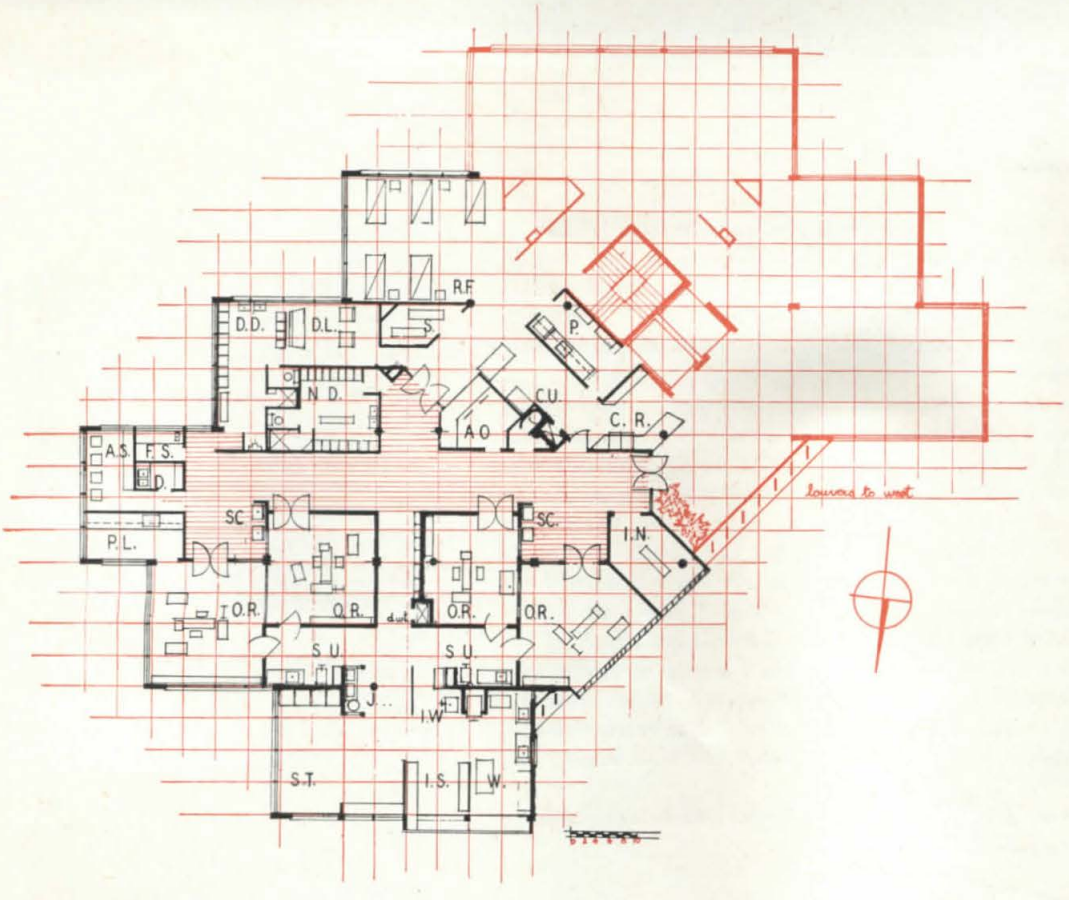
by Basil Yurchenco, architect

Starting from the same basic assumption that Neufeld does, Yurchenco has developed both a suggested nursing unit (above) and a surgical suite fitted into the same modular envelope (acrosspage). First, a word about the staggered perimeter of the plan: the designer suggests a modular construction unit (17′ x 23′-9″) based on a grid of 4′-9″ squares. This unit, as the nursing floor plan indicates, could be subdivided and erected in staggered fashion so that two outside walls always would have full light. Next, his aims have been to decrease walking distances (a factor which appeals strongly to nurses with whom it has been discussed) by ranging the patients' rooms around a central work area; and to concentrate equipment, so far as possible, in one location.

The diagrammatic sketches (left) show: at the top—the surgical nursing floor scheme which has become conventional: patients' rooms in a row facing desirable orientation; nurses' work areas for the nursing unit far distant from some rooms; work areas in conjunction with the operating rooms scattered along the surgical corridor. Traffic flow of nurses, doctors, and patients must obviously be complicated and conflicting.

Below that—the nursing unit centered on a "core" (as Neufeld calls it on the preceding pages) around which the patients' rooms could be grouped.

Lower diagram—a scheme for the operating suite which is developed within Yurchenco's modular plan on the next page. Nurses' work areas are continuous, and are at the opposite end of the operating rooms from the patients' (and doctors') approach. To solve the traffic problem, interior operating rooms become necessary, and the (psychological) objection to this is answered by a plate glass wall above the wainscot, to provide borrowed light for the interior rooms.



Gross area surgical suite: 4640 sq. ft.; remainder of floor use unspecified; possibly 20-bed acute surgical ward

R.F.	recovery and team nursing follow up
D.D.	doctors' dressing
D.L.	doctors' lounge
N.D.	nurses' dressing
S.	stretchers
P.	pantry
C.U.	central utility and other purposes dependant on final use of remainder of floor area
A.O.	anasthetists' office
C.R.	clerk, reception, and doctors' reports
F.S.	frozen sections lab.
A.S.	anasthesia storage
S.U.	scrub up
O.R.	operating rooms (assumption cystoscopy to be part of X-ray) walls between twin O.R. to be plate glass above 5'-6" wainscot
I.N.	induction and wait
S.U.	sub-utility
J.	plate glass enclosed janitor's closet
I.W.	instrument washer and sterilizer
N.O.	supervisor nurses' office
I.S.	instrument storage
W.	nurses' general work
S.T.	central O.R. supplies, equipment storage
D.W.	dumbwaiter to central supply

commentary

by John B. Pastore, M. D.*

The plans which Yurchenco has devised are indeed very provocative. For some time we have been talking about developing plans for a hospital which would emphasize the functional nature of the institution. For too long a time we have adapted hospital purposes to the general type of building. It is indeed encouraging to see a plan which attempts to emphasize the function which takes place within the hospital.

This is particularly important in regards to the operating suite. Because of the diversity of personnel and staff which is necessary in the operating room it has always been difficult to achieve a set-up which met all of the requirements from the standpoint of the patient and the staff and personnel. In the proposed plan we find complete isolation for the nursing set-up in such a way that it can serve the operating rooms and the physicians without coming in contact with the main stream of traffic within the operating suite. In this way much of the confusion and cross traffic which exist in most operating suites are eliminated.

The plans also provide for an additional feature; and that is, that within the work space there is an opportunity for daylight and a feeling of comfort. We all appreciate that it is not necessary to have natural light and air in the operating rooms. We have failed, however, to appreciate the importance of natural light in the work space where nurses and other personnel must work eight hours a day. The inclusion of such an advantage in the plan makes it a very desirable one.

There is no question that this is not the final plan, but there is so much advantage in the proposed plan that all of us should consider it very seriously with the hope that eventually we can achieve such a functional layout without disturbance to the patient and personnel. This is undoubtedly a new approach, but one which seems to be based on sound principles.

Dr. Pastore's comments are most gratifying, but I am sure there will not be complete agreement on the part of doctors, nurses, and administrators about details of this or any other proposed scheme. For instance, further studies would undoubtedly not only widen the area of scrub-up alcoves but possibly screen them from the patients' passage to surgery.

However, it seems to me that the important thing to note is that we are now entering a period when hospital planning will be directed toward the patient on an individual level. With team nursing, when the patient is not an abstract, impersonal organism to be processed to health, but part of a skillfully interwoven group of patients and staff, the old production-line plan of rooms facing an institutional corridor is obviously inadequate.

The following design assumptions were made in developing the proposed surgical suite plan:

Cystoscopy to adjoin X-ray.

All sterilization work excepting instruments to be done in central sterile supply on floor below.

Traffic of patients, doctors, and nurses to be separated from all other work.

Sub-utilities alcoved from main nurses' work area to house sink, high-speed sterilizer, blanket warmer, immediate supplies.

A central inventory to be located adjacent to nurses' work area.

Linen chute to be contained in glass-enclosed janitors' alcove.

Administration and clinical areas to be at admission point.

Basil Yurchenco

*Executive Director, Hospital Council of Greater New York.

community health care: a program

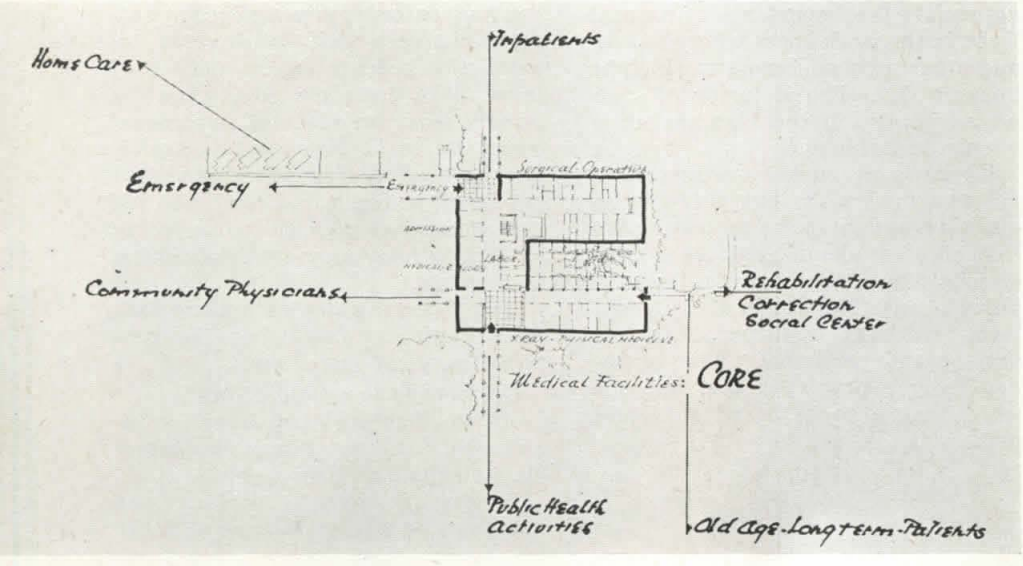
by Joseph Neufeld, architect

The following pages present an approach toward integrating a number of health facilities which generally function separately today. Here a program is presented by words and drawings; and on the pages that follow a project is shown, based on this program, developed by architectural students at North Carolina State College.

The shortcomings of the present individual facilities, on which the suggestion for improvement is based, are these:

Activities such as detection and prevention of illness have been performed by public health officers and nurses, scattered through the region, who cannot concentrate on a specific group of the population. For social work, rehabilitation, adjustment, and correction, co-ordination has been lacking between the institution that could provide such treatment and the group that needs it. Group clinics and grouped doctors offices have developed in various places, but the clinic's relation to the hospitalized patient has been slight, and the group clinic has been detached from rehabilitational and corrective public health facilities. The hospital now deals mainly with the sick, who become detached from the community. The clinical aspect of the hospital has been over-emphasized and other amenities which would prevent illness have not been provided for. The small hospital becomes a necessity if the clinician, the public health officer and the patient are to be brought back into relationship to the community; yet until now there have been real obstacles to maintaining and staffing a small hospital.

How, then, can these deficiencies be corrected and the various health facilities housed for co-ordinated activity?



PROGRAM

For this community is desired a true integration of a unit for bed-ridden patients, a unit for preventive public health activities, a rehabilitational and social center unit, a group of doctors' offices in connection with it, and an old-age home in close proximity, all of these surrounding a **core of medical facilities** which serves each unit according to its needs.

The small hospital, which more properly might be called a nursing unit, will take care of most of those cases which do not require complicated clinical services. The others will be referred to major hospitals in the district. Patients in the former category will conveniently remain in their community, some of them only partially hospitalized and able to pursue a certain amount of their activities. They will be close to their personal physicians, who will be able to continue to care for them in an even closer contact than when the patients were at home. Moreover, the patients will be near the rehabilitation and social unit, which should be planned in intimate contact with the sick wards; such a relation will help unify clinical and rehabilitational care.

A mobile unit of 3 to 4 ambulances will dispense care to people who were either recently discharged or are only slightly indisposed.

The petiatric group, placed on the ground floor, will be adjacent to the playgrounds, an arrangement which will prevent the complete detachment of the sick child from his healthly friends and from nature; the pediatric unit will also be close to the classrooms, workshops and adjustment facilities of the rehabilitation floor, which, it is expected, will be used at night by adults in the community. Surgical and general medical patients, if ambulant, will use the rehabilitation and social center and the grounds, and enjoy the closeness of their neighbors and friends.

The general practitioners and various specialists in the doctors' unit will function in the usual way but in addition, they will receive indigent cases, formerly cleared through the social services of either health center or community social welfare, and who, in this set-up, will come to the doctors' offices as any other patient, without distinction. The doctors will be freed from the burden of having to acquire expensive apparatus and can use the facilities of the central core as share-holders of the community health unit. They will have easy and constant contact with their sick, and with the public health unit, and with the rehabilitational facilities as well. They will be able to function in a preventive as well as a curative way. Their mutual closeness will enable them to consult with each other and function medically in an integrated manner.

Doctors will, because of their convenient association, increasingly tend to do research, closely connected with the local needs and endemic conditions of the community. This kind of research will help the physician enhance his position in medicine, and will be of great value to the nation as a whole. Clinical and post-graduate teaching may thus be made available on a much larger scale, and be less expensive than it is today. A number of such integrated groups of health units may easily serve to provide pre-clinical teaching if a relatively simple students' structure is placed conveniently in relation to an existing university and major medical center in the region. This system may ease the lack of medical teaching facilities, and utilize more efficiently the available medical scientific potential throughout the nation, which at present is being largely lost for lack of proper integration. Moreover it is becoming apparent that the medical student—the future physician—must be taught not only to become a good clinician, but an over-all health-conscious man; and this can only be achieved through early association with health problems on a community level.

The old-age home, located nearby, with a small chronic patients unit, will use the core of the complex as an infirmary for medications, and the rehabilitational unit for guidance and support. All the ages—children, adults and the aged—will mingle in the compound, and enjoy the recreational activities and closeness of the young and healthy. The cycle thus created promises to engender psychological conditions highly beneficial to the health status of the community—conditions that could never have been achieved in a hospital alone or in any one of those units separately.

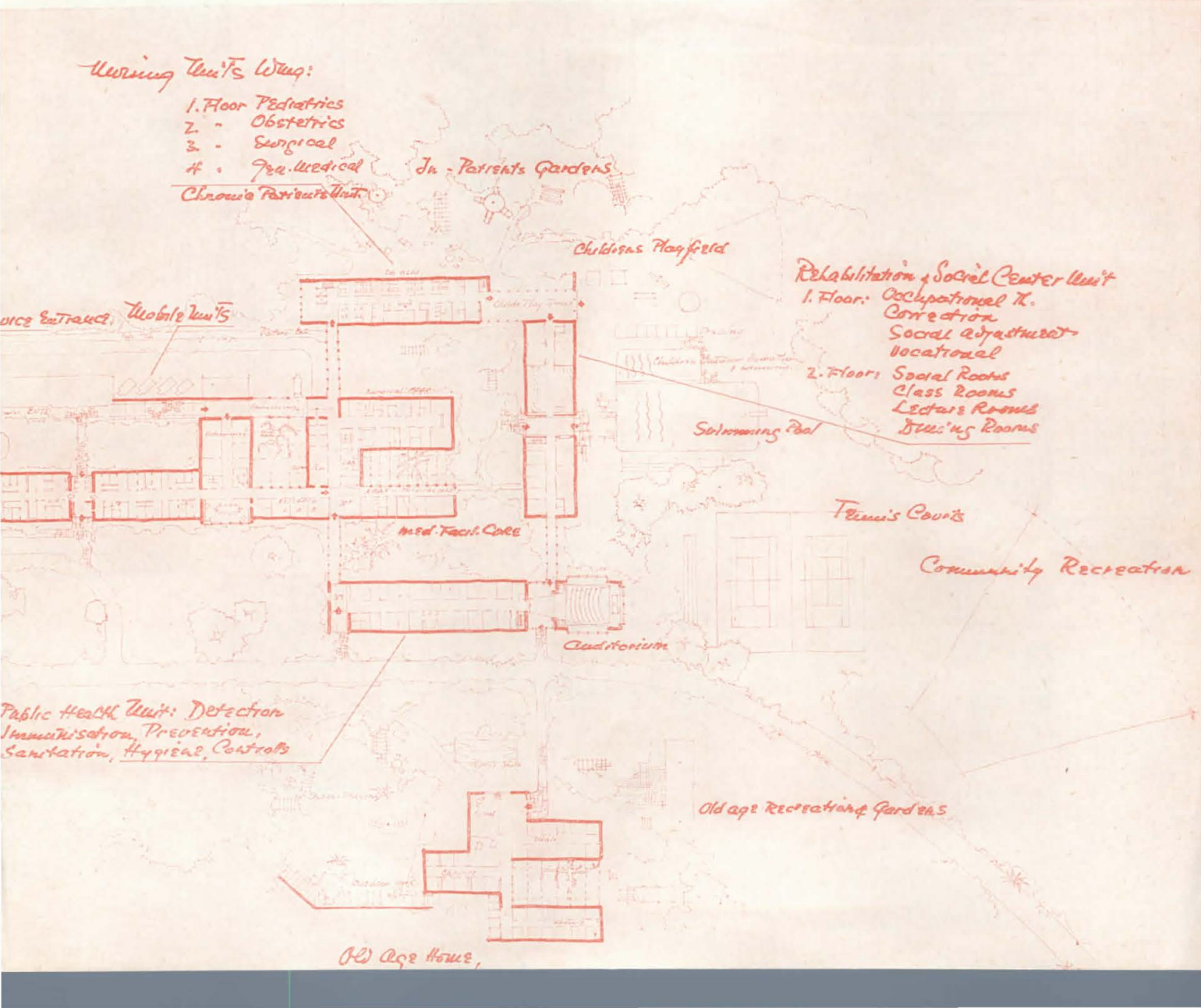
The integration of the chronic patient in a well-organized unit, where clinical as well as rehabilitational care is available, is of great value. Medical science and research necessitates the study of a closed cycle of health conditions from the inception of life to old-age and its concomitant chronic deterioration.

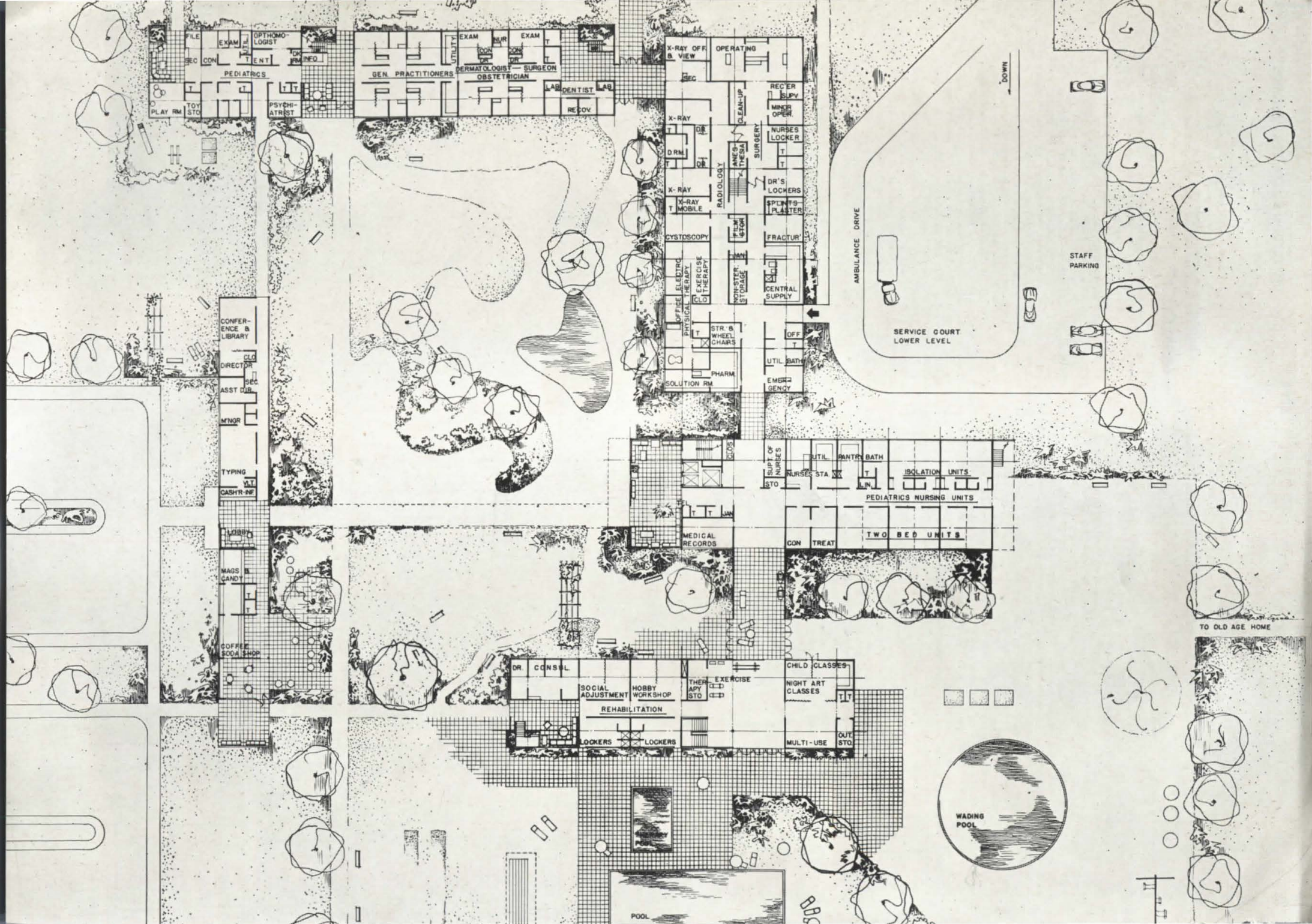
The point of contact between social, rehabilitational, and public health activities should result in an area for public health education for the community. Public health officers, physicians, parents, teachers, and guest speakers will guide the community in general attitudes. The auditorium will be used also for clinical and post-graduate teaching as well as for social activities within the community.

Public health officers and nurses, freed from their city office environment, will be closer to medicine in action and be able to activate their thinking, and function in concert with the social workers in direct relation to the community. The social workers, so strengthened through direct participation in public health activities, will be able to widen the scope of their work, and relate the case of the individual to the general problem of the community and its over-all social environment.

Civilian defense, a necessity at present widely studied and discussed, needing a convenient location and especially a close connection with emergency surgical and general medical facilities, could use such units as discussed above to advantage, not only in time of emergency, but also for continuous Red Cross and blood donor requirements. Should a temporary need arise, emergency pavillions could be erected nearby in time of war or disaster, thus using satisfactorily the available medical and clinical potential.

Health insurance plan organizations might also welcome such a system as it helps keep the less seriously ill patient out of a major institution, where high expenses accrue easily on the not serious and serious patient alike. The preventive function of such a health organization may prove to be one of the strongest attractions for health insurance organizations such as Blue Cross and others, and it would not be surprising to receive from amongst them moral and financial support for its realization.




FILE
EXAM
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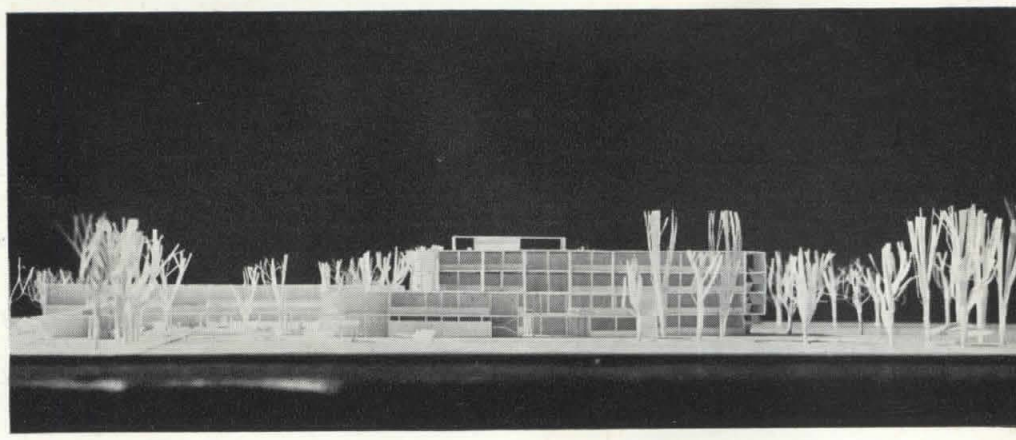
UTILITY
EXAM
NUR
DERMATOLOGIST — SURGEON
OBSTETRICIAN
LAB
DENTIST
RECOV
X-RAY OFF & VIEW
OPERATING
REC'ER
SUPV
MINOR OPER.
NURSES LOCKER
CLEAN-UP
SURGERY
ANES-THESIA
DR'S LOCKERS
SPLINTS-PLASTER
FRACTUR'
CENTRAL SUPPLY
X-RAY
DRM
RADIOLOGY
X-RAY MOBILE
CYSTOSCOPY
FILM STOR
OFFICE PHYSICAL THERAPY
EXERCISE THERAPY
NON-STER. STORAGE
STR. & WHEEL CHAIRS
PHARM
SOLUTION RM
EMER-GENCY
UTIL
BATH
AMBULANCE DRIVE
SERVICE COURT LOWER LEVEL
DOWN
STAFF PARKING
CONFER-ENCE & LIBRARY
DIRECTOR
ASST DIR.
MINOR
TYPING
CASH'R-INF
LOBBY
MAGS & CANDY
COFFEE SODA SHOP
SUP'T OF NURSES
NURSES STA
PANTRY
ISOLATION UNITS
PEDIATRICS NURSING UNITS
MEDICAL RECORDS
CON
TREAT
TWO BED UNITS
TO OLD AGE HOME
DR. CONSUL.
SOCIAL ADJUSTMENT
HOBBY WORKSHOP
REHABILITATION
LOCKERS
THER-APY STO
EXERCISE
CHILD CLASSES
NIGHT ART CLASSES
MULTI-USE
OUT. STO.
WADING POOL
POOL



The project shown on these pages is a fifth-year problem in the School of Design, North Carolina State College, by Robert William Sawyer, assisted by Jesse Raymond Norris, Jr. The study was under the direction of Joseph Neufeld, visiting critic, and George W. Qualls, instructor. The model was made by Fred M. Taylor and Roger L. Jackson.

commentary

by Cecil G. Sheps, M. D., M. P. H.*

The solution presented here to the problem of providing a community health facility is an exciting one. It brings together in integrated fashion the physical facilities required by a wide range of personnel in order to provide a broad spectrum of services, all of which have an important contribution to make towards the health of the community. What is proposed here, therefore, is a central resource for most of the purposeful health activities of a community—a physical plant which for want of a better name I have called the "community health facility" (words of much broader connotation than the present meaning of "hospital"). The health and welfare of the community are influenced by a great many factors—physical, emotional, social. Positive health services for a community involve the joint effort of many skills and much apparatus, all of which is most effective when closely integrated. Is there a logical basis for such an inter-related grouping of units and services, of skilled personnel, equipment, and facilities?

The changes in the functions of hospitals during recent decades are well known. The early hospitals of the past were usually of a rather unsavory type, designed for the "sick and suffering poor." That great early American physician, Dr. Benjamin Rush, described them as "the sinks of human life." Gradually, and with increasing speed in the past fifty years, the hospital has been evolving toward becoming the nerve center of most of the health activities of the community, essential for the proper treatment of all major illness. Soon it began to take on other functions such as the performance of complicated diagnostic procedures, and the treatment of ambulatory patients. It has also become an important center for research and for education. Increasingly important preventive functions are performed by the present day hospital such as the routine chest X-ray for tuberculosis and blood test for syphilis for all patients. The hospital, therefore, has a much broadened usefulness and has functions which extend beyond the care of the sick.

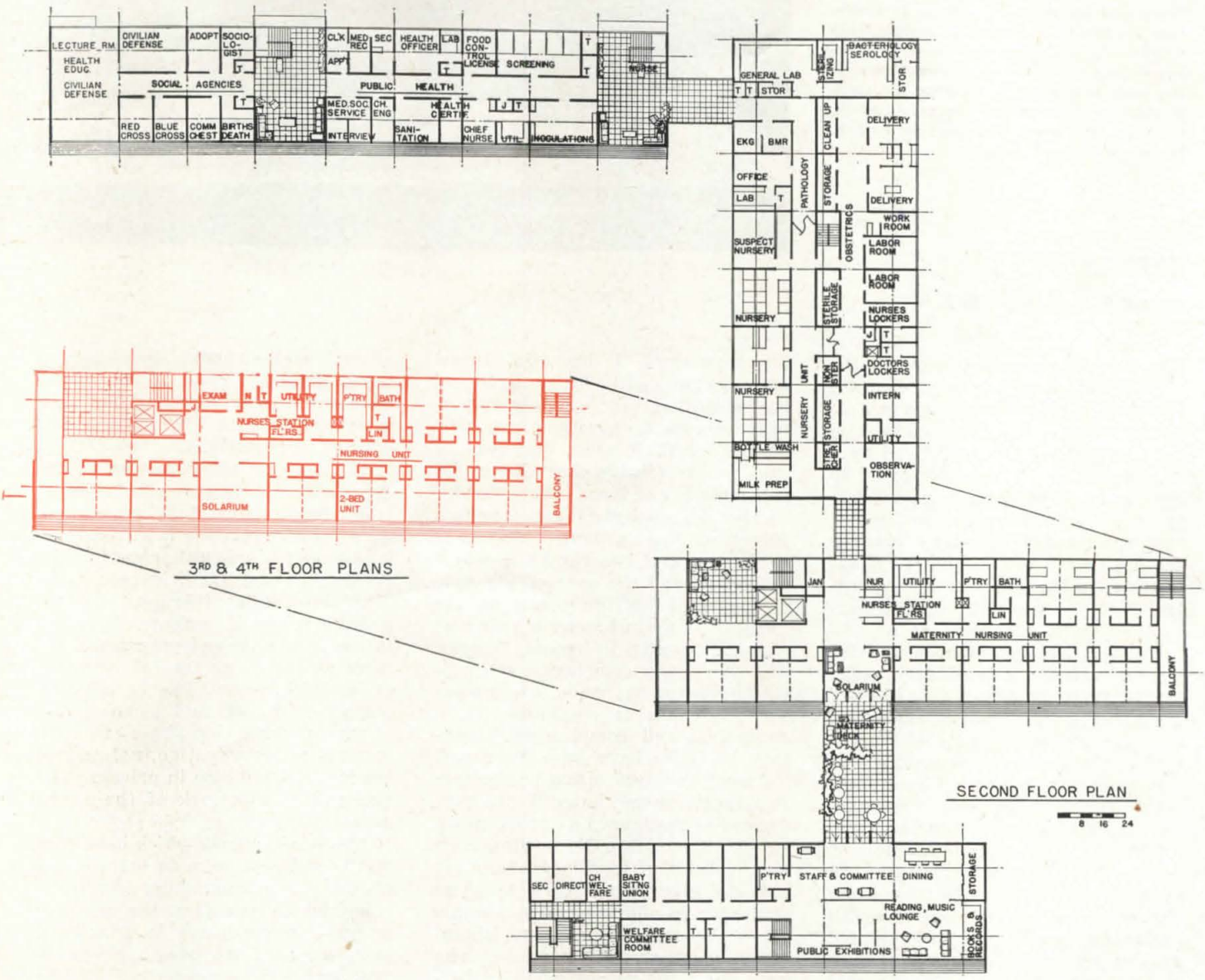
The work and problems of the medical practitioner have also changed greatly in recent decades. The increasing complexity of medical knowledge has made it necessary for physicians to specialize. New, expensive, and complicated laboratory facilities have been developed. To meet this new situation, doctors in all parts of the United States have formed teams known as group medical practice clinics. By pooling their special fields of knowledge, they are able to give better care to their patients. In addition, they not only share the cost of expensive laboratory and other equipment, but also have the joint use of ancillary personnel such as nurses and technicians. There is very little doubt that some form of group practice will be the dominant pattern of medical practice in the future.

Profound changes in the responsibilities and activities of public health departments have also been taking place. Achievements in community sanitation and communicable disease control have not only increased human longevity but have made possible the development of public health programs aimed at improving individual health through immunization, health supervision, and health education. It has been necessary for health departments to provide treatment for such diseases as tuberculosis and syphilis and, also, to provide facilities for early diagnosis and sometimes treatment of such major chronic conditions as heart disease. These developments have made clear the need for close relationships with hospitals and practicing physicians.

The role of social factors in the diagnosis and treatment of disease is becoming more fully recognized. As a result, provision is increasingly being made in health planning for personnel and facilities for social diagnosis, social therapy, and the social activity of patients. Rehabilitation is at last enjoying more and more attention as the "third phase of medical care." The social component of health and sickness and of the rehabilitation phase of health services needs attention, not only in the hospital but also in private practice and in the work of the health department.

The developments which have been briefly outlined seem to bespeak the planning of a community health facility which provides the physical integration conducive to functional integration of the personnel, facilities, and services described. While the solution at first perhaps seems rather complex, it should in reality simplify a good many of the problems now faced. The problem of maintenance of the expensive "core" of facilities in terms of cost and the availability of trained personnel is made easier because of its centralized character making possible its full use by all units. Over-all, it would therefore be less costly to equip and operate. The referral of patients to the various types of personnel and facilities is simplified by such proximity. Provision for patients who have chronic illness in a building which is easily accessible to all the units is in keeping with generally accepted thinking today. Flexibility of function is essential in order to slow down the obsolescence rate of the facility.

*Associate Professor of Public Health Administration, School of Public Health, University of North Carolina.

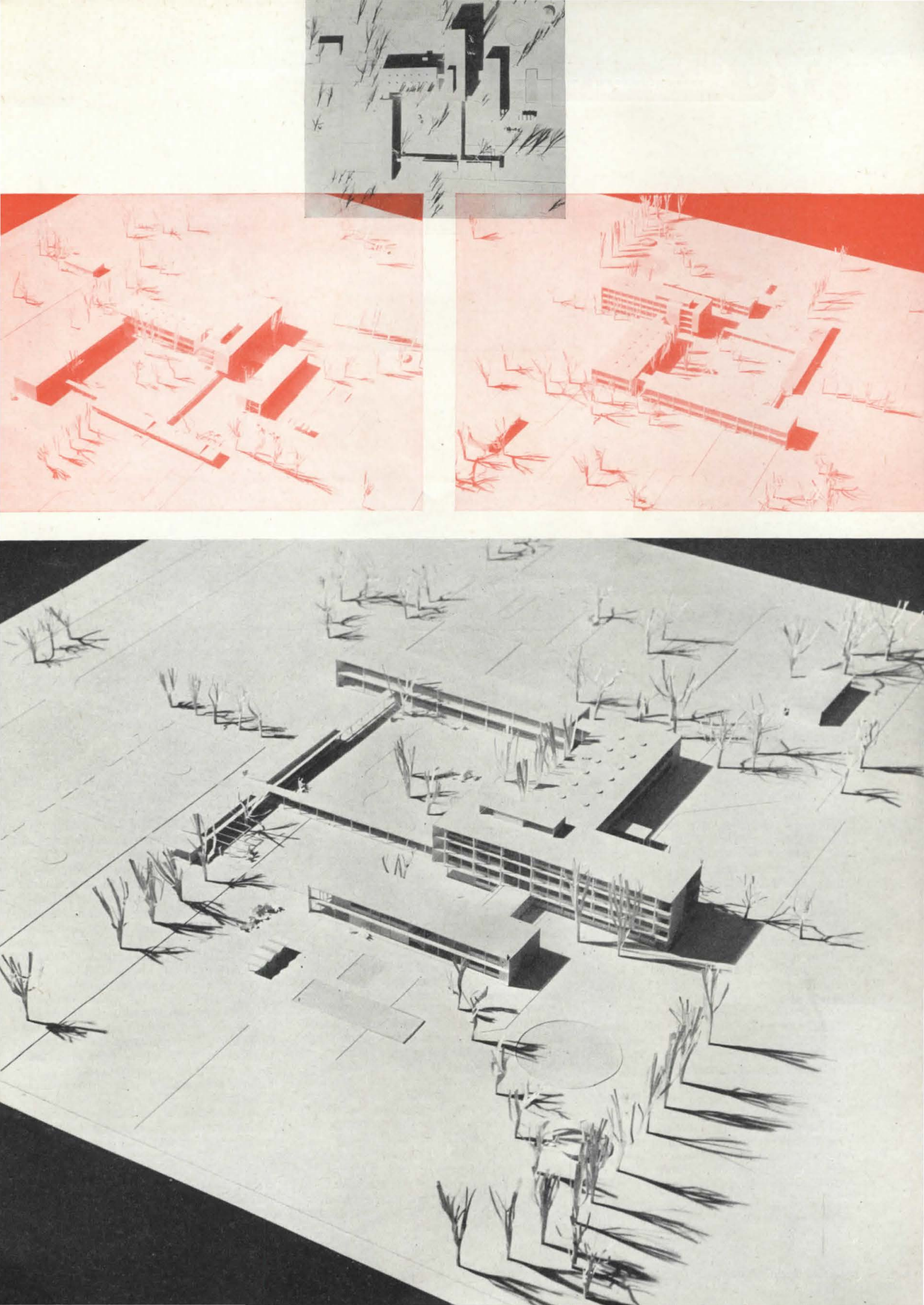


NEUFELD SAWYER

Some of the interrelationships which this project indicates can be found in many American communities, but unification of facilities for all the functions described here has, to my knowledge, not yet been achieved anywhere in the United States. Yet the logic of an integrated grouping of health facilities and functions is dictated by our present-day recognition of the essential unity of the task of health services. There is an increasingly recognized need for those who represent different phases to work together constantly and in accordance with a jointly developed comprehensive program. Dr. E. H. L. Corwin, eminent American hospital authority, has said that the hospital expresses the state of civilization of a nation. Is it too much to expect that we are perhaps now ready to give physical expression to our widely held concept of the interdependence of the many facets of health services?

C.G.S.

COMMUNITY HEALTH CARE: A PROJECT



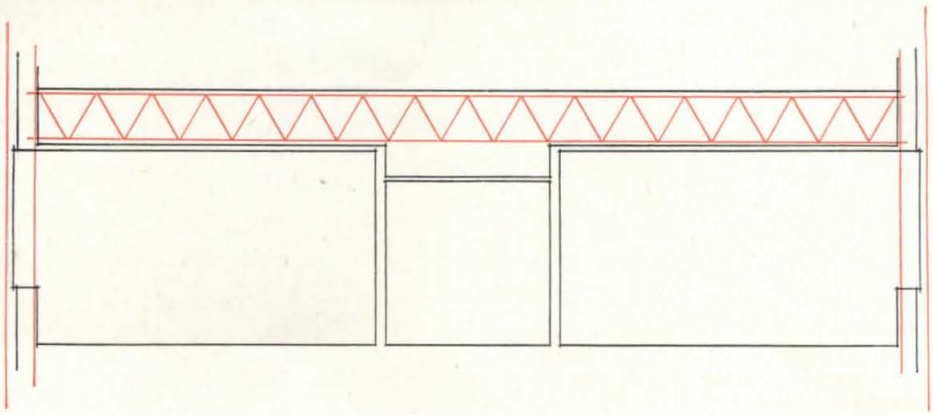


Figure 1

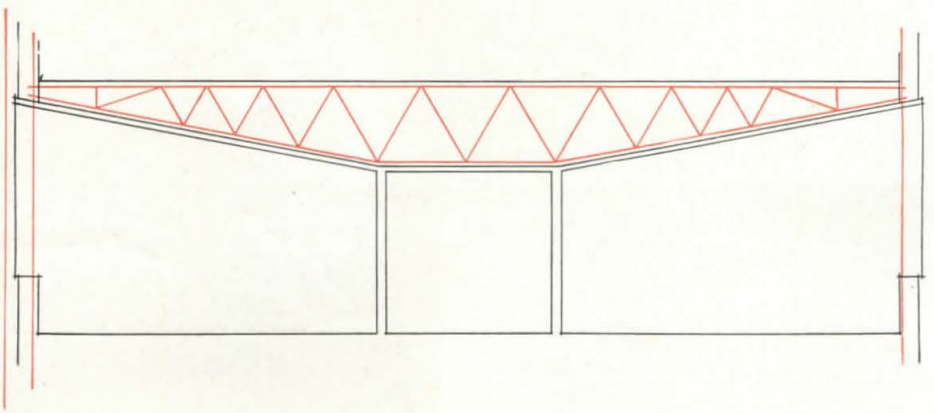


Figure 2

Hospital Structure

By Julian Smariga*

Within the framework of the hospital structure, space must be provided for all component medical, nursing, and treatment facilities. An efficiently operated hospital cannot be enclosed by an ill-conceived structure. In order to develop a satisfactory solution, architects as well as engineers must be familiar with the functional requirements of all hospital departments and with the location, nature, and services of all related equipment.

It is not believed that the hospital of the future will change radically in its exterior shape. According to present trends, the wing-type plan or some variation thereof (whose transverse section consists of a corridor with rooms on one or both sides) is expected to continue its functional superiority. The development and use of newer structural materials and methods of construction, however, will influence the relationship of various elements or facilities within the hospital. For the successful adaptation of newer building techniques, closer co-operation between the architect and structural, mechanical, and electrical engineers is mandatory.

Structural Engineer, Division of Hospital Facilities, Public Health Service.

Economic necessity requires that hospital buildings last a long time. A glance at the record of existing hospitals verifies the fact that many have long outlasted their life expectancy. The majority of these buildings have undoubtedly been remodeled several times. Too frequently, each effort at remodeling or altering the existing building was severely limited by the restrictions inherent in the structure.

With changing medical concepts, the discovery and application of new drugs, improved nursing techniques, and other developments in the science of healing, it is probable that today's hospital structure will not fit tomorrow's health needs in the same ratio as the buildings of yesterday are proving inefficient at the present time. It is essential, therefore, that planners recognize this fact and that they provide a structural scheme which will permit a maximum degree of flexibility without compromising today's functional needs.

By using some of the newer materials more advantageously and perhaps by looking ahead to the development of other necessary products, we may realize a number of differing functional structural arrangements for hospital buildings.

long span construction

Figure 1 illustrates a form of long span construction in which the floor system spans from exterior wall to exterior wall. This system features the elimination of interior columns, flexibility in planning of interior partitions, and increased space for the design and installation of mechanical and electrical services. This last consideration is highly important in a hospital building as these services comprise approximately one-third of the total construction cost —a value considerably higher than found in the usual commerical type building. To facilitate field work in connection with these services, much more space is required than is considered necessary for an ordinary structure.

A variation of the long span concept which provides better structural advantages is shown in Figure 2. As the corridor height is generally made lower than the adjacent rooms, and as the web spaces in a truss-type frame will conveniently accommodate piping, the truss outline illustrated seems like a

logical development. The resulting sloping ceiling may offer definite advantages for natural lighting and ventilation.

The spacing of the transverse truss frames should be based on a modular dimension which will be indicated by the room size and arrangement. Longitudinal floor beams may be light steel joists. Since the columns in this scheme would take more load and be larger than usual, it is recommended that they project outside of the building wall rather than inside. The extensive use of lightweight, nonload bearing interior partitions and lightweight plaster aggregates will help to achieve structural economy by materially reducing the dead load.

cantilever frame

A structural scheme with varying possibilities is offered in Figure 3. Basically, it consists of a transverse rigid frame with cantilever extensions to support the exterior wall. In this system, it is recommended that the frames be spaced on a module of two rooms. The rigid interior column layout will dominate the plan, but a number of hospital types can be well served with little effort or compromise by this structural method. The exterior wall becomes a continuous curtain completely unaffected by the structural frame. Insulated metal or precast concrete panels could easily and effectively be used with this method. The window design and construction may be very flexible—it is limited only by the necessity of providing a satisfactory juncture with the necessary transverse partitions.

The haunched transverse frame is a very effective structural system as it supplies the structural material in direct proportion to the need; either steel or reinforced concrete may be used. Further, the reduced frame depth at the center, in conjunction with the lowered ceiling of the corridor, offers a highly desirable volume of usable space for the mechanical services.

floor slab variations

For irregular plan outlines with nonrepetitive bay spacings, it becomes necessary to use a framing scheme which allows some latitude in column placement. Figure 4 shows a flat-plate system which has a floor of uniform thickness throughout and contains columns of constant section from floor to ceiling. A slab-band type of framing, where the interior girders are wide and shallow and the floor slab spans in the direction perpendicular to the lines of the girders, may also be used to advantage. In either case, exterior column lines need not line up with interior columns. Minor offsets of interior column lines can also be accommodated. It is also possible to locate floor openings with considerable freedom. The ceiling finish in certain areas may be eliminated, although a large portion of the hospital will require a furred ceiling (with a minimum clearance of about 12″) to conceal piping, duct work, and conduits. The many advantages of smooth ceilings with simplified formwork, uniform partition height, and minimum interference with architectural layout are quite apparent.

flush girder

An alternate structural possibility along conventional lines for irregular outlines, is indicated in Figure 5. The flush ceiling features are obtained in this slab and joist scheme by using wide girders of the same depth as the floor construction. This embodies essentially the same characteristics as the flat plate discussed in the previous paragraph. It is more economical of material but does increase the floor construction thickness and does require a ceiling finish in all rooms.

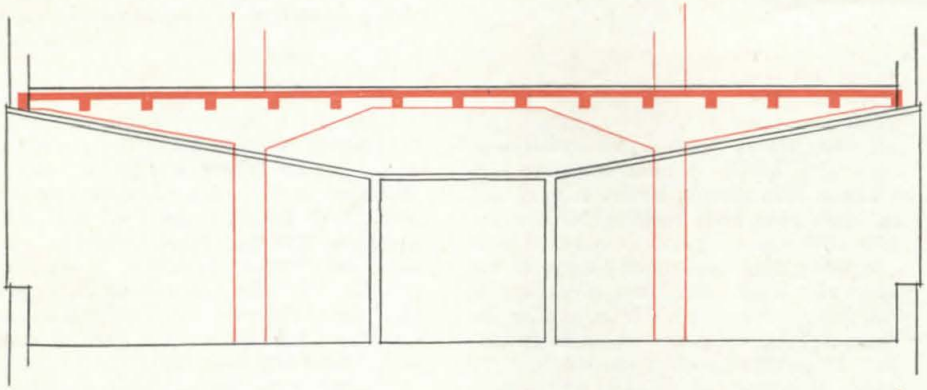


Figure 3

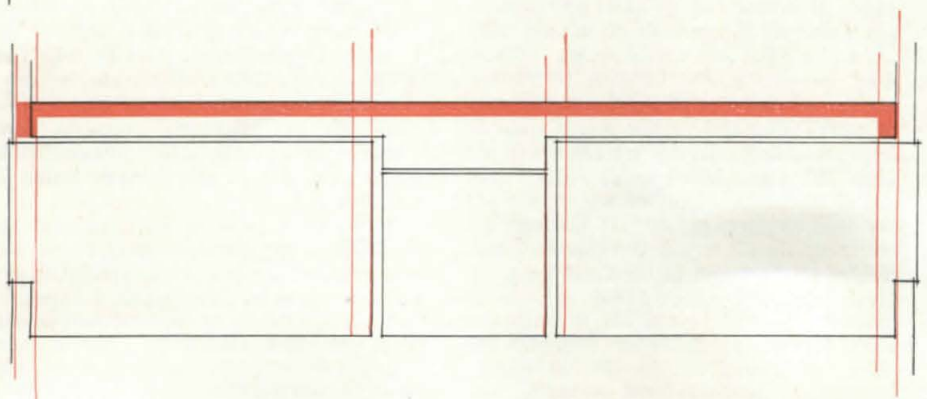


Figure 4

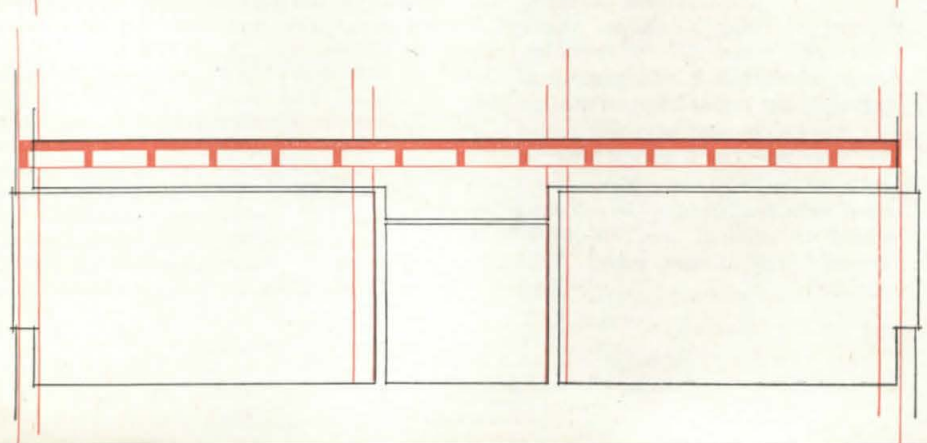
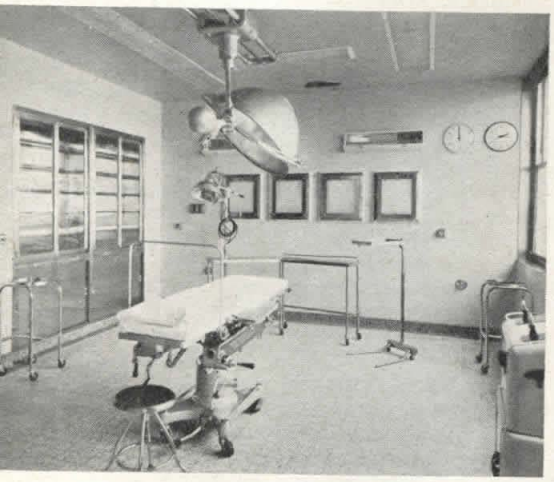
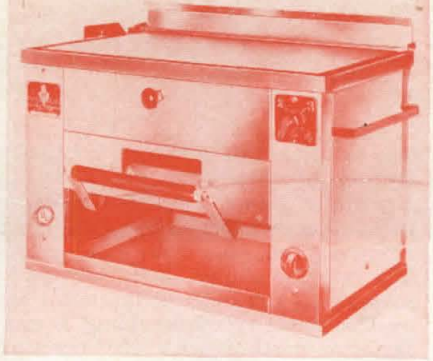


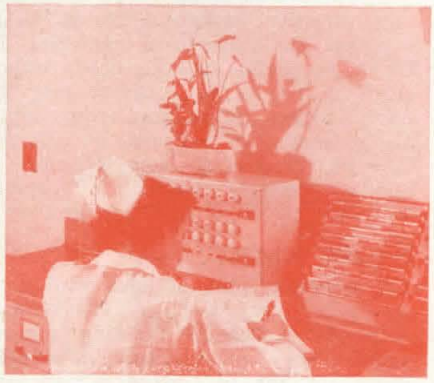
Figure 5

Electrical Engineering in the Hospital

By C. E. Daniel*

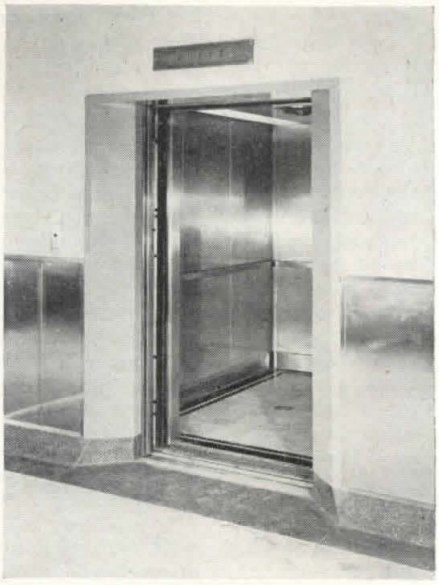






Above—ceiling fixtures with fluorescent lamps and convex lenses are successful for secondary lighting in operating and delivery rooms. Structural glass wall surfacing permits easy cleaning and sanitation. *Photo: courtesy of Libbey-Owens-Ford Glass Co.*

Right—standard nurses' calls should be combined with the intercommunication system to help reduce the number of trips to patients' rooms. *Photo: Gabriel Benzur*



Above—larger and faster passenger and service elevators are required to accommodate large equipment and insure efficient operation. Stainless steel cars and corridor wainscoating help to reduce maintenance costs. *Photo: courtesy of Armco Steel Corp.*

Top center—electrical equipment is desirable for the floor pantry. With this broiler-grill no turning of food is required. *Photo: courtesy of Magikitch'n Equipment Corp.*

Continued increase in the electrical demand of hospitals is strong evidence of higher lighting standards and greater utilization of new and improved electrical equipment in these structures. Most hospitals of the past have been lighted by incandescent fixtures and, although effective as dust-catchers, they were inefficient as lighting units. At the same time, fluorescent lights were unpopular because of their slow start, flicker, and color. Now that these objections have been removed, however, fluorescent lights are now being installed much more frequently and are ideally suited for many hospital areas. A recessed unit—with frame mounted flush with the ceiling and enclosed by a convex lens—gives uniform illumination with low intensity at the fixture, eliminates glare, and has no provision for dust-catching. When mounted perpendicular to the direction of traffic, the lenses refract light in the direction of the corridor and help to reduce its apparent length. The same unit in greater lengths, when mounted in the ceiling directly above working areas, has proven satisfactory for laboratories, utility rooms, pantries, kitchens, and work rooms. This unit is very suitable for secondary lighting in both operating and delivery rooms. Cold cathode fixtures are highly satisfactory for bed rooms as they have a very low surface brightness which reduces glare to a minimum; their exceptionally long life is also in their favor.

Consulting Engineer, Member A.I.E.E.

Most operating, delivery, labor, and recovery rooms are now air conditioned and some hospitals have been air conditioned throughout; however, very few of these have been designed with available electrical adjuncts to increase their operating and medical efficiency. It has generally been considered necessary to cool 100 percent hot air from outside for fear of cross-infection which might result from reusing air from the hospital area. However, if proper precautions are followed, 80 percent of the air used in a hospital air-conditioning system may be safely recirculated to reduce materially the size of the plant, the cost of operation, and at the same time to improve the quality by recirculating air from the conditioned areas where it is cooler and dryer. This economy is made possible by passing the air through an electrostatic filter which removes practically all dust and pollen from both the fresh air and recirculated air. Most bacteria carried in the air stream are on the dust particles or droplets removed by the filter. Should additional precautions be considered desirable, the filtered air may be passed through a bank of germicidal ultra-violet ray lamps which will kill 90 percent of any bacteria that might be present. One precaution which must be considered where air is recirculated from operating rooms is to locate the filter outside the operating area and to take the air from the ceiling or outside; this will prevent a concentration of gas which would be explosive.

Larger and faster elevators are being considered as standard equipment to accommodate larger equipment and to maintain an even flow of traffic and service. Until recently, the 5′-4″ x 8′ x 0″ platform was considered ample, but now the 5′-8″ x 8′-4″ platform is believed necessary by many administrators. Service cars with 6′-0″ x 9′-0″ platforms are being used to carry a greater number of food and tray carts and to reduce the number of trips required. Dumbwaiters are more generally used to distribute prescriptions, sterile supplies, utensils, etc. Pneumatic tube systems also save labor and time in the distribution of prescriptions, records, and orders—particularly from nursing units to the pharmacy, office, store room, or housekeeper.

Provision should be made so that the portable X-ray machine may be used in any part of the hospital. Special heavy duty receptacles are required throughout the corridors of the nursing units. This receptacle should be the 30-ampere 3-point type with ground wire and 100-110 volt circuit; these same outlets may be used for polishing or vacuum machines.

Electrical kitchen equipment is cooler, cleaner, and more adaptable to close automatic temperature control; cooking odors can be reduced and it is not necessary to provide for gases of combustion. Contemporary built-in heating units have a longer life and can be brought to desired temperature more quickly than older ones; electrical warming units in cafeterias and serving pantries

can be automatically maintained at different temperatures without adding vapor or excess heat to the room. With electrical ovens, heat from above and below can be maintained accurately to provide different temperatures for either as desired.

Although infra-red lamps have been used elsewhere for cooking, food warming, and drying dishes, they have not yet been so used in hospitals, to the knowledge of this writer. More refrigerator space must be provided in new hospitals for frozen foods—both those purchased and those prepared and frozen in the hospital. The electronic heater appears to be most efficient in thawing and warming frozen foods quickly.

For hospitals with low electrical rates, electrical radiant-panel heating should be considered. Such a system has all of the advantages of hot-water radiant heating or convection methods, but does not require provisions for the installation of radiators, radiant coils, risers, and the attendant dangers of leaks which may be possible. For such a system, it is recommended that the electrical resistance wires be placed in the plaster of the ceiling. This high-resistance wire transmits heat to the plaster at a maximum temperature of 120 F. The room temperature would be regulated by varying the electrical current to the heating wires as the outside temperature required. Such a system would give the hospital all the advantages of panel heating without the special provisions for pipes and their maintenance. With electrical cooking, electrical sterilizers, and electrical hot water heaters, there would be no need for a boiler plant.

The shortage of nurses, which is apparently with us to stay, justifies the use of any electrical system which will assist the nurse in caring for more patients without reducing nursing standards. Standard nurses' calls, with intercommunicating system, permit the nurse to speak or listen to any patient without making a trip to and from the patient's room. She may receive a request for a drink, bed pan, or book without making a round trip to the patient. A combination microphone and loudspeaker for two-way talking may be recessed in the wall at the head of the patient's bed where it will serve satisfactorily for the average patient. The wall unit should be furnished with a jack into which a portable unit may be plugged for the use of weaker patients and through which the nurse may check the patient's respiration and movements.

The familiar, brass grids in the terrazzo of operating floors will no longer meet the requirements of the National Board of Fire Underwriters. The grounded brass strips which served to remove the static charge from personnel and equipment were considered objectionable, as a doctor who might touch a live wire could be electrocuted. Under the new regulations, all sections of the floor surface must be conductive and be grounded through a high resistance which will remove all electrostatic charges. This high resistance flooring, however, is such that electric currents from a 110-volt circuit would not be dangerous. These floors may be poured with standard terrazzo aggregate mixed with a small quantity of acetylene lampblack, as described in a bulletin published by the Division of Hospital Facilities, Public Health Service. There are other approved flooring materials on the market, including black rubber and plastic coatings.

Operating rooms and areas where explosive gases are used also require special wiring systems to provide a lower voltage between any live wire and the ground and thus further reduce the danger of shock. The low voltage is provided by a separate transformer with the center of the secondary winding grounded and both outside wires insulated. With this system, the voltage between the outside wires is 110 volts, but the highest voltage between a live wire and the ground cannot be more than 60 volts. Trouble lights are required to indicate when either of the outside wires is grounded.

Flashers, gongs, or loudspeakers located in corridors are used to call doctors, but none of these satisfactorily meets hospital requirements. Doctors fail to see their numbers on flashers and the gongs and loudspeakers disturb patients. One system has been developed so that the telephone operator may signal the doctor without disturbing anyone but the doctor who is called. This equipment consists of a miniature radio broadcasting station through which the call can be sent to a receiver carried in the doctor's pocket.

Other electrical systems have been developed in commercial work that could be easily adapted to improve hospital nursing care. So far, the need has not been indicated, but a few developments will be mentioned to suggest that electrical engineering is prepared to give the hospital new tools as new techniques, surgery, and medicine may require. Nurses continue to shake mercurial thermometers and wait for them to register patients' tempartures. These temperatures could be taken in a few seconds by using electrical thermometers and they could be observed continuously or recorded to check for variable temperatures. Should it be found desirable, the hospital could be wired so that the nurses could instantly read any patient's temparture without leaving the nurses' station. It would even be simpler to wire the hospital and provide instruments with which the nurse could check any patient's pulse, heart beat, or respiration, while seated in the nurses' station.

Some Observations on Mechanical Engineering

By Ernest F. W. Franck*

Although hot-water radiant heating has become better recognized as being suitable for hospitals, the majority of those under construction today still do not possess this heating method. Panel systems are particularly suited to mental and tuberculosis institutions. When installed in the former type of building, the absence of cast-iron radiators, convectors, or ventilating grilles has an obvious advantage; when installed in the latter, a considerable amount of outdoor ventilation can be afforded the patient without undue loss of body temperature—provided that the panel coils are in the ceiling areas. It is not advocated that coils be used in the hospital floor, as the amount of shading such coils might receive in the form of special floor covering, carpets, furniture, and so on, would make it impossible to maintain a predetermined temperature in the rooms. Further, research has shown that floor coils are objectionable from a psychological standpoint. In recent years, many hospitals have shown economical operation with hot-water radiant heating; and with the advances made in the fabrication of coils, the cost should be no higher than that of cast-iron radiator systems.

Installation of piping systems to convey oxygen is becoming universally adopted. Oxygen outlets should be provided at the bedside for all patients' areas, as well as for nurseries and recovery rooms. Although there are different types of outlet fittings, the concealed type is preferred. The supply of oxygen can most economically be derived from a cascade or similar bulk storage unit. As this equipment is not available in all communities, local conditions will determine which supply is most suitable.

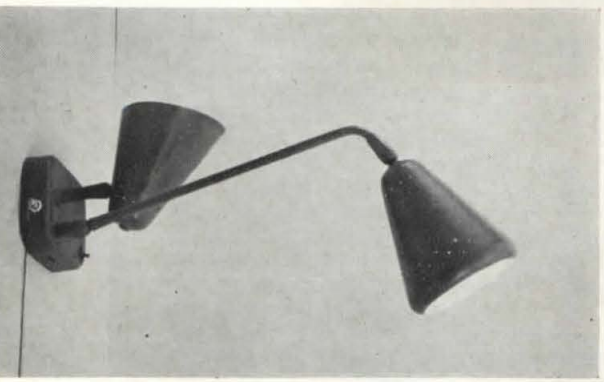
Vacuum systems have been extended to the bedside in recent years; they should also be installed in the surgical department, treatment rooms, and some of the medical wards, as well as in operating and delivery rooms. Suction machines, as vacuum inducers, are preferable to water-operating aspirator fittings which in many cases have not been able to produce enough suction.

Although it has become good practice to install automatic sprinkler systems in the laundry, linen storage, X-ray storage, kitchen storage, general and bulk storage rooms, paint shops, carpenter shops, and other locations, the benefit derived from their installation in the form of lower insurance rates will frequently determine whether or not they are provided.

*Consulting Engineer, New York.

Specialized Hospital Equipment

By Theodore Messenger*



Left—this lighting fixture consolidates in one, master, wall outlet all electrical facilities required for operation of patient's room. *Photo: courtesy of Kurt Versen Co.*
Right—a ¼ hp motor raises this 7′-long bed to treatment level; travel is about 10″ in 55 seconds. Note detail of leg when bed is in elevated position.
Photo: courtesy of Hospital Furniture Inc.

As this article is being written, those who manufacture and sell hospital equipment, as well as those who specify and use it, find themselves in a confused situation due to the allocation of materials for defense purposes. The manufacturer does not know what products he will be permitted materials for, nor when he will be allowed to deliver. The architect and engineer find it even more impossible to know what can be specified. All of us hope that the new Controlled Materials Plan will help solve some of these problems.

During the past ten months, equipment prices have risen as much as 25 to 35 percent. At the same time, many substitute materials have appeared in familiar hospital equipmtnt—sometimes legitimately, even by direction of NPA —sometimes, it must be sadly admitted, to take obvious advantage of the situation.

One should not get the impression that all substitute materials are poor substitutes. Many of the developments during the last war—in the use of synthetics and plastics, for instance—have been the basis for permanent improvements in equipment for health care, by effecting economies in the amount of material, by using less labor in manufacture, and by providing longer life and at least as good performance.

However, it is unfortunate that the architect is called on to make decisions in his specifications about many products of which he cannot be completely *sure, just* at a time when there are more hospitals on the drawing boards and under construction than at any time in our history. Where there is waste and false economy and the substitution of unsatisfactory materials, these things will not become evident until a good many years from now. Since the health of America is an important aspect of civic defense, and since the manufacture of hospital equipment uses a comparatively negligible weight of the scarce materials, it is to be hoped that we will not be forced to such measures as the use of corrosive materials on wet surfaces where, in hospital planning, there is no economical substitute.

For these reasons, very little advice can be given at the present time on specification of hospital equipment by *quality*. There are trends in modern hospital planning, however, which make it reasonable to point to certain new or improved items of equipment because of their *functional* usefulness.

The tendencies in hospital administration and medical care that affect planning and the selection of equipment are these:

More attention to the complete comfort of the patient.
More attention to the saving of time by hospital personnel.
More attention to the centralization of expensive equipment.

These things are not inconsistent. As devices and equipment become available which save the time of nurses, technicians, and others, obviously more thoughtful care can be given to the patient around whom the hospital revolves. Hospital equipment is expensive, and the trend to centralize it in "cores" —such as the now commonly accepted central sterile supply room—not only saves capital investment, but in its turn saves time and reduces personnel requirements.

With regard to patient care, we have left behind the period of white sterility and austere discomfort in patient furniture and furnishings, and we are avoiding (let us hope) the other extreme of over-decorated patients' rooms. The trend is toward well-designed, comfortable, contemporary furniture, which works as well as the familiar metal equipment painted white and is psychologically much more satisfactory. A number of additional furniture manufacturers are getting into the hospital field, and will undoubtedly give some of the old-line firms stiff competition from now on. One of the most interesting developments is the patient's bed. The functional problem here has always been that a hospital bed must be higher than normal, for the purpose of medical care and examination. This has resulted in a bed uncomfortably high for the patient's use—an important factor in these days of early ambulation. A number of designs are now on the market which make it possible to lower and raise the bed as needed or desired, so that it can be a technical working platform for the nurse and the doctor, and a piece of furniture that is good looking and usable for the patient. Costs are still high, and not until enough administrators have settled on new "standards" for such a piece of furniture will production be large enough to overcome this shortcoming.

The patient's bedside light has always been an unsolved problem. Again, the double function of providing a soft but satisfactory reading light for the person in bed and a good working light for the nurse and the doctor has caused difficulty, but now there are several solutions by way of adjustable lights, or direct-indirect lights, that approach a solution to the problem.

Well-designed space for the storage of patients' clothes, the provision of chairs which will be comfortable for visitors and at the same time useful for a patient beginning again to help himself around the room, and even such seemingly unimportant things as drop-leaves at the ends of dressers to provide additional flower space when it is needed, are other recent advances in the field of improved standards for the comfort and relaxation of the patient.

Time-saving equipment which every new hospital should consider would in-

*President, Engineered Products Corporation; Consultant on Hospital Equipment.

Individual toilet facilities for the patient's room provide more comfort for the patient and at the same time help save time of the hospital operating personnel.
Photo: courtesy of Crane Co.

clude an annunciator system between bedside and nurses' station, and a vertical conveyor system serving each nursing unit. Florence Nightingale's plea that the nurse not be "converted into a pair of legs" has been finally answered by the ability of the patient to *tell* the nurse what is desired and thus eliminate hundreds of needless trips every day. Conveyor systems which make it possible to send many items to the floor without the need for personal delivery, and without taking the space a full dumbwaiter system requires, would also seem to be an obvious benefit. Several recent hospitals that have installed such systems at large original cost report that they are rapidly paying for themselves in personnel time saved.

In another direction, several new litters which permit the nurse alone to slide a patient onto the bed, bath litters, X-ray litters, a new post-operative stretcher with guard-type sides all around, and other such devices now make it possible for one person to do jobs that used to require several helpers.

Centralization of equipment does not necessarily mean changes in equipment, but eventually it may result in important revisions. It is estimated that a central sterile supply department cuts the cost of equipment required by as much as 50 percent, and it can reduce labor in like proportion. To keep such centralized space required for equipment from getting too large, many of the equipment items will ultimately have to be redesigned. We now have refrigerators for blood banks, for milk formula labs, and for nurses' stations, so designed that the unit is counter height, and work which requires the use of the refrigerator (such as blood matching) can be done on top of the unit without other counter space needed. Rectangular sterilizers, which obviously stack together better than round ones, are also now available.

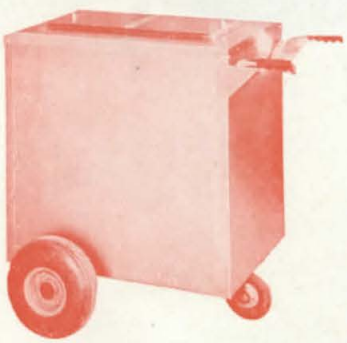
There are still many unresolved problems connected with the theory of centralized equipment. For instance, while it would seem sensible to provide central ice-cube manufacturing equipment, the cost of hauling it may soon offset the original capital saving. Food service equipment is the most controversial matter at present; the school of thought that says a central system directly under the supervision of a dietitian and a chef is the only way good food can be assured without fabulous cost, and, on the other hand, the school that insists on as much decentralization as possible, with much cooking done directly on the patients' floor, may ultimately get together in agreement on the aircraft food system which delivers hot food and cold trays to a distribution point in the nursing unit, where it can be served up almost at the bedside. New equipment is being designed and is promised soon which will make this system feasible.

Equipment in the operating room still revolves around the matter of minimizing (let us hope eliminating) operating room explosions. However, with all the studies that have been made, equipment needs to be revised. It does no good to provide explosion-proof electrical outlets and then furnish them with "pigtails" that will take any standard plug. There would seem to be a good future for a permanently fixed, pedestal-type operating table, which would eliminate the necessity for many temporary plug-ins for the services required.

In fact, many other items of equipment for hospital use should be reconsidered, if not totally redesigned. Perhaps this is a time when a few dollars in cash prizes might produce interesting and useful results. Could not some manufacturers and some hospitals get together to sponsor a competition calling for time-saving and economy-producing ideas within the framework of the conception of greater patient comfort at lower administration cost? The forward-looking ideas which are presented in this issue of PROGRESSIVE ARCHITECTURE should surely be matched by better designed equipment for the health of America.

Right—this food conveyor was designed to serve from 75 to 100 patients; has stainless-steel drop shelf and meat compartment with sliding cover. Lower compartments can be insulated and either one or both heated.
Photo: courtesy of Prometheus Electric Corp.

Below—this automatic ice-cube maker can supply up to 8500 cubes per day. Cabinet takes up about as much space as an ordinary cigaret vending machine.
Photo: courtesy of Carrier Corp.



Right, color—portable cart for distribution and storage of cracked ice; capacity 150 lbs. Stainless steel inside and out, this cart has hand-operated drain through bottom.
Photo: courtesy of Gennett and Sons, Inc.

Right—post-operative stretcher has guard rails which completely surround litter, to prevent patient from falling or crawling off. One end can be rapidly elevated to Trendelenburg position.
Photo: courtesy of Jarvis & Jarvis, Inc.

p/a products

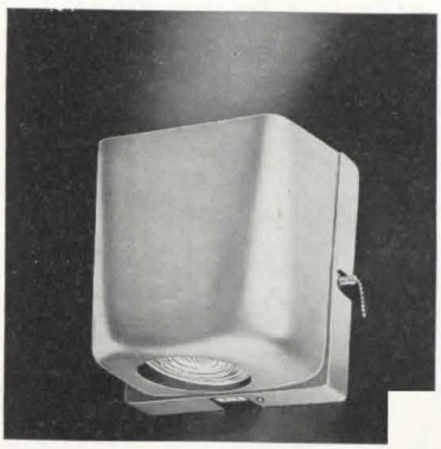
for the patient's room

Right—steel-chest compartment, attached to and below foot of bed, can be easily removed for sterilizing. Crank spring operates bottom of bed and provides a wide range of positions for specialized needs. Both cranks can be easily operated by one attendant.

Photo: courtesy of Superior Sleeprite Corp.

Left—combined bedside cabinet and dresser designed for small hospital room. Plunger type lock on distant side of cabinet locks top drawer; master key kept at the nurses' station. Dimensions are: 18″ x 24″ and 36″ high.

Photo: courtesy of Hospital Furniture, Inc.



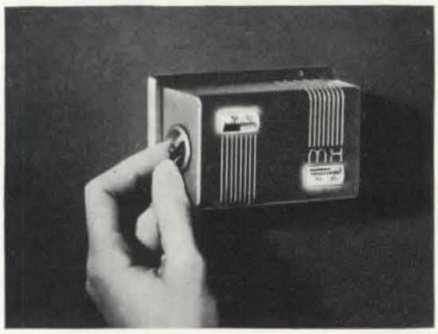
Above—light for patient or ward room provides indirect illumination for general lighting as well as direct downlight for reading. The cast-aluminum housing can be painted after installation, if desired.

Photo: courtesy of Curtis Lighting, Inc.

Left—the designer of this patient's room chair has realized that good head support is often desirable during stages of convalescence. Seat and back are of solid plastic; legs may be laminated birch or maple.

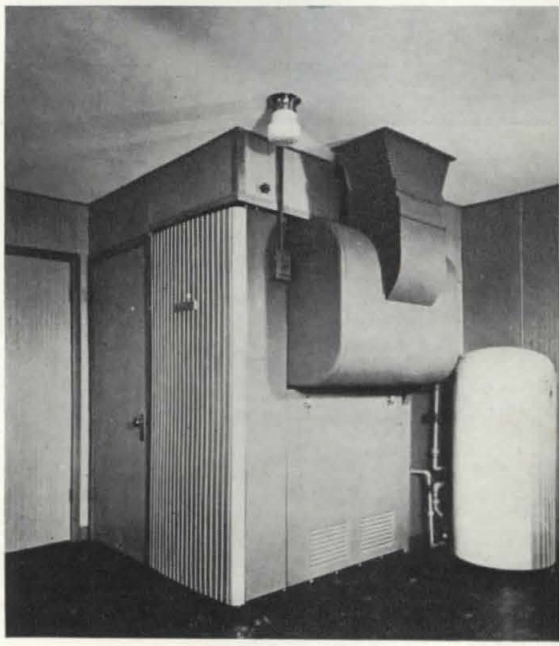
Photo: courtesy of Thonet Industries, Inc.

Above—perforated acoustical tiles, air diffusers, and luminous ceiling panels have been well integrated in this operating room. A track-mounted, overhead dome light is still considered by many the best light source for the operating table.
Photo: courtesy of Anemostat Corp. of America



Above—radium-coated dials on this thermostat are fitted with plastic magnifiers for easier reading, and should remove the necessity of turning on lights in a patient's room to adjust the temperature. Concealed adjustment knobs discourage tinkering with temperature settings, by visitors.
Photo: courtesy of Minneapolis-Honeywell Regulator Co.

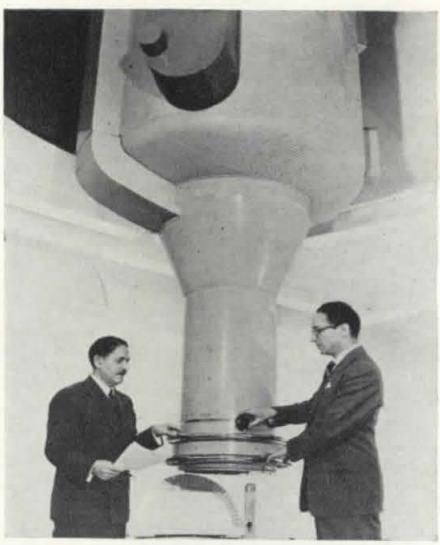
Below—a new, compact air conditioner for hospital installation provides both heating and cooling, control of humidity and dehumidification whenever required. The unit is almost completely noiseless, and requires a minimum of space in the basement or utility room.
Photo: courtesy of Servel, Inc.



X-ray therapy

Right—this 2,000,000-volt X-ray machine was recently installed in a New York hospital for research and treatment of cancer. The apparatus is contained in a 30-foot high, circular shaft housed in a vault built of concrete walls up to 4 feet thick.

Left—three machines are combined in one, all-purpose X-ray unit for varying degrees of therapy. A high intensity of radiation is possible, due largely to the use of beryllium, instead of the less transparent glass for the "window" of the tube, making possible treatment of twice the number of patients per day than with equipment of earlier design.
Photos: courtesy of General Electric X-Ray Corp.



built-in equipment

Left—as this stainless-steel, automatic washer is mounted at floor level, no trench is required. Slide-out feature eliminates unloading drudgery for employees; reaching and lifting heavy wash-loads from bottom of cylinder is unnecessary.

Right—linens of any size from 20″ to 120″ wide and from 24″ to 108″ long are automatically measured and folded with this equipment. Folder takes work directly off the flatwork ironer and can be used with any standard ironer.

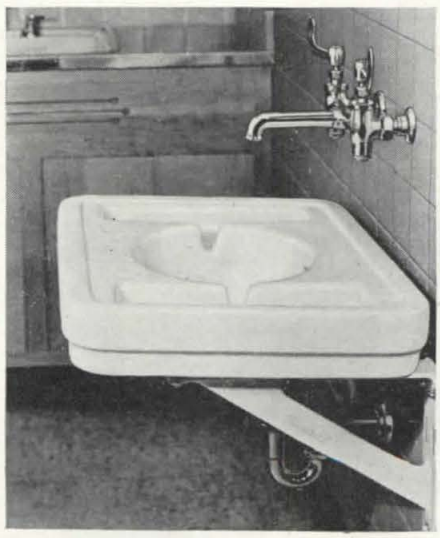
Photos: courtesy of Troy Laundry Machinery

Right—the height of the spray head on this washfountain permits easy washing of patient's arm up to the elbow. Constructed of iron and finished in vitreous enamel, this unit is suitable for first-aid rooms and for surgeons' scrub-up sinks. It is foot-controlled and hands touch nothing but running water.

Photo: courtesy of Bradley Washfountain Co.

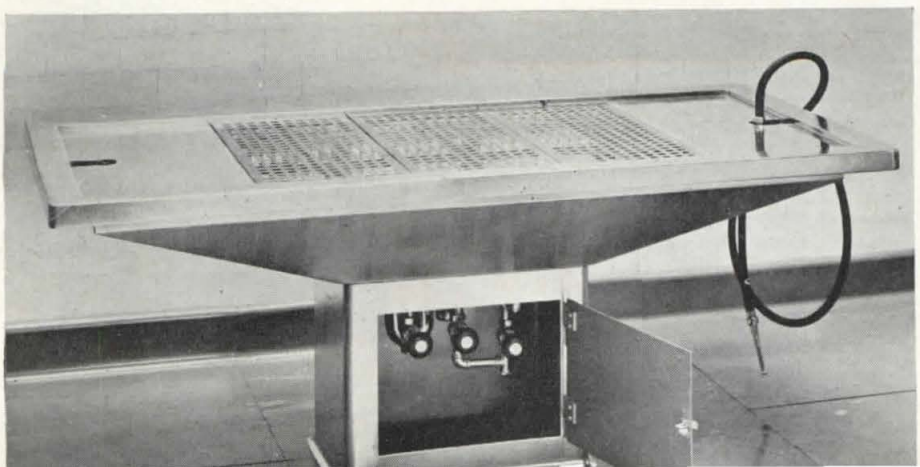
Below—among other specialized plumbing equipment used in the hospital is the surgeons' lavatory. This bowl has instrument trays at the sides and is fitted with chrome elbow controls.

Photo: courtesy of American Radiator & Standard Sanitary Corp.

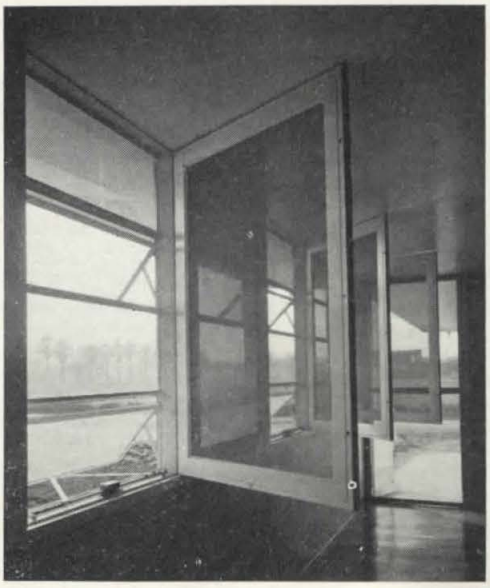


Below—mounted on a single pedestal, all piping and valves of this autopsy table are concealed from view. Continuous flow of water plays over entire inner surface of the trough. Its 36″ width is wider than most tables for this service.

Photo: courtesy of S. Blickman, Inc.



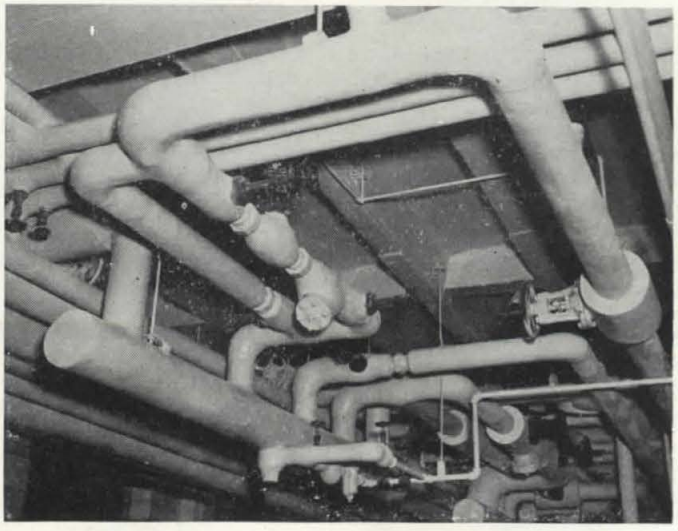
Above—in addition to its thermal insulation value, double glazing may also be used to advantage for acoustical insulation. In this installation, the nursery window wall not only screens out disturbing noises, but also prevents the infiltration of dust and other impurities.
Photo: courtesy of Libbey-Owens-Ford Glass Co.

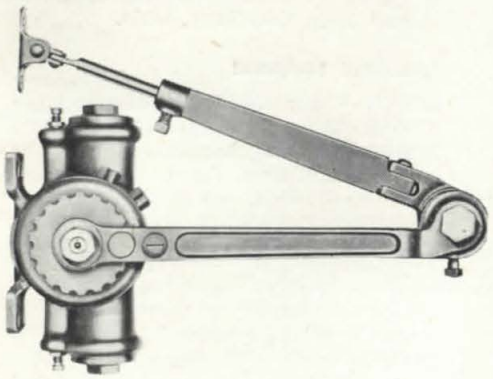


Above—with this packaged psychiatric window, no bars or grilles are needed. Window comes with hardware, metal casing, and choice of detention screen, protective and safety screen, or insect screen. Ventilators swing out from bottom and down from the top, permitting exterior of window to be cleaned from room side.
Photo: courtesy of Detroit Steel Products Co.

Above—there are many opportunities for the use of movable steel partitions in the hospital. While initially more expensive, their washability makes them more easily maintained than conventional plaster walls. Their resistance to oils and chemical stains makes them particularly useful for laboratories and vocational therapy rooms.
Photo: courtesy of E. F. Hauserman Co.

Below—another efficient use of glass-fiber insulation in the hospital is for steam, condensate, and hot and cold water lines. This type of pipe covering is moisture resistant, light in weight, noncombustible, and immune to rot and decay.
Photo: courtesy of Owens-Corning Fiberglas Corp.





Left—this holder arm permits a door to be held open at three points for ventilation as well as passage through. The first two points are at approximately 10 and 45 degrees, the third is adjustable from 90 to 135 degrees.
Photo: courtesy of Lockwood Hardware Co.

MANUFACTURERS' LITERATURE FOR THE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

Catalog offering full line of low and high pressure steel boilers for heating, power, and process steam. Types, dimensions, technical data, drawings. Also, brochure on oil or gas fired boilers for hospitals, schools, and other large structures. Typical installation photos. Kewanee Boiler Corp., Kewanee, Ill.:

1-108. Kewanee Boilers, AIA 30C (80)

1-109. Kewanee Steel Boilers (856)

1-110. Zoned Controlled Heating Systems (WTS), 8-p. illus. booklet describing modulated steam heating system divided into smaller individual units, in accordance with exposure of different building areas, building height, or type of occupancy; steam supply to each zone controlled for any flow rate desired. Method of operation, control equipment, installation diagrams. Hoffman Specialty Co., Webster-Tallmadge Systems Div., Indianapolis 7, Ind.

construction

3-92. Allegheny Metal in Hospitals (S.S. 16-ED 1), 34-p. illus. brochure. Uses of stainless steel hospital equipment in service, nursing, surgical, diagnostic, and treatment departments. Check-list of products, availability, comparative properties, index. Allegheny Ludlum Steel Corp., 2020 Oliver Bldg., Pittsburgh, Pa.

3-93. Special-Purpose Sheet Steels (P.O. 10450), 12-p. illus. booklet demonstrating structural uses and applications of stainless steel, enameling iron, and zinc-coated steel sheet. Properties, types and finishes, exterior and interior applications. Armco Steel Corp., 10450 Curtis St., Middletown, Ohio.

3-94. Carey Built-Up Roofing, 16-p. data file booklet. General information on built-up roofing specifications, application, flashing details, drawings. Philip Carey Mfg. Co., Lockland Station, Cincinnati 15, Ohio.

3-95. Kewaunee Book of Hospital Casework, AIA 35K (49), 88-p. illus. catalog. General data and construction specifications for manufacture of hospital casework units. Typical floor plans, elevation drawings, service fixtures, room assemblies. Kewaunee Mfg. Co., Adrian, Mich.

3-96. Terrazzo and Mosaics, AIA 23-E. Information kit containing full data and specifications for terrazzo flooring; includes bulletins on floor safeguard against static explosion hazards, installation of radiant heating systems in terrazzo, and terrazzo maintenance. National Terrazzo & Mosaic Assn., 711 14 St., N.W., Washington 5, D.C.

doors and windows

4-104. Trulock Safety Screen, AIA 14-M, 35-P, 6-p. pamphlet on detention screens with concealed fasteners for hospital and sanatorium windows and porches. Details, specifications. Austral Sales Corp., 101 Park Ave., New York.

4-105. Awning Windows by Gate City, 4-p. illus. folder. Advantages of draft-free awning windows for hospitals. Comparison data, details, specifications for complete unit and for hardware, sizes. Gate City Sash and Door Co., Fort Lauderdale, Fla.

4-106. LCN No. 304, AIA 27-B (948-649-351), 4-p. illus. folder. Description of concealed, overhead door closer for use only with interior metal doors and frames. Installation diagram, dimensions. LCN Closers, Inc., Princeton, Ill.

4-107. Flush Doors, AIA 19-E-1, 8-p. booklet illustrating both solid and hollow core, flush wood doors for apartments, hotels, institutions, etc.; also, fire and sound resistant doors and X-ray doors equipped with lead sheet set between divided wood core. Light opening details, glazing specifications. Roddis Plywood Corp., Marshfield, Wis.

4-108. Schlage "C" and "D" Series Locks (640), 12-p. booklet. Two types of preassembled door locks constructed for use under conditions of heavy wear. Full-size illustrations, mechanical features, finishes, installation data, specifications. Schlage Lock Co., 2201 Bayshore Blvd., San Francisco, Calif.

electrical equipment, lighting

★ **5-69. Architect's Guide to Hospital Lighting,** AIA 31f28, 55-p. manual presenting 81 typical layout plans for specific general hospital areas, recommending combinations of lighting arrangements and types of fixtures. General data on lighting principles, color factor, specifications, drawings, diagrams, color identification chart, index. Holophane Co., Inc., 342 Madison Ave., New York, N.Y.

interior furnishings

9-50. Furniture for Hospitals (252), 8-p. catalog supplement. Illustrations of combination bed and chest units, dressers, bedside cabinets, overbed tables, screens, and chairs, all of contemporary design and constructed of steel with baked enamel finish resistant to burns, chemicals, etc. Photos. Inland Bed Co., 3921 S. Michigan Ave., Chicago 15, Ill.

9-51. Institution Furnishings (50), 28-p. illus. catalog offering line of welded steel furniture for hospitals, school dormitories, hotels, etc. Dimensions, samples of finishes and colors. Superior Sleeprite Corp., 2219 S. Halsted St., Chicago 8, Ill.

sanitation, water supply, drainage

★ **19-136. Laundry Machinery** (YG), 24-p. illus. catalog. Wide range of laundry equipment for commercial and institutional use; includes flatwork ironers, folders, tubs, presses, soap makers, sterilizers, utility tables, etc. Models, specifications, typical laundry layout. American Machine & Metals, Inc., Troy Laundry Machinery Div., 554 Twelfth Ave., E. Moline, Ill.

19-137. Bulk Sterilizers and Disinfectors, 16-p. illus. catalog on bulk sterilizing equipment of all-welded steel construction. Types, component parts, applications, construction features, photos, drawings, index. American Sterilizer Co., Erie, Pa.

19-138. Barnstead Water Stills (116), 6-p. illus. bulletin. Several types of pure water stills for hospital service. Sizes and capacities, still and tank combinations, accessories. Barnstead Still & Sterilizer Co., Inc., 2 Lanesville Terrace, Forest Hills, Boston 31, Mass.

★ **19-139. Elements of Hospital Plumbing** (AD1794R), 24-p. booklet. Hospital plumbing fixtures—sinks, water closets, lavatories, etc.—constructed of Duraclay ceramic material unaffected by heat, cold, acids, will not abrade. Requirements, specifications, layout drawings. Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

19-140. Zeolite Water Softeners for Hospitals (608), 20-p. illus. booklet. General data on types of water conditioning equipment. Typical layout. Elgin Softener Corp., Elgin, Ill.

19-141. Model FT-19, 4-p. folder on continuous racking conveyor dishwasher for institutions; unit automatically scrapes, washes, rinses, dries. Specifications, detail and connection diagram. Hobart Mfg. Co., Troy, Ohio.

specialized equipment

19-142. Complete Fire Protection (AD-11003), 12-p. illus. booklet describing fire extinguishing apparatus for different classes of fires. Types of equipment, uses, application. American-LaFrance-Foamite Corp., Elmira, N.Y.

Two booklets, one describing various kinds of hospital signaling equipment; the other, containing typical specifications and wiring diagrams for signaling, communication, and protective systems.

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19-143. Hospital Signaling Systems, AIA 31-i-l (170)

19-144. Architects' Typical Specifications (170)

★ **19-145. Bar-Ray** (2513M), 54-p. illus. catalog on X-ray accessories, isotope equipment, radiation protection, and X-ray film processing systems. Specifications for X-ray protective materials, details and other drawings, photos. Bar-Ray Products, Inc., 209 25 St., Brooklyn 32, N.Y.

19-146. Physiotherapy and Hydrotherapy Equipment in Stainless Steel (6 HYC), 12-p. bulletin. Illustrations of metal underwater treatment tanks, sitz baths, irrigation tables, utility stands, etc. Brief descriptions. S. Blickman, Inc., Weehawken, N.J.

19-147. Sani-Dri, AIA 31-L (1119), 4-p. illus. brochure on electric hair and hand driers, in wall-mounted or pedestal models, for public areas. Advantages, specifications, photos. Chicago Hardware Foundry Co., North Chicago 1, Ill.

Set of data sheets on signaling and communication systems, and protection equipment for hospitals. Types, index. Also, 4-p. folder describing newly designed, single-action fire alarm box and controls. Specifications. Edwards & Co., Norwalk, Conn.:

19-148. Hospital Signal Systems

19-149. New Fire Alarm

Folder describing types of respirators for adults and infants, and polio rocking bed to aid respiration during transition from "iron lung" to outer area. Other folder shows three models of resuscitators and metal support unit for attachment to operating table during prone-position surgery. J. H. Emerson Co., 22 Cottage Park Ave., Cambridge 40, Mass.:

19-150. Emerson Resuscitator (HPF-750Q)

19-151. Emerson Rocking Bed (HPF-750Q-B)

19-152. Audio-Visual Nurse Call System (295), 4-p. folder on visual signaling station providing direct voice communication between patient and nurse. Method of operation, accessories. Executone, Inc., 415 Lexington Ave., New York, N.Y.

19-153. Maxicon (8A.3181), 14-p. illus. booklet describing X-ray unit comprised of components that can be assembled in various combinations to provide whatever X-ray facilities required. Features, diagram indicating dimensions, component parts. General Electric X-Ray Corp., 4855 Electric Ave., Milwaukee 14, Wis.

19-154. Baby Incubator, Model 500, 4-p. illus. brochure. Galvannealed steel incubator, finished in baked enamel, supplies automatically controlled heat, oxygen, and humidity for both premature and full-term babies. General data, views. Gordon Armstrong Co., Inc., 1501 Euclid Ave., Cleveland 15, Ohio.

19-155. Interdepartmental Communication for Hospitals (101), 4-p. folder on pneumatic tube system that will deliver messages, prescriptions, and small objects such as medicines and some instruments. Method of operation, advantages. Grover Co., 25513 W. Eight Mile Rd., Detroit 19, Mich.

19-156. Blood Bank, circular describing cylindrically designed refrigerator, 7'-6" in height, for blood storage; seven revolving shelves adjustable to any bottle height. Specifications. Jewett Refrigerator Co., Inc., Buffalo 13, N.Y.

★ **19-157. Linde Oxygen Piping Systems for Hospitals,** AIA 29-B (6713A), 16-p. illus. booklet demonstrating types of oxygen piping systems and component equipment. Methods of operation and administration, advantages, oxygen cylinder manifold layout, specifications. Linde Air Products Co., 30 E. 42 St., New York 17, N.Y.

19-158. Curtain Cubicles for Hospitals, 4-p. circular. Curtain cubicle fixtures—tubing, corner bends, fittings—made of aluminum. Details, specifications, photos. A. R. Nelson Co., Inc., 210 E. 40 St., New York 16, N.Y.

★ **19-159. Ohio Chemical Equipment for Elements of the General Hospital** (2060), 28-p. illus. catalog. Layouts of hospital equipment—lights, sterilizers, operating tables, surgical instruments, furniture, therapeutic and surgery room apparatus, etc.—based on recommendations of Hospital Facilities Division of U.S. Public Health Service. Specifications, photos, indexes. Ohio Chemical & Surgical Equipment Co., 1400 E. Washington Ave., Madison 10, Wis.

19-160. Master-Minder (161), 4-p. illus. bulletin. Patient-nurse communication system, consisting of compact keyboard through which nurse can make audible check with patients, and patients' speakers, either wall flush-mounted or portable. Advantages, method of operation. Standard Electric Time Co., Springfield 2, Mass.

vertical traffic

22-4. Vertical Transportation for Modern Hospitals, AIA 33 (245), 6-p. folder. Passenger elevators, dumbwaiters, and oil hydraulic elevator for both passenger and freight service in small hospitals. Advantages. Shepard Elevator Co., 2425 Colerain Ave., Cincinnati 14, Ohio.

22-5. Hospital Highways (B-3816), 8-p. booklet. Requirements of hospital elevator installations and mechanical equipment to meet traffic demand. Types of elevator machines, illustrations. Westinghouse Electric Corp., 150 Pacific Ave., Jersey City 4, N.J.

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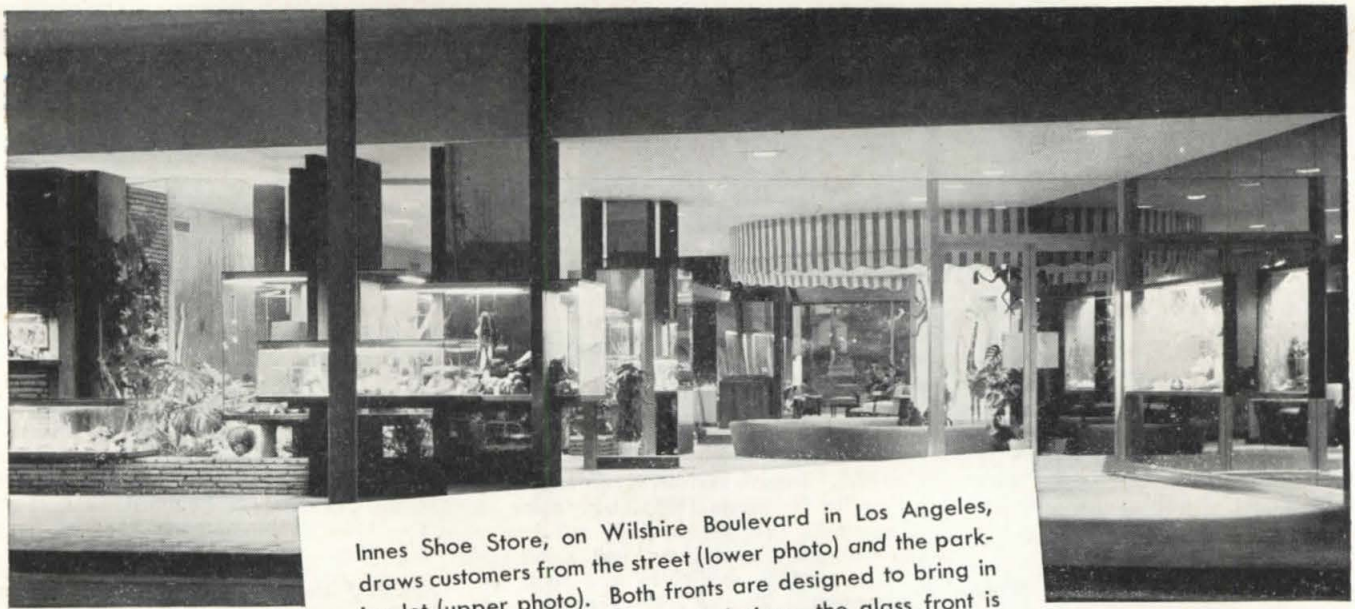

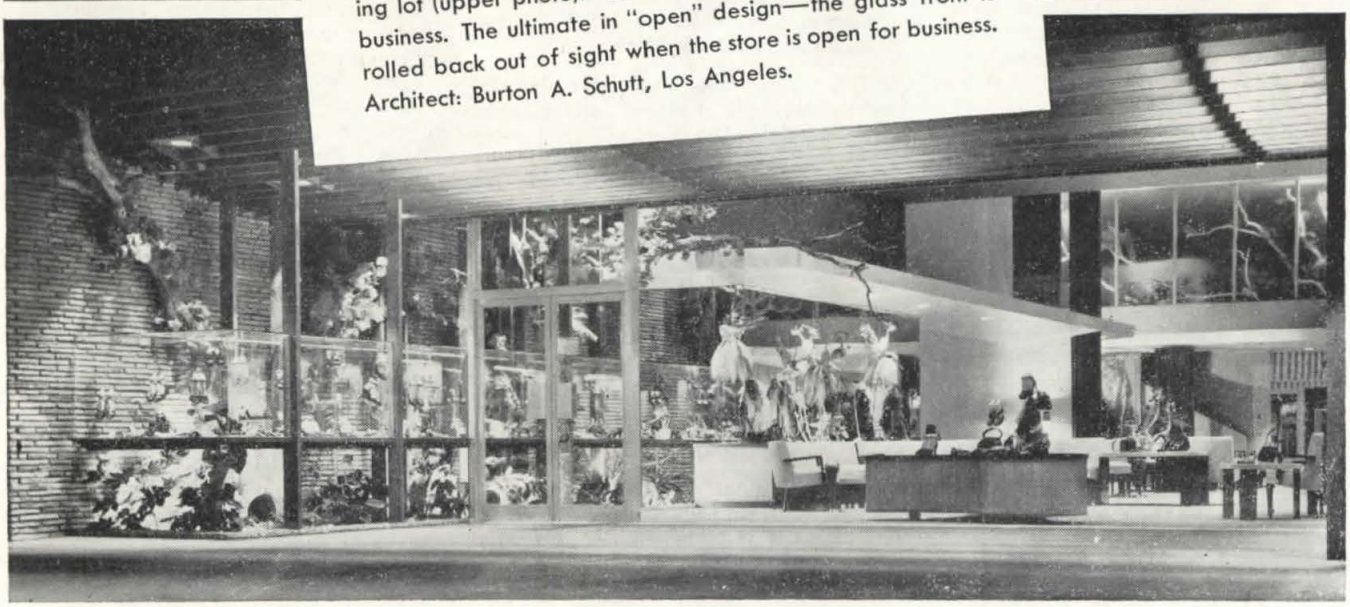

Innes Shoe Store, on Wilshire Boulevard in Los Angeles, draws customers from the street (lower photo) and the parking lot (upper photo). Both fronts are designed to bring in business. The ultimate in "open" design—the glass front is rolled back out of sight when the store is open for business. Architect: Burton A. Schutt, Los Angeles.

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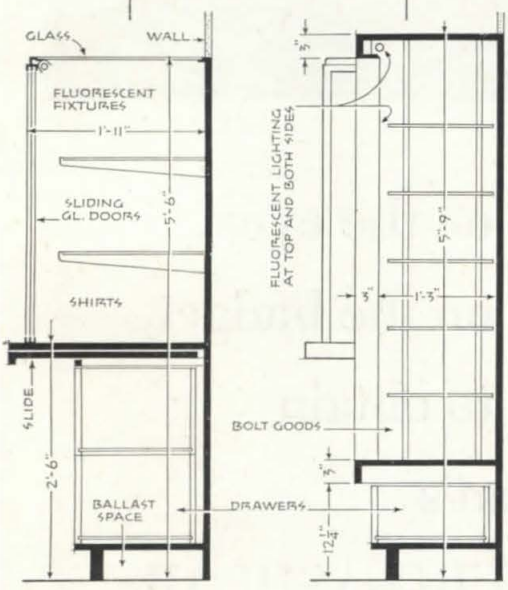
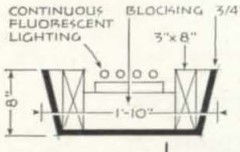


Sections
1/2" SCALE



Light Trough
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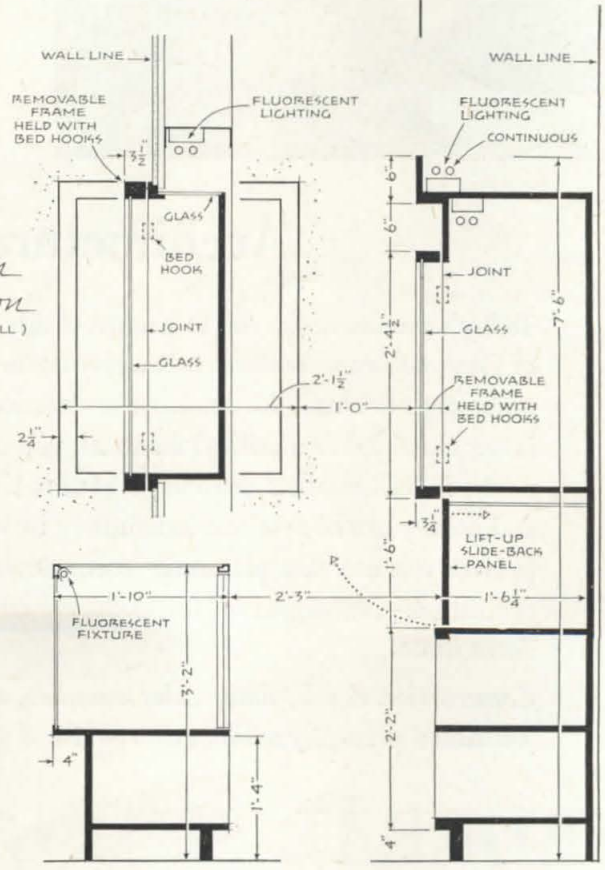
Elevation and Section
(CASE ON END WALL)



Sections thru Wall Cases 1/2" SCALE

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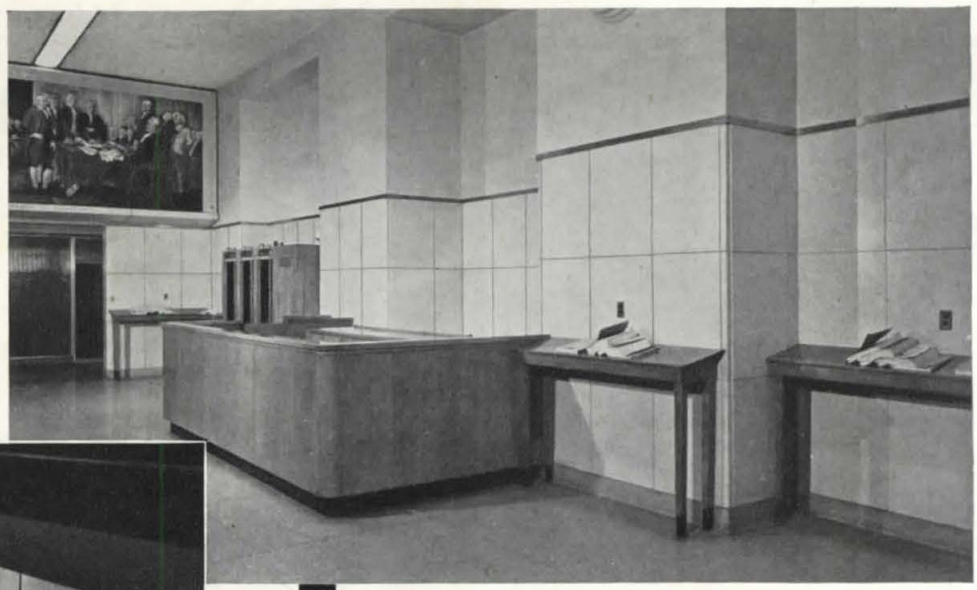

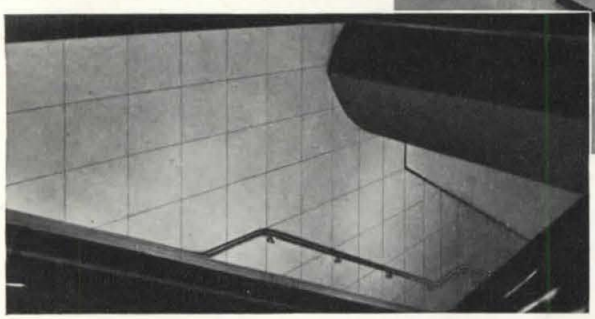

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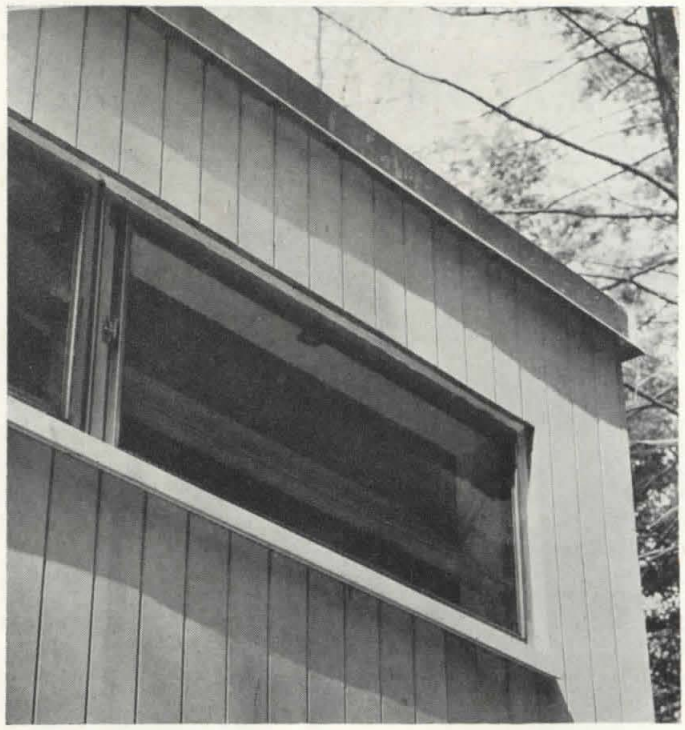

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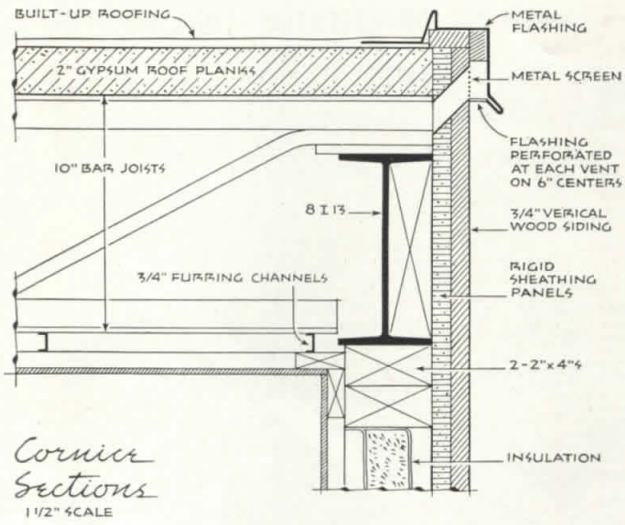
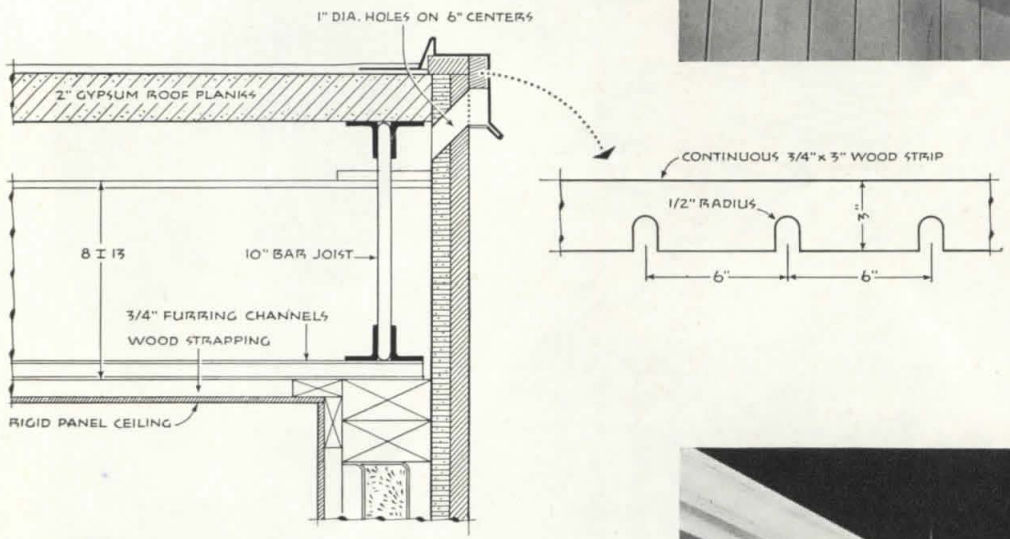


Cornice Sections
1 1/2" SCALE



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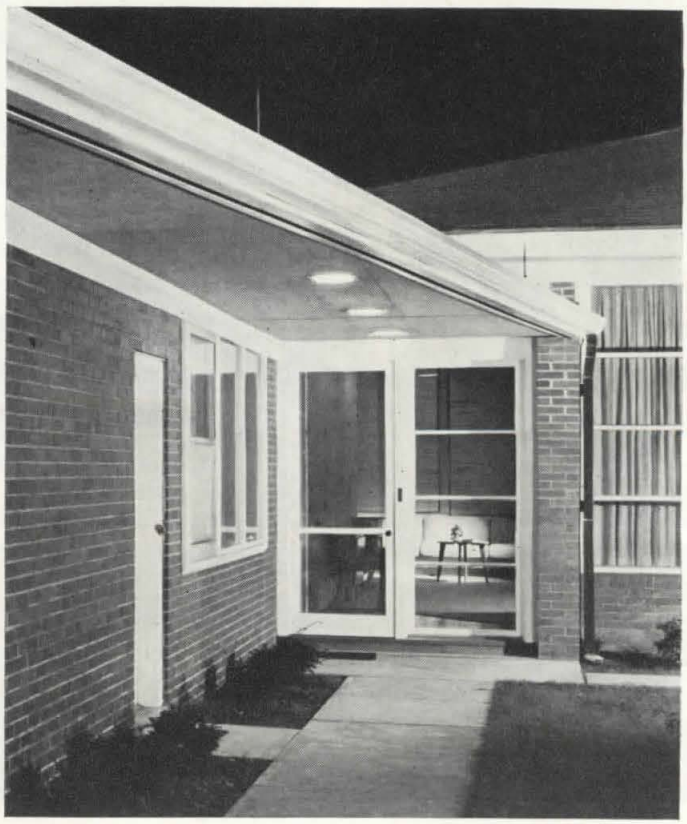

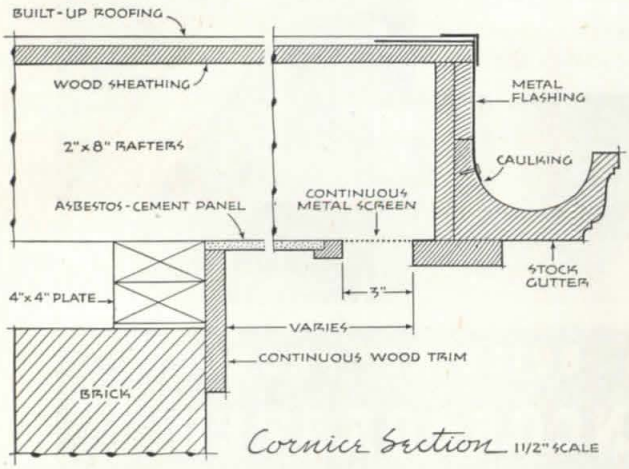

Cornice Section 11/2" SCALE

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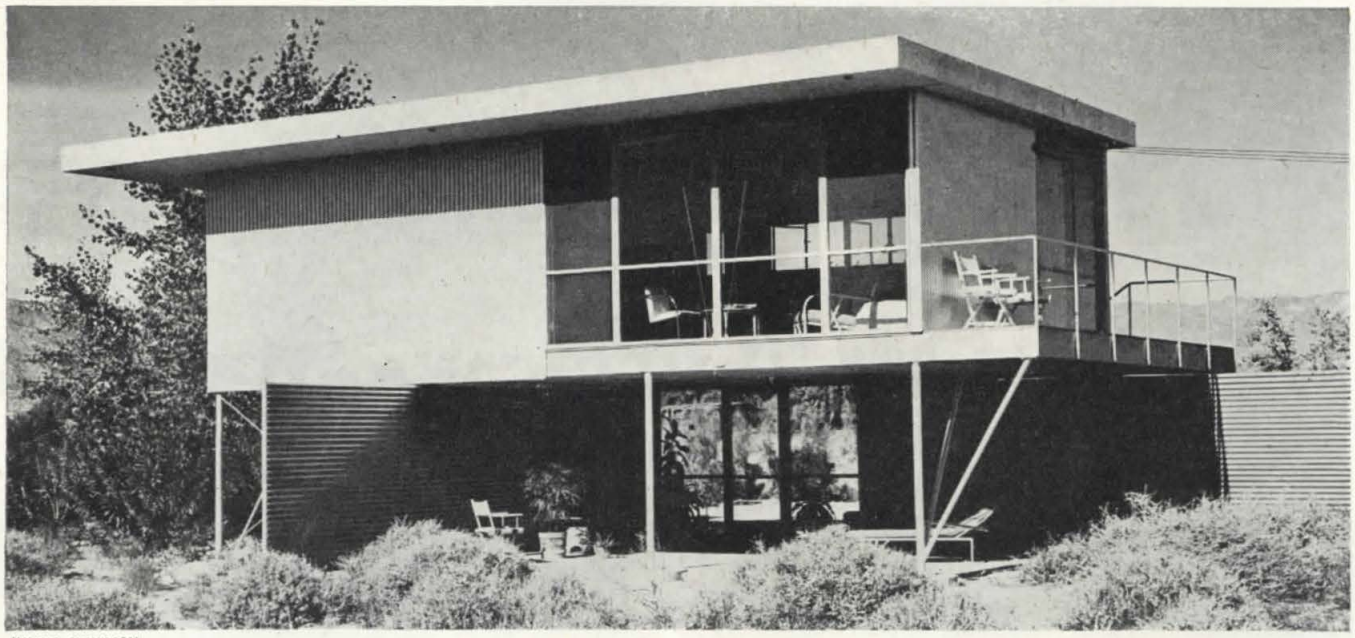

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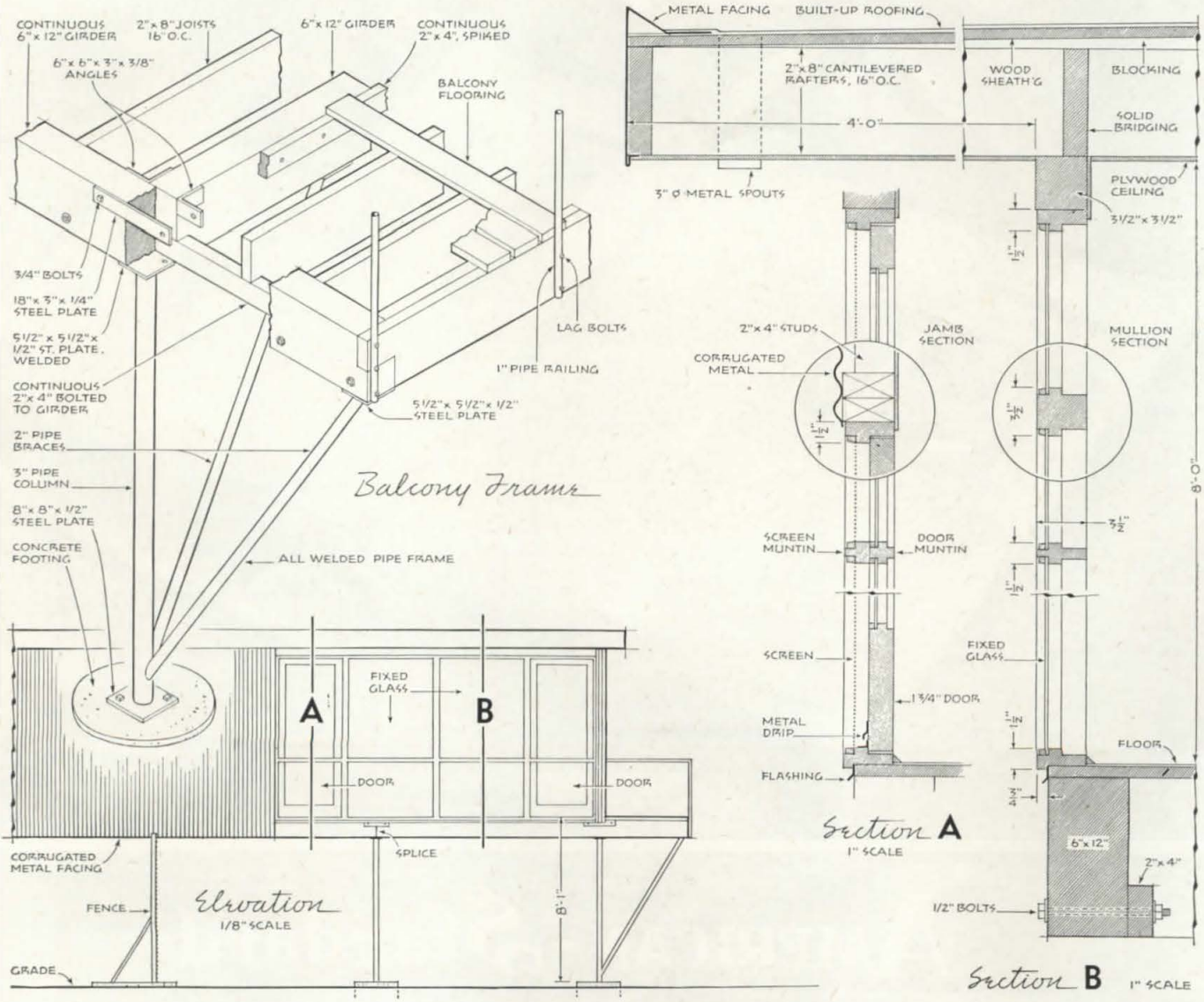

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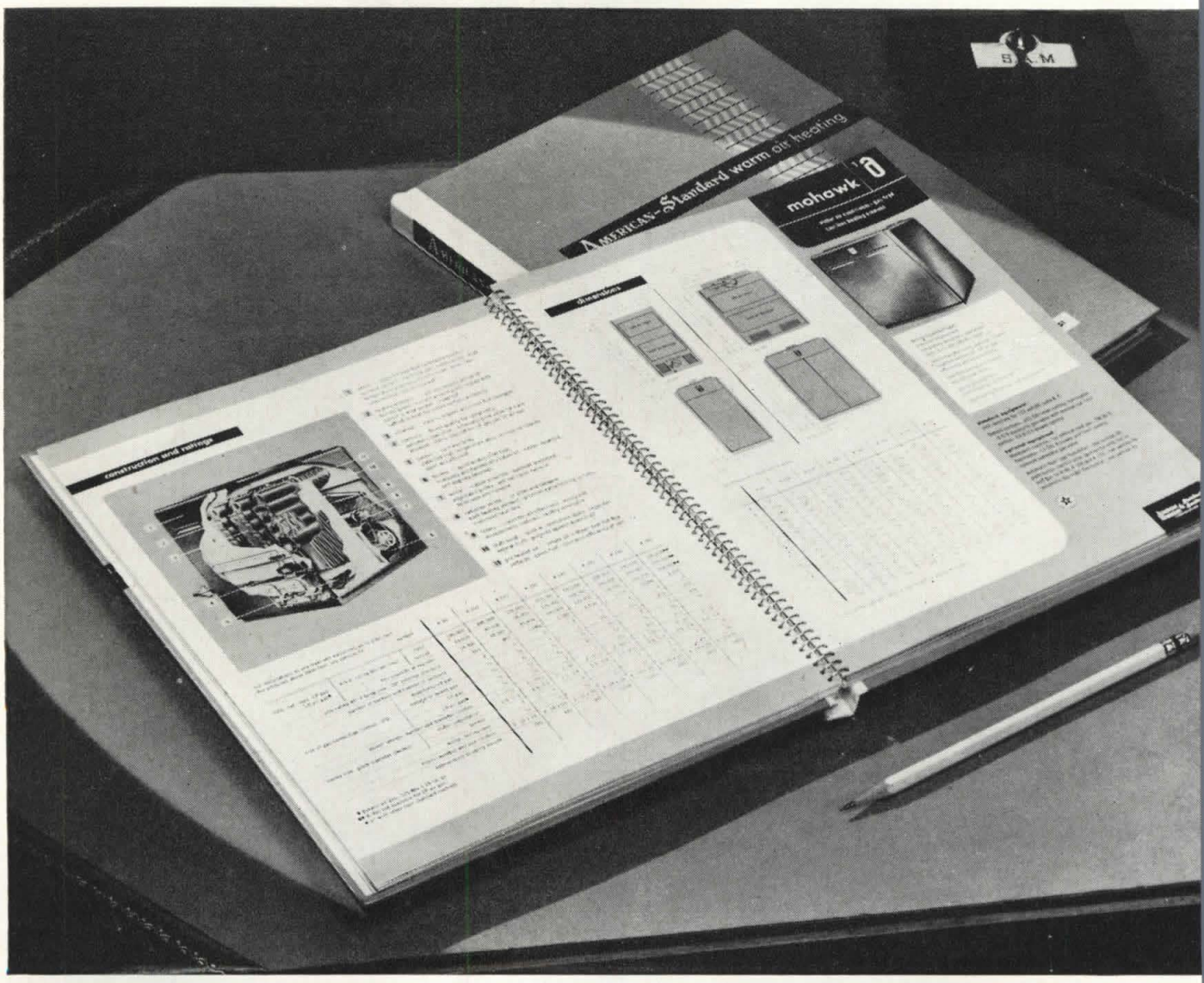

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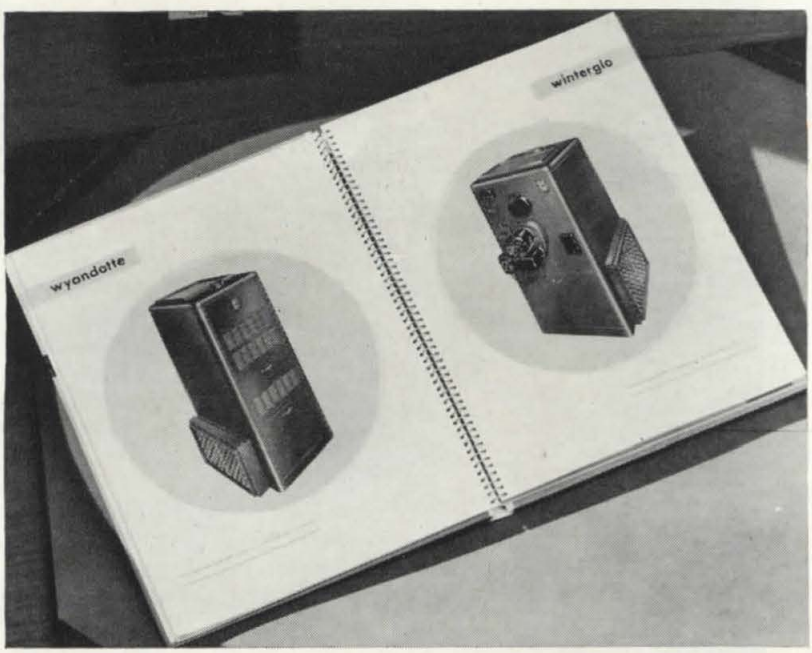

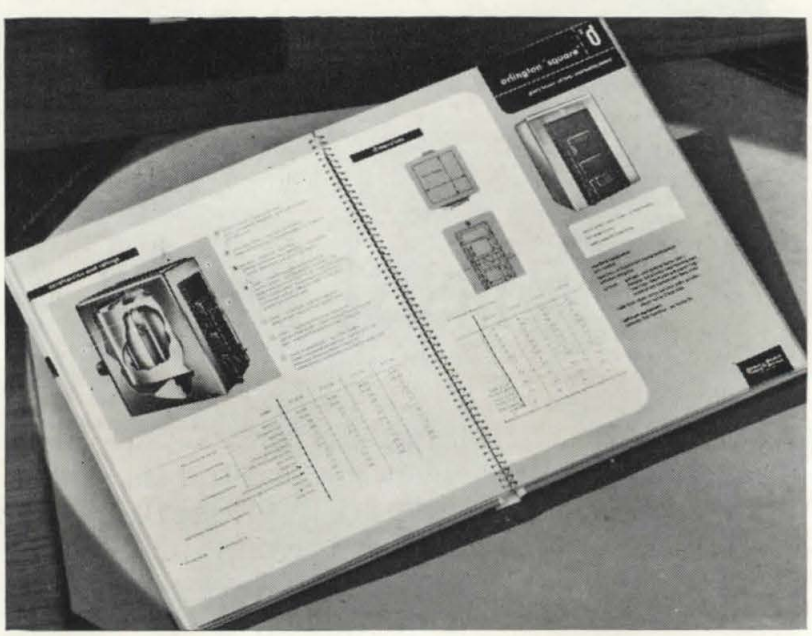

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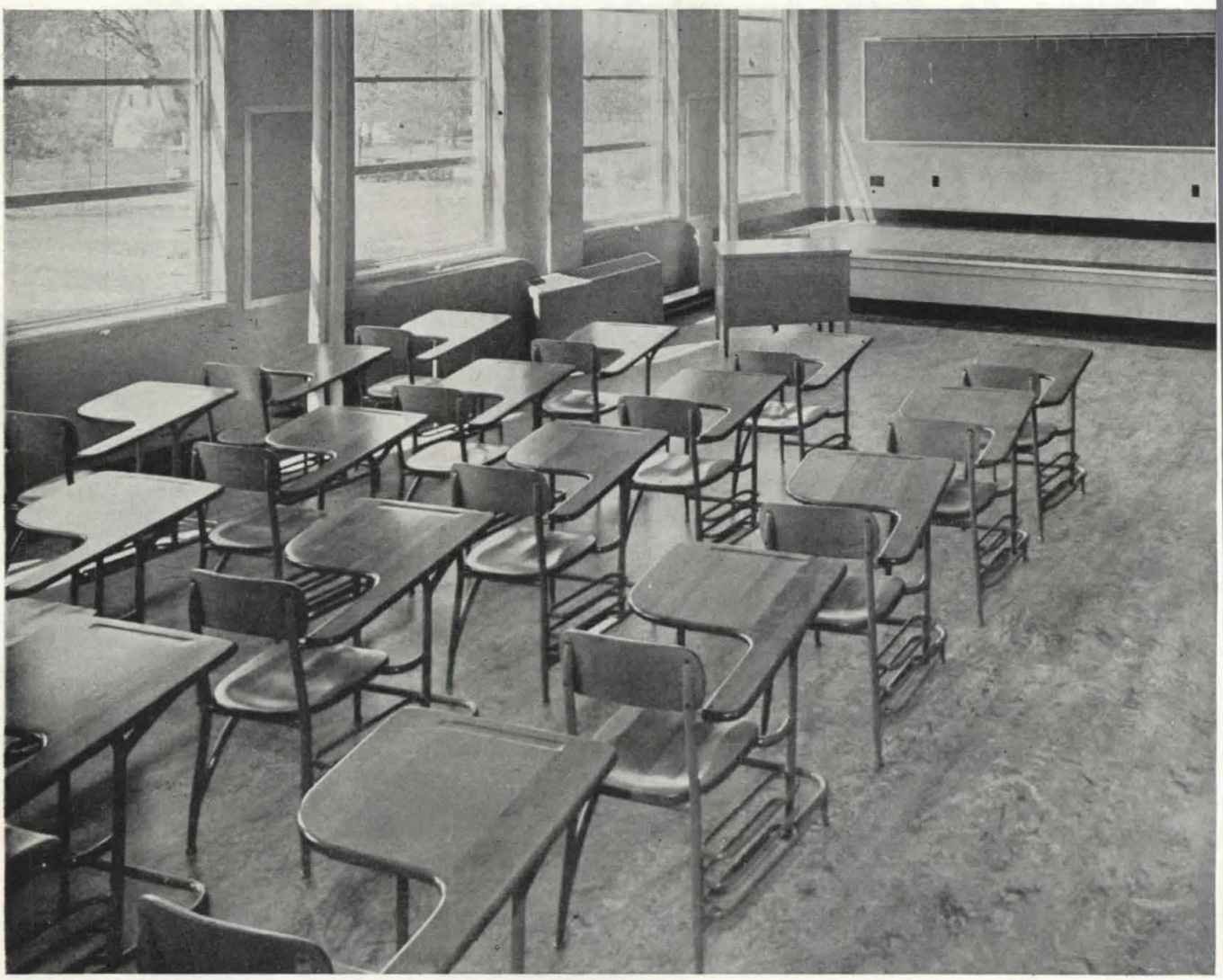

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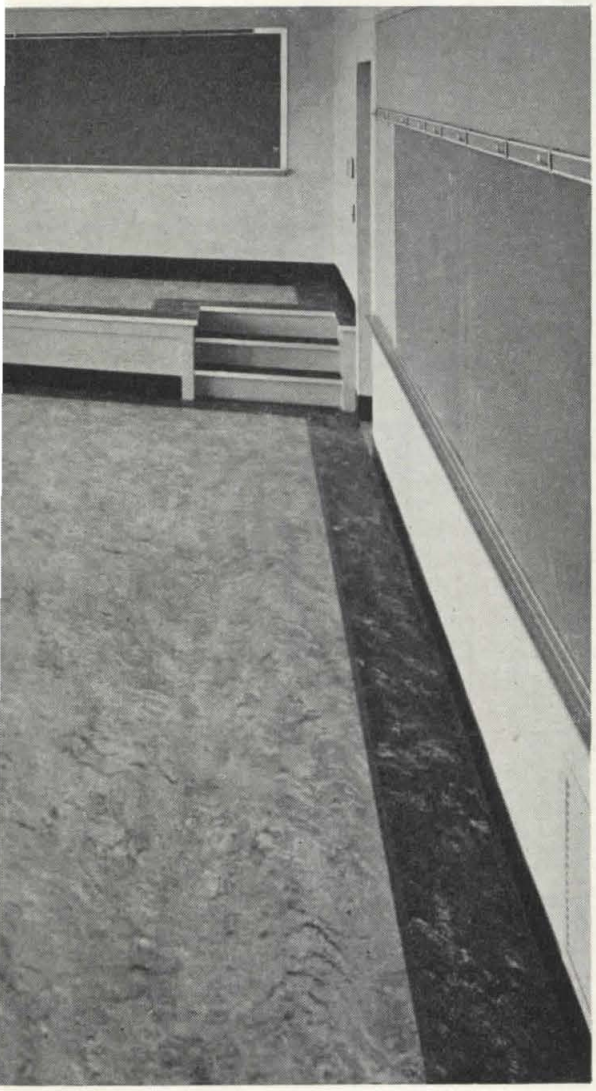
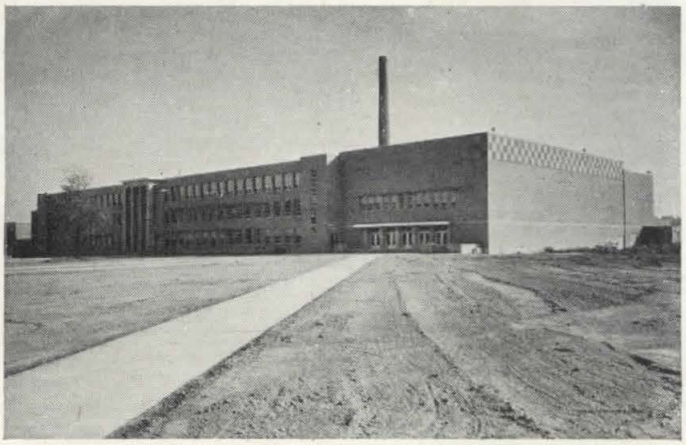


eltone is here, in the efficiently planned visual educa-ion room in the Euclid Senior High School, Euclid, Ohio.



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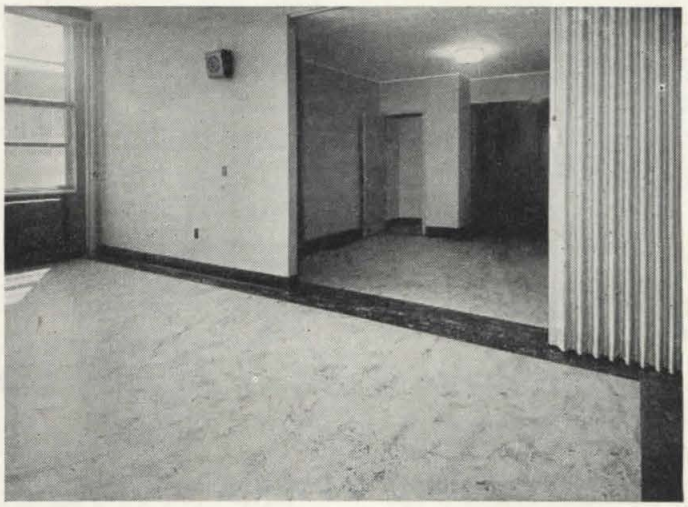

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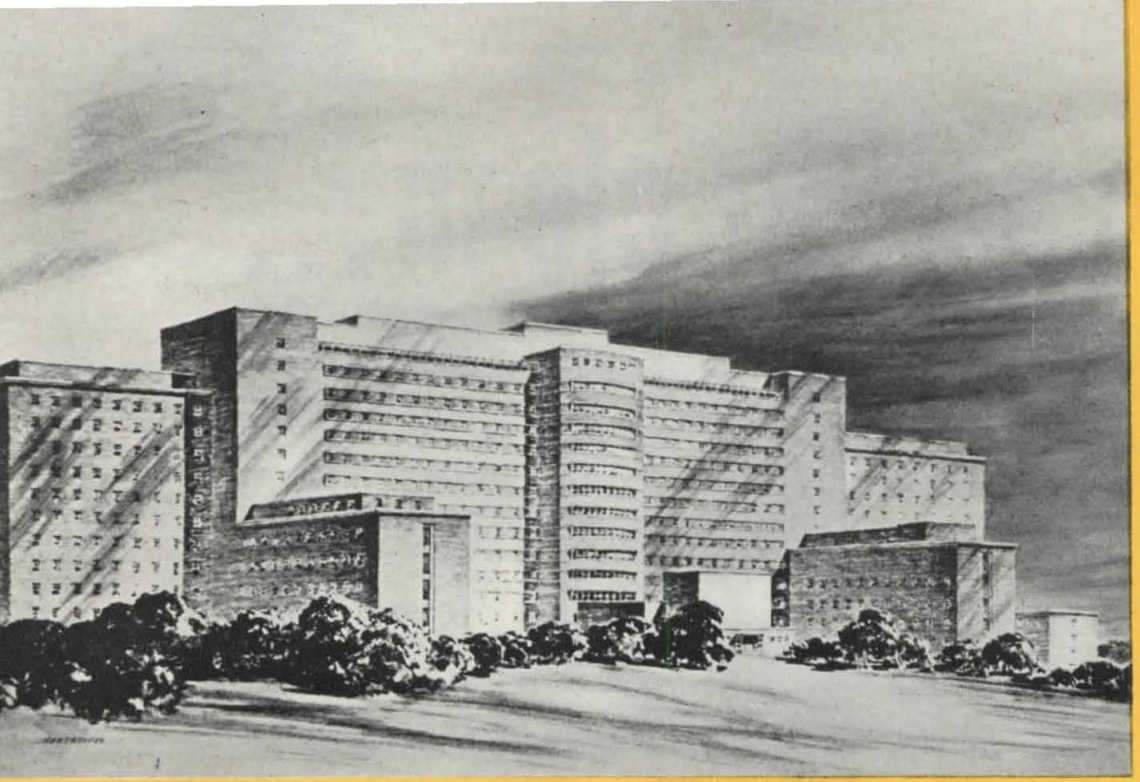

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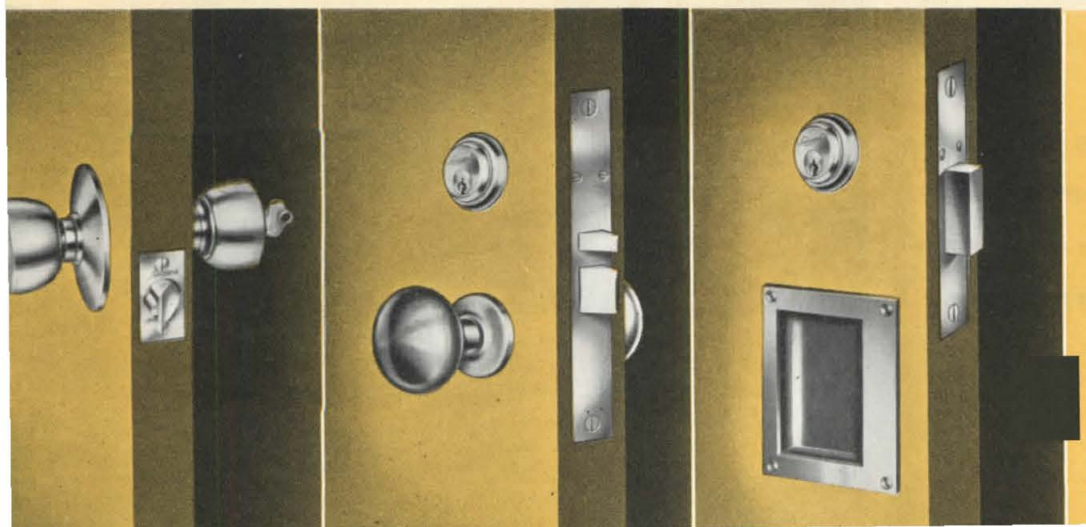

ILLUSTRATIONS
(left to right)

•

Lockwood's new Heavy Duty Key 'n Knob Set . . . made with functions for all installations.

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Heavy Duty Standardized mortise cylinder lockset (5100 series) with concealed screw trim.

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Heavy Duty Cylinder Deadlock with Flush Door Pull.

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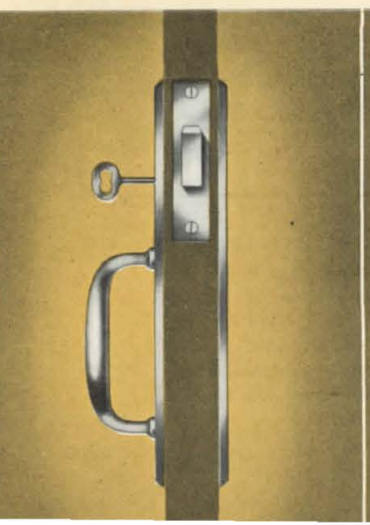
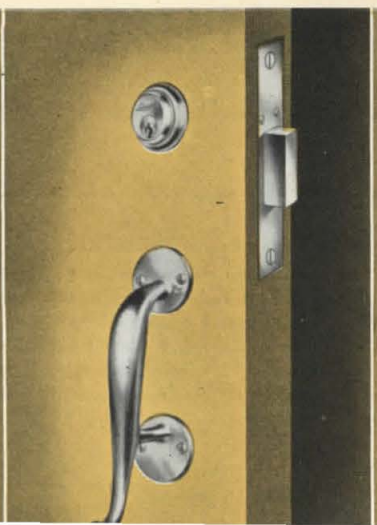
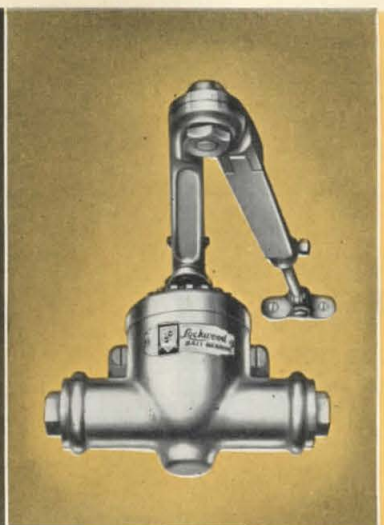






ILLUSTRATIONS
(left to right)

•

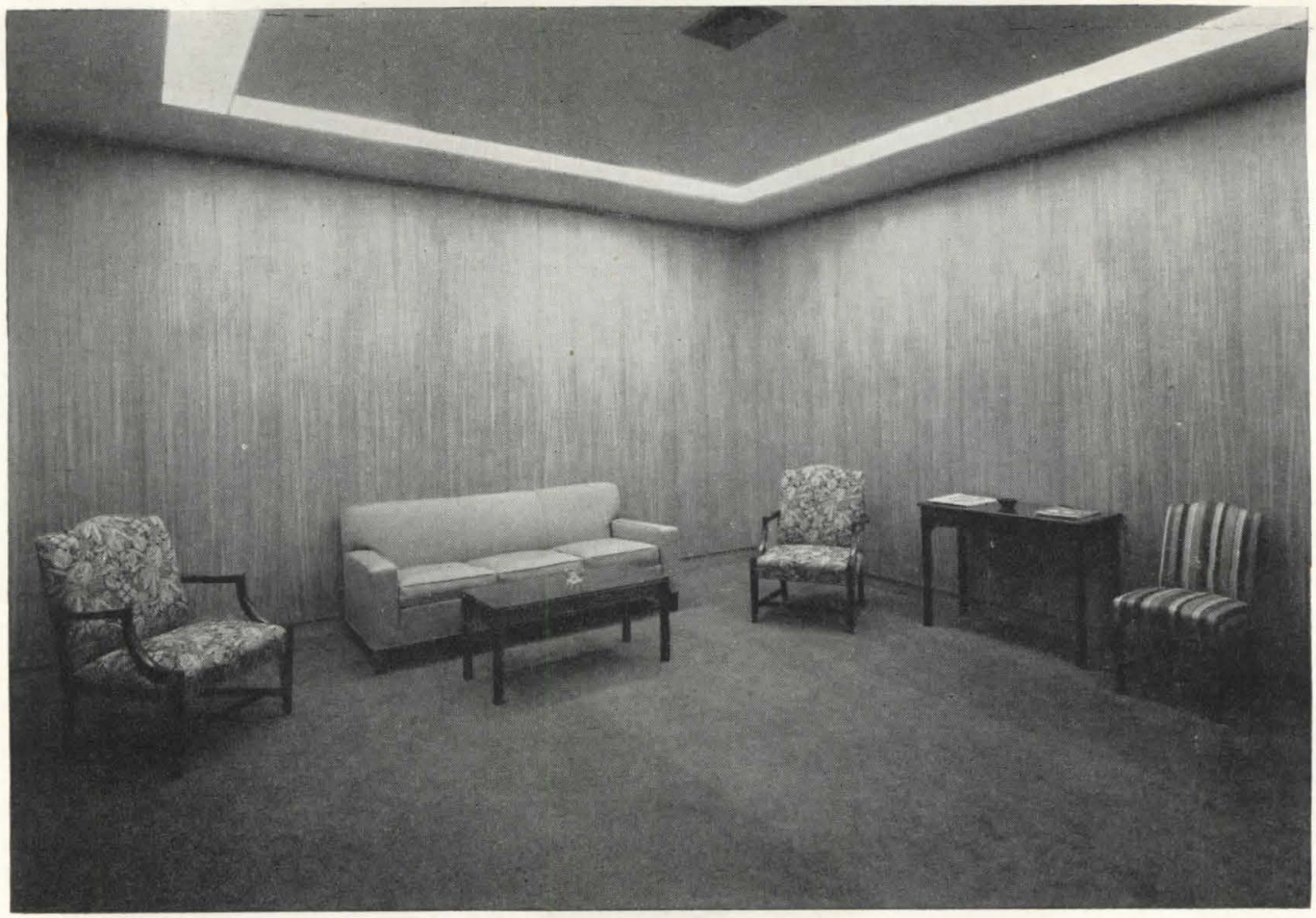
Asylum Deadlock with Door Pull and Key outside, Push Plate only inside.

•

Heavy Duty Cylinder Deadlock in combination with Arm Pull.

•

Ball Bearing Door Closer with Automatic Hold-open Arm Attachment.



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SYNTHESIS OF THEORIES

Landscape for Living. *Garrett Eckbo. Architectural Record, 119 W. 40 St., New York, N.Y., 1950. 262 pp., illus. $10*

It seems ludicrous that it should be necessary to write a book telling the world that the earth ought to be planned in the best interest of the people who inhabit it. That such a book is necessary reveals the enormousness of the problem. The author traces in amazing detail and completeness the intricate pattern of professional, social, and commercial influences on landscape design in earlier periods, and shows the resultant conflicts of thought in today's professional practice.

With even more completeness and detail, he outlines, referentially, the contemporary scene of thought, action, and personality. The author continues with an analysis of all those questions about landscape that architects have been idly asking for a decade—everything from curved lines vs. geometry and the esthetics of planting, to prognostication of things to come. He even discusses fragrance and tree pruning. In a book which pretends to such a comprehensive treatment of the landscape scene, it is remarkable that the illustrations should come almost entirely from the files of Eckbo, Royston & Williams. Even so, the book would clearly have benefited from a stricter editing of both illustrations and text. But the purpose seems to be to hide nothing and let the reader be his own editor. This has a documentary kind of virtue and is consistent with several of the theses.

For this is a book of many theses, well organized; and spurious only in its philosophic-political aspects. In fact, it is a book of re-capitulation: an attempt to synthesize the most progressive theories of landscape design, from any source. In text, the author does not pretend to originality of thought or exclusiveness of production, but offers rather an accumulation of ideas and direction of a well established kinetic movement. This gives the book stature beyond personality; which is its saving grace and at the same time its denouement, because it lends authority to conclusions that are righteous, but leaves the hollow ring of a campaign speech.

At one point, under theory, the

(Continued on page 118)

BOOKS RECEIVED

Amsterdam. P. J. Mijksenaar. H. J. Becht, Uitgever, Amsterdam, 1951. 326 pp., illus. Text in Dutch.

Three Reports by Building, Civil Engineering and Public Works Committee: **General Report; Welfare in the Construction Industry; Seasonal Unemployment in the Construction Industry.** Geneva, International Labor Office, 1951. (Washington branch: 1825 Jefferson Pl., N.W.) Three pamphlets: 88 pp., 39 pp., 97 pp., graphs and charts. I: 50¢, II & III: 25¢ ea.

p/a

REVIEWS

(Continued from page 117)

BOOKS RECEIVED

School Planning. Compiled by Kenneth Reid. Architectural Record, 119 W. 40 St., New York, N. Y., April 1951. 456 pp., illus. $8

The Behavior of Engineering Metals. H. W. Gillett. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y., 1951. 395 pp., illus. $6.50

Community Planning Review. Volume I, Number I. Community Planning Association of Canada. Edited by Alan H. Armstrong. Ottawa, February 1951. 36 pp., illus.

American Planning and Civic Annual. Edited by Harlean James. American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C., 1950. 192 pp.

author deals a devastating thrust at the notorious, if authoritarian, sterility and eclecticism that passed for thought in academic circles before 1930 (and that still controls the entrenched, large-scale state and municipal landscape work). He simply quotes from an ancient issue of *The Landscape Architect's Quarterly* a juicy passage to the effect that in this great, wide, beautiful, wonderful America there is hardly any conceivable landscape situation or demand that could not find its architectural solution by adapting an architectural form already developed in a European precedent.

Landscape for Living is written on an infinitely higher plane of thought. It would certainly be difficult or impossible to quote any passage out of context that would lend itself to such ridicule. And yet, within context and on a different plane, there lies a similar boomerang potential. For, in effect, the author says that in this same wide-eyed, beautiful, wonderful America, there is hardly any conceivable human urge—creative or menial, individualistic or gregarious—that could not be fitted fruitfully into the pattern of the proper flexible socio-political organization whose purpose would be to devise a Garden of Eden for "the People." Whether this would be based on European precedent is not clear.

At another point, the author makes a strategic withdrawal into the 19th Century by practically paraphrasing the Romantic-Christian lines of Robert Browning to read, "Man's theory should (and usually does) exceed his practice—else what's heaven for?" One might almost prefer a more complete withdrawal into the ancient Oriental philosophy that theory (or Heaven) ought not to be so elevated that it cannot be lived; and practice, therefore, suffered in guilt, for not achieving the ideal.

More generally, *Landscape for Living* is most interesting when talking shop; the materials and tools of the craft. The author never descends to the garden-club level, but perhaps pursues more detail than is consistent with reader interest. The broad analysis of landscape problems and scope has a currency that is both notable and newsworthy.

There is an excellent bibliography, a must for all students of the subject. But no clean-cutting index! Essentially, the author is unable to accomplish at least one of his many theses: that design in its broadest application is the resolving of conflict on any level. For within these pages the conflict between the individual and his attempt at selfless presentation still shines rather brightly. Certainly a shorter and more useful, but perhaps even great book on landscape might have resulted with this conflict resolved. But the probability of achieving in the open market what is so difficult individually is somewhat remote. JAMES C. ROSE

(Continued on page 120)

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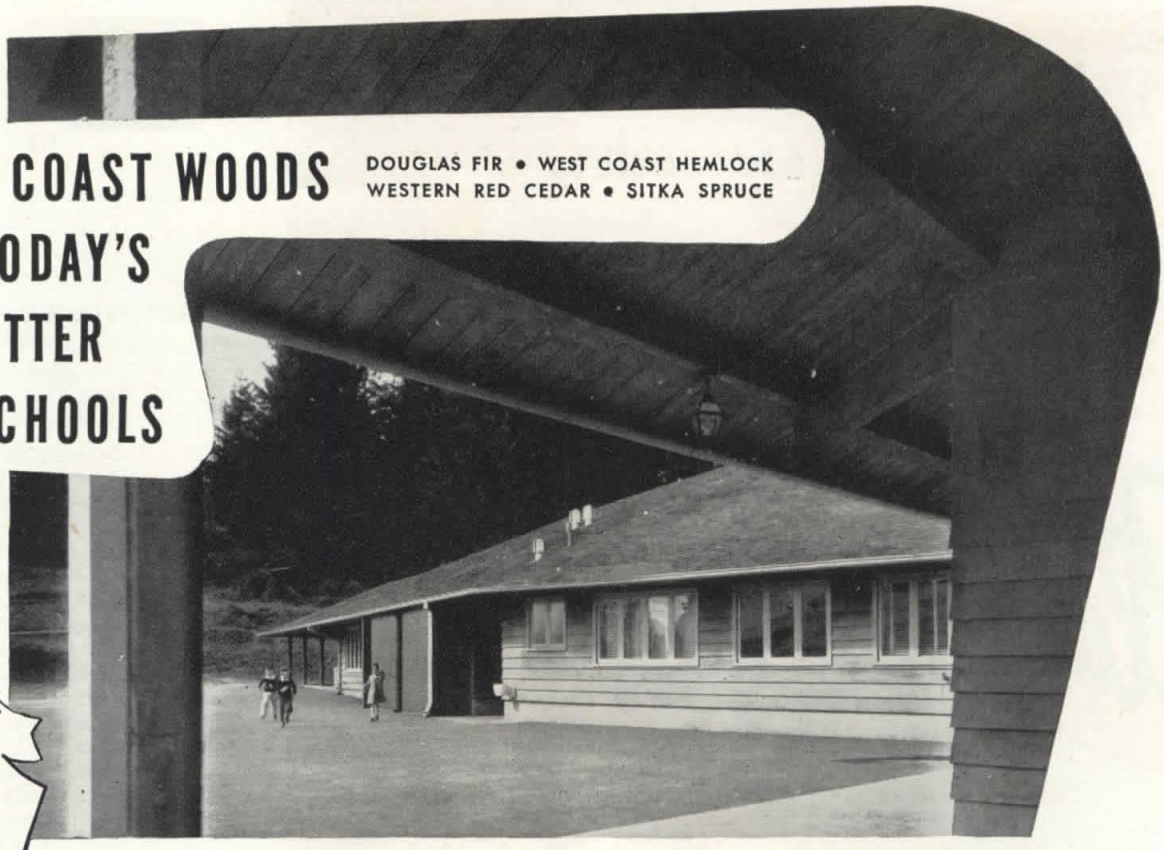

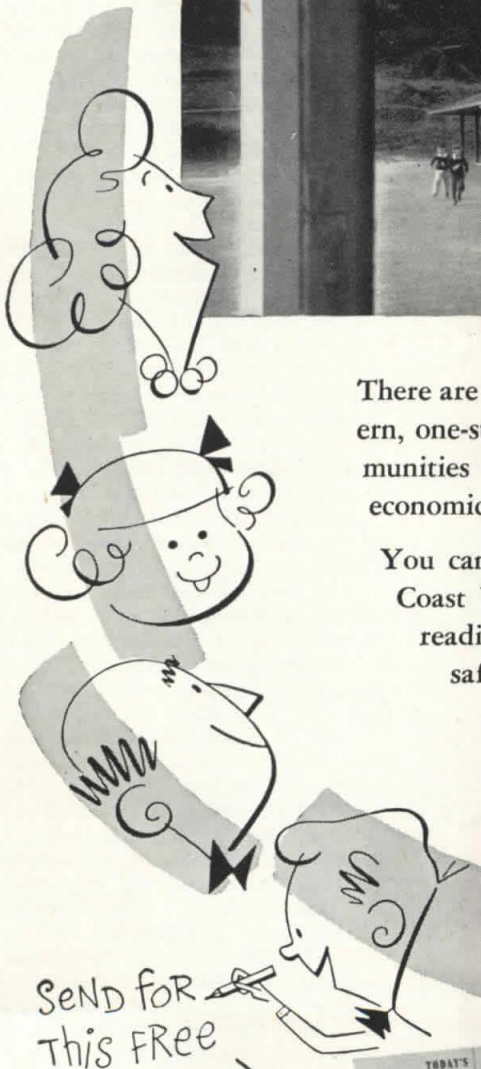

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p/a REVIEWS

(Continued from page 118)

WHAT HOME IS

Guide to Easier Living. *Mary and Russel Wright. Simon & Shuster, Inc., 1230 Sixth Ave., New York 20, N.Y., 1951. 199 pp., illus. $2.95*

This book can increase the enjoyment of your home life by making household chores fewer in number, and simplifying those which must be done. It is literally a tour through the present-day American home, room by room, function by function. It makes an examination of floors, walls, and furniture; of housekeeping and entertaining of guests. It offers a host of workable labor-saving ideas, suggestions and concrete information applicable in our every day life.

After reading some of the authors' new ideas on keeping house, you suddenly become aware of the number of household tasks that must be performed daily and how little time there is left for the average family to enjoy its home *together*. It is reported that in a large city, routine household tasks take up more than 80 hours a week; a rural housewife averages 61 hours—which is somewhat better but still startlingly far behind the accepted 40-hour work week of business and industry.

The book includes a section of charts giving comparative evaluations — in terms of ease of maintenance and length of use for floor, furniture, wall coverings, and furniture casters. There is also a full listing of names and addresses of manufacturers and distributors of more than 100 of the new and often hard-to-find products described in this volume. The purpose of this book is best described in the authors' own words: "In short, we believe that a formal dinner served on bone china by lackeys, with antique crystal and old lace and candlelight, isn't in the same league with the relaxation and friendly warmth, the comfort and gaiety, and the much better digestion of a meal free of servants and strain, served at the kitchen table." V.S.K.

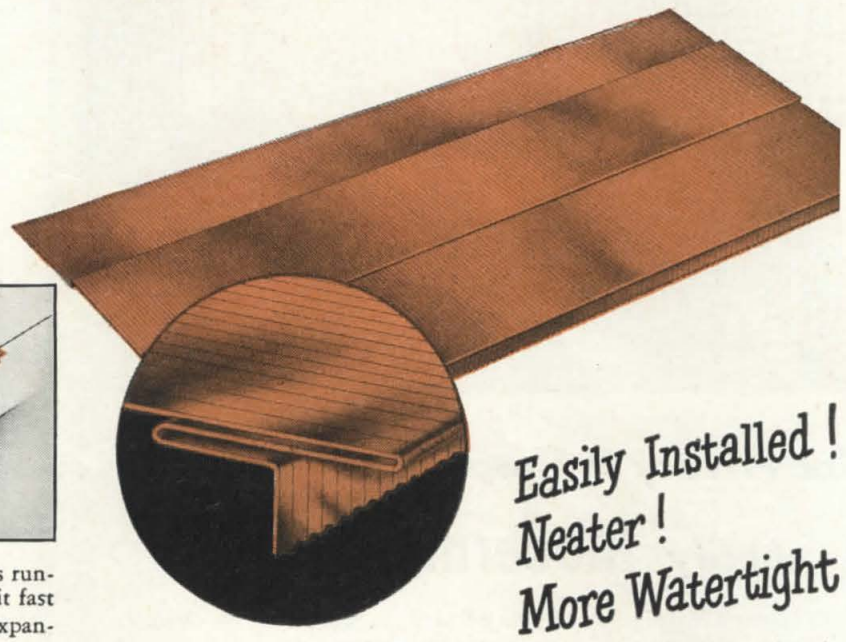
COURAGE AND ENTERPRISE

Interracial Housing. *Morton Deutsch and Mary Evans Collins. The University of Minnesota Press, Minneapolis 14, Minn., April 1951. 173 pp., $3*

This is an important book for those who feel public housing should do more

(Continued on page 122)

Announcing THE NEW CHASE ONE-PIECE THRU-WALL COPPER FLASHING *and* CAP FLASHING RECEIVER



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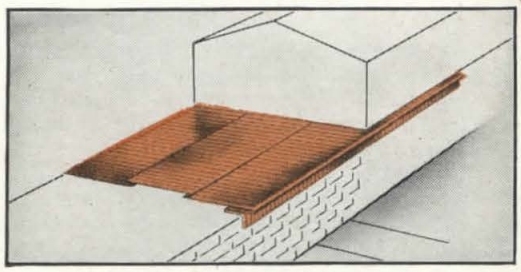

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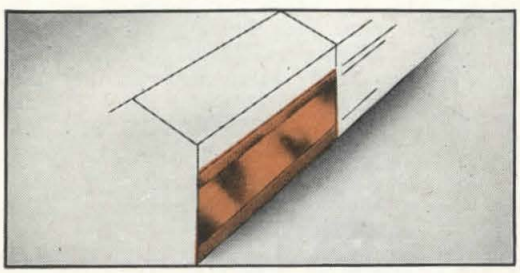
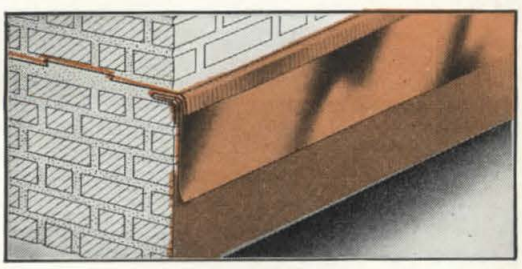


MORE EFFICIENT CAP FLASHING. The added rigidity of cold rolled counter flashing eliminates the necessity of locking the cap flashing to the base flashing.



CAP FLASHING RECEIVER. Locks the cap flashing securely and permanently. The Cap Flashing Receiver also provides a guide to position the flashing during installation.

Here is a full weight copper thru-wall flashing (with a 3-way bond!) that combines an integral cap flashing receiver. The design* of this receiver permits the easy installation of cap flashing *after* the base flashing and roof are installed, without plugs or wedges to keep the receiver open. And since the cap flashing is never bent after it is inserted and locked in, it can be formed of *cold rolled* copper. The result: a neater, more watertight installation at reasonable cost.

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Cincinnati	Indianapolis	New Orleans	St. Louis	

p/a REVIEWS

(Continued from page 120)

than perpetuate existing patterns of racial discrimination. It is well known that the "non-discrimination" clauses of the housing act are more honored in the breach than the observance. Some cities, however, have faced this problem courageously; some others have compromised; while the majority have frankly accepted the local prejudices. This book is a comparative study of the effects of courage and enterprise on the tenants of four projects. Two of these projects are fully inter-racial, with white and negro tenants located in the same buildings. The other two are "bi-racial," by which is meant the tenants share the project but are segregated into separate buildings in two halves of the project. It is a study that every member of local Authorities should read, and the FHA underwriters too.

Unfortunately, it is not easy reading. The peculiar language of sociology is (as *they* might say) inclined to produce a major retraction of the attention determinants with resultant casual drooping of the eyelids. Which is too bad, because the story told *is* important. I hope, for their next book, the authors will seek the assistance of Alexander Crosby, whose "In These 10 Cities" is a vivid and forceful presentation of what slums, ghettoes and discrimination really mean and what is really being done about them.

HENRY S. CHURCHILL, F.A.I.A.

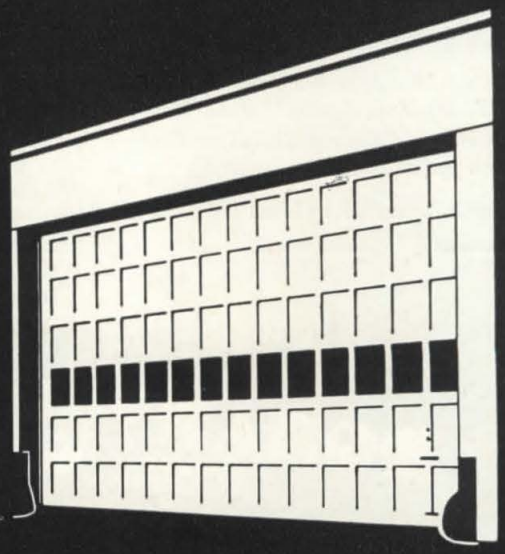
PASSIVE OBSTINACY

Mexico In Scupture: 1521-1821. *Elizabeth Wilder Weismann. Harvard University Press, Cambridge, Mass., November 1950, 224 pp., illus. $7.50*

When the Conquistadors and their company of fervent missionary priests sought to convert the Indians of Mexico, they confidently relied on the pictures and sculptural representations that had been successful for centuries to spread Christianity among illiterates in Europe. So submissive were the Indians that the proud invaders seemed to be unconscious that native pagan symbols were readily found in the art works produced under the aegis of the Church. Thus the richness of Mexican sculpture and church decoration reveals the passive obstinacy of the Indians in clinging to older beliefs—as well as the often-praised charm of the free interpretation, by the anonymous artists, of familiar Church subjects. C.M.

(Continued on page 124)

INDUSTRY'S HIGHEST HONOR AWARDED TO CRAWFORD DOOR COMPANY



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REVIEWS

(Continued from page 122)

LIGHTING REFERENCE

Electrical Illumination, 2nd Edition, 1951. *John O. Kraehenbuehl. John Wiley & Sons, Inc., 440 Fourth Ave., New York, N.Y. 446 pp., 171 illus. $8*

Whether information or ideas are passed to another by the spoken or written word, the background of the speaker or author can greatly influence the clarity with which the subject is presented. A broad practical appreciation of lighting problems and a thorough knowledge of the theoretical aspects are two reasons why Professor Kraehenbuehl's new edition of *Electrical Illumination* is a useful reference for lighting designers and architects.

Emphasis early in the book on the architect's point of view, followed in several chapters by examples of lighting methods with particular appreciation of the architectural aspects involved, are reasons why the architects will find the book a very usable reference in connection with their lighting problems. The book is primarily a text for student use, presenting fundamental principles and derivations; for others some of the material might well have been omitted, particularly from the standpoint of present day practice. Some of the data are not strictly the latest; the footcandle standards are not up-to-date, being largely the thinking of 15 years ago, before World War II experience demonstrated the value of much higher levels.

The author is to be commended for the addition of new material relating to glare, since this has unfortunately been a major handicap of many otherwise excellent lighting designs. All information on visual comfort is especially timely today, with a new appreciation of the part played by lighting in industrial production for defense and other requirements, and keeping in mind also the trend to higher and higher lighting levels for optimum output. There is also the associated need for avoiding direct and reflected glare from improperly placed lighting units, and for recognizing the unsuitability of some designs for the particular location in question.

With new experience by industry of the value of color in modern plant design, both from the standpoint of its visual comfort as well as the physiological features relating to improved morale, the chapter on color and shadow is a most timely reference; discussion of the functional aspects makes the expanded material complete and authentic.

Included in the extensive material on lighting methods is an extended discussion of louverall and other large-area ceiling sources which have created new interest among those specifying illumination for public buildings, offices, and other areas.

Although the section on light control is largely built around filament sources, it is basically good as to the principles which may be employed. When adapted to the present wide and general use of fluorescent lamps, this chapter provides a useful guide for a variety of lighting techniques. Many problems, particularly pointed toward solution by engineering students, are included.

The chapter on the maintenance of lighting systems is most commendable in view of the importance of this subject particularly in these days when conservation of critical materials and manpower is the rule in industry. Unfortunately the examples of lighting economics are based largely on 1939 prices for lamps and energy. By substituting today's lamp prices, lumen outputs, and life performances, a much more favorable picture of the advantages of fluorescent lamp systems will be obtained.

C. E. EGELER

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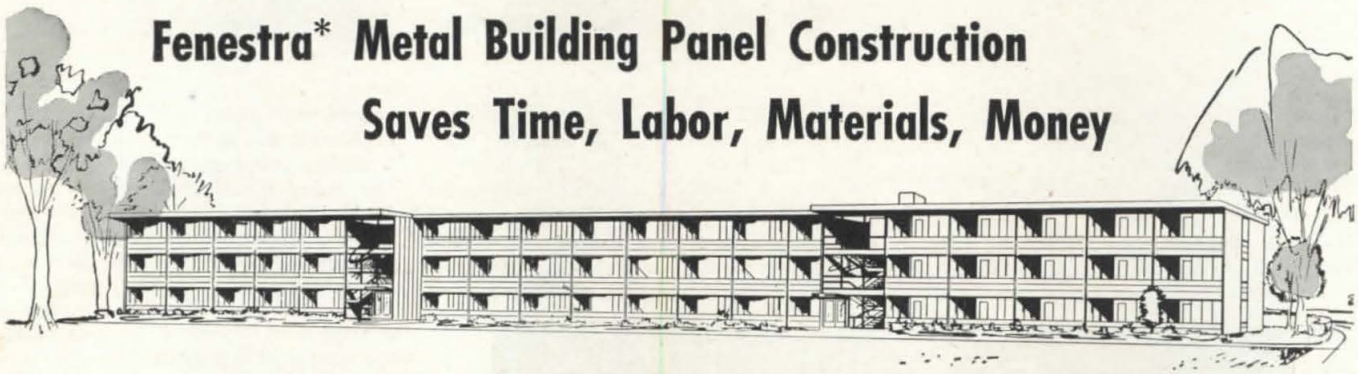

As compared to the cost of conventional barracks construction, estimated at $2,300 per man, the cost of the nonconventional barracks illustrated above is only an estimated $1,485 per man (just $1.11 per cubic foot)!

And this barracks at Offutt Air Force Base, Omaha, Nebraska, is something special. Flyers of the Strategic Air Command fly "around the clock." As some sleep, others are "taking off." So army engineers are giving them 2-man rooms for peaceful quiet and privacy, better and more convenient bath facilities, a pleasanter place in every way—all at $1.11 per cubic foot . . . a saving of one-third. How?

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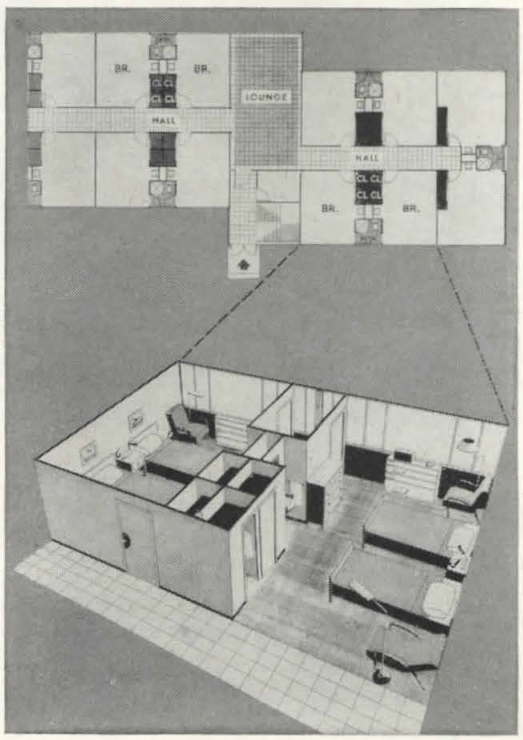
Only $1.11 Per Cubic Foot for this 37 x 282-ft., 3-story Offutt Air Force Base barracks housing 216 men. Total cost about 321 thousand dollars—approximately 30% less than conventionally built barracks . . . and the whole building is firesafe! Contractor: Korshoj Construction Company, Blair, Nebraska.



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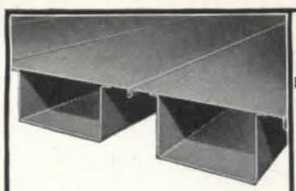
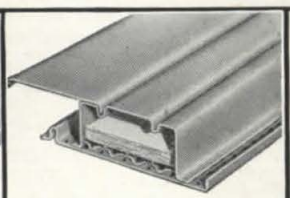
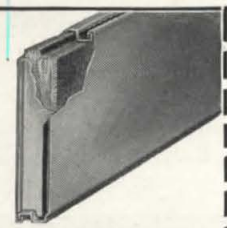


"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".



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out of school

By CARL FEISS

"The trouble with professional men, especially architects, is that they have too many inhibitions. They can always think of a reason why you can't do this and you can't do that."

Harry S. Truman, as reported by John Hersey, *The New Yorker*, April 28, 1951

When I was down in Florida some weeks ago, slumming around in my usual way, I saw some buildings I liked and a lot I didn't. But I'd say, off-hand and not for quoting, that there's a spirit about the place that makes for good incubating of architects. Like parts of Texas and parts of California, parts of Florida are taking architecture along with the sun and the sea, the fish, and the palm trees, and the blondes—all in their stride. You just can't look at the University of Miami without howls of delight. You want to go out and buy drinks for "Archie" Manley, Bob Weed, and Bob Little—and cheer. Of course, they buy them for you first, but the idea is still a good one.

Anyway, being excited by what I saw that was good and having talked to a few native youngsters who were doing things, I bumped into William T. Arnett, dean of the College of Architecture and Allied Arts, University of Florida, Gainesville (way up north, practically in Yankee Land). I recalled my promise to you all, honey chillun, that I would, from time to time, interlard these lean pages with the rich wisdom of some of those who practice what I can only preach. So, I asked Dean Arnett to star this issue.

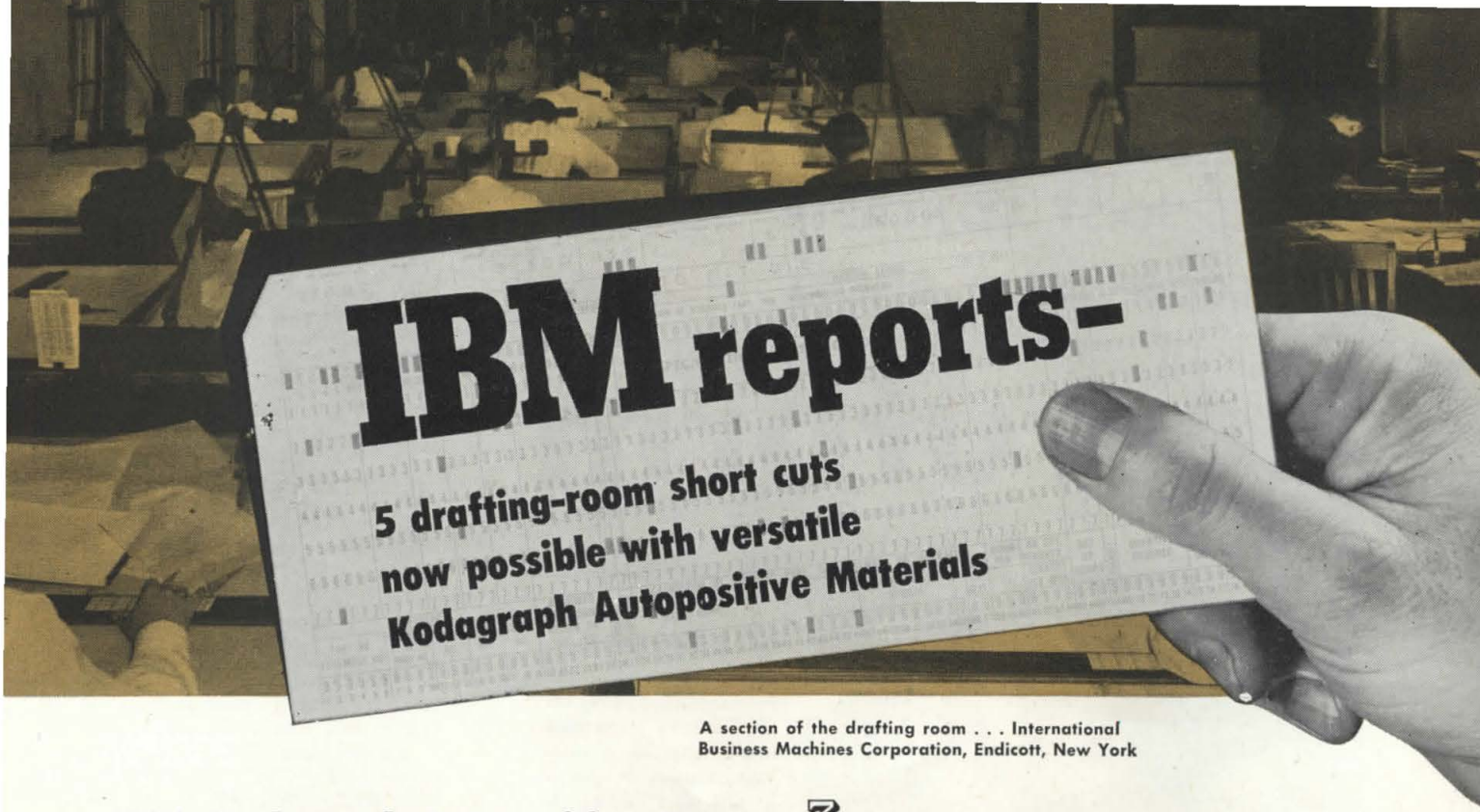
Curricula in catalogues are dry stuff. Schedules and course descriptions are the bare skeleton on which a training program is hung. But the prospective student who reads these orderly and dull publications seldom knows that there is human interest and understanding behind the sterile course numbers, credit hours, and prerequisites. Universities are in grave error in thinking that these badly written, ponderous, or flimsy publications are stimuli to expectant youth. It is only because youth is prepetually eager and seldom to be discouraged that it triumphs over the dullest of typography, the most minute and indecipherable script, the most banal course names and descriptions. Youth, in hopeful incandescence, finds a reason for standing in long registration lines and paying the fees.

●

Now I have not seen a catalogue from the University of Florida in several years, so what I say here is not meant to apply there, but it seems to me that every dean would be wise to hand out to every inquiring prospect a nicely printed paper, no longer than the one you are about to read and one as direct, as clear-cut, and as human. For a statement of this kind is more important than the catalogue: it sums up the whys and wherefores. It places emphasis without falling back on credit hours and other academic fol-der-rol and gives the student a chance to make an intellectual decision. But let Dean Arnett speak:

Dear Carl: I am glad to send you the statement you requested about the work

(Continued on page 128)



A section of the drafting room . . . International Business Machines Corporation, Endicott, New York

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out of school

(Continued from page 126)

at the University of Florida for students who are planning to enter the general practice of architecture. Since 1925, when the program in architecture was first established here, there has been a belief at Florida that what happened to a student during his formative years was probably more important than what happened to a sheet of illustration board. Therefore, this statement will deal with our philosophy and objectives in architectural education, rather than with examples of student work. BILL

●

The purpose of the professional program in architecture at the University of Florida is "to prepare students to become general practitioners in the towns and cities of Florida and the South, to open their own offices, and to participate fully in the affairs of their city, county, and state." The fact that we are one of the larger schools in the country—we have 362 students in architecture this year—places on us major educational responsibilities. Hence, through a periodic process of self-evaluation, we seek continually to perfect our methods of accomplishment. This is true not only of the immediate objective of stimulating and guiding students in their own liberal and technical self-development to the end that they may lay a broad foundation for future growth, but also of the broader ultimate objective of improving man's physical environment.

The University of Florida, as you know, is organized on the basis of a Lower Division, an Upper Division, and a Graduate School. In architecture, the work of the Lower Division occupies the first two years, and the work of the Upper Division the third, fourth, and fifth years. The Graduate Program occupies an additional year, but in this statement we will not concern ourselves with that work.

●

A core program of general education is provided for all beginning students at the University of Florida. This Lower Division program includes those phases of basic education which "should be the common possession . . . of educated persons as individuals and as citizens in a free society." During the first two years at Florida, a student's time is devoted to the objectives of general education and to those of basic professional preparation.

In the years immediately following 1930, the idea began to develop at Florida that the traditional programs of beginning courses in the various colleges were not meeting the needs of freshmen and sophomores in a satisfac-

(Continued on page 130)

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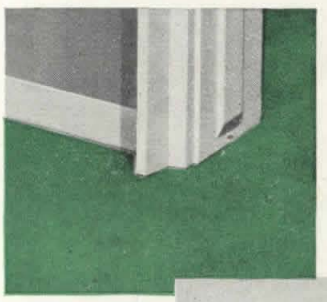

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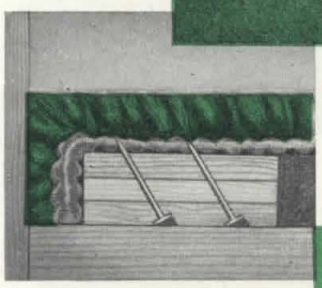

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out of school

(Continued from page 128)

tory way. Half or more of the entering students, it was found, would remain in college for only one or two years, and for them the old introductory courses had little meaning without the advanced courses in the same field. For the students who would continue to graduation, the old introductory courses failed to develop comprehensive viewpoints.

Therefore, in 1935 the University of Florida, in order to meet in a better way the problems of beginning students, organized a new University College in which all freshmen and sophomores were enrolled. In this Lower Division college was set up a program of six comprehensive courses designed to lead the student to greater understanding of the world in which he would live and assume responsibility, and intended to remove ignorance and the fears, superstitions, and prejudices which originate in the unknown in nature, in science, and in human behavior.

The six integrated courses in the general education program are centered in the following areas:

1. The Social Sciences *(American Institutions)*
2. The Physical Sciences
3. English *(Reading, Speaking and Writing)*
4. Mathematics and Logic
5. The Humanities
6. The Biological Sciences.

In these integrated courses no attempt is made to survey large areas. The new integration is as detailed as the old, but the materials selected may cut across former departmental lines. An attempt is made to introduce the student to the great areas of human thought and achievement, but there is "a new selection, a purposeful order, and a new emphasis." Two brief summaries will serve to illustrate the scope of the work:

In the first comprehensive course, *American Institutions*, the student has one lecture and three discussion sections each week throughout the year. The underlying themes of the course are: How did American civilization come to be what it is? What is happening to that civilization today? Can it reconcile its older and simpler concepts of democracy and equality of opportunity with an increasingly complex industrial society?

In the fifth course, *The Humanities*, the student likewise has four class meetings a week during the entire year. The work is designed to help the student achieve a more mature understanding of his cultural heritage, and an enlarged appreciation of the enduring values which give meaning and purpose to life. Beginning with a study of the humanities and contemporary life—including, among other things, such major topics as city planning and the Florida architecture of Frank Lloyd Wright—

(Continued on page 134)

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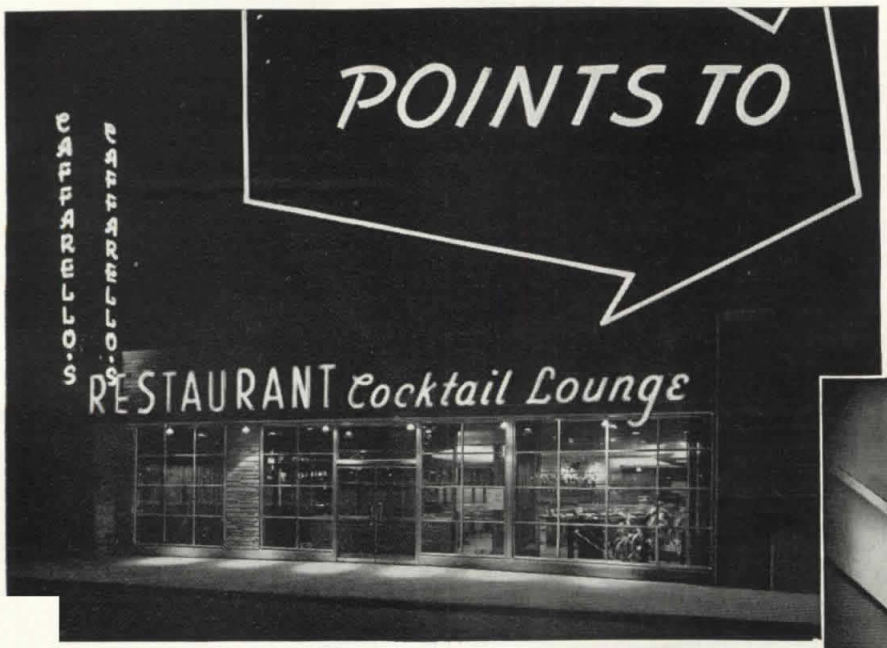

...itects: Houlihan & Marks, Chicago

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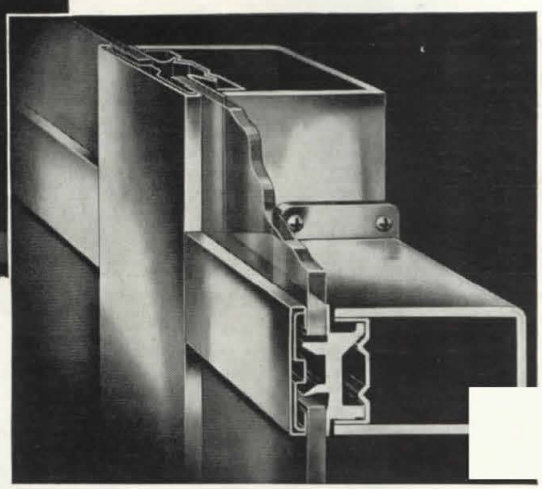

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(Continued from page 130)

the course leads finally to a consideration of our cultural heritage.

These, and the four other integrated courses, are designed to impart comprehensive viewpoints, and to give basic understandings "in natural science to those not preparing themselves to be scientists," and basic understandings "in social science and the humanities to those not preparing for major work in those fields."

In years following 1930, the idea also began to develop at Florida that the traditional beginning courses in architecture were not meeting the *needs* of professional students in a satisfactory way. The old, introductory courses in freehand drawing, geometric drawing, and design required three separate (and generally unrelated) motivations for the beginning student in architecture. Would it not be possible and desirable (we asked ourselves) to provide a single course in architecture which would cut across the artificial boundaries of the old educational compartments?

After studying the problem for some time, we decided to establish a single comprehensive course in the fundamentals of architecture. The motivation for this course, we believed, ought to be people and their needs, and the major emphasis ought to be on design in a broad sense. Such a program was put into effect at Florida, in 1935.

The work in fundamentals of architecture consisted of a series of beginning projects, each of which involved an analysis of human actions and needs, the design of a simple building to meet those needs, and a study of the problems entailed. Emphasis was placed upon the design of buildings to meet the requirements of people. Drawing of all kinds was taught, not in a formal manner, but as an incidental accompaniment to design. These comprehensive projects originally occupied nine hours a week, for two years.

The idea of leading the student to put primary emphasis on people and their needs, and to *think* in terms of building rather than in terms of drawing, was successful. But it seemed perhaps we were placing too much emphasis on technical proficiency and not enough on broad viewpoints. There was danger, we felt, in concentrating too much on the *how* of architecture at the possible expense of the *why*.

Experimental approaches were tried and, last year, we undertook a revised program somewhat broader than before. In this, orientation and visual perception are undertaken as an introduction to basic design, and building technology becomes a more closely organized part of the work of the Lower Division.

The work now begins with a survey to provide an insight into the several fields of design, a basis for the selection of a career in the arts of design, and an understanding of the social and economic influences and universal principles in the visual arts. Following this, vision and graphics are explored in an effort to develop the intelligence and train the judgment, so that the student may better learn to see, to think, and to feel.

During the second year the student begins his fundamental work in basic design, in organic planning, and in building technology. Here he studies the basic influences that natural and social environment, materials, and psychological and physical functions exert in man's development of shelter; is introduced to the concepts of analysis and synthesis; and undertakes his first projects in design. At the same time, he is approaching the design and construction of buildings through a study of the nature of building materials, the elements of structure, and the loads on building frames. This work in building technology is based on the principles of logic, of mathematics, and of the physical sciences introduced in the general courses of the freshman year.

●

Upon completion of the Lower Division program, the student undertakes the professional work of the third, fourth, and fifth years. Here all of the instruction in architecture is carried on by

(Continued on page 136)

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out of school

(Continued from page 134)

means of a succession of projects, each of which involves the design of a building and a study of the problems involved in the process. This plan for the integrated study of architecture has been developing at Florida since 1935, when its was first employed.

The old methods of separate and unrelated courses, we believed, were not meeting the problems of professional students in architecture in a satisfactory way. *Why,* for example, was it necessary to have an architectural curriculum made from a patchwork of courses intended oftimes for non-architects? Why was it necessary, in the study of structures, to spend all but the last year "getting ready to commence to begin?" Why was it necessary to see the building, but not the streets; to examine the brick, but be unaware of the wall?

In the integrated professional program we have developed at the University of Florida, there are no separate "courses", and design, delineation, history, construction, and structures are inseparable parts of the larger problem of building design. The Upper Division projects are *non-competitive* in character, and solutions are presented by means of research studies, preliminary sketches, design models, presentation drawings, material schedules, construction details, and structural computations, supplemented on occasion by working drawings and specifications.

In a descriptive panel on the University of Florida prepared by John L. R. Grand, head of the Department of Architecture, for inclusion in the Architectural League of New York exhibition of architectural education, some three years ago, the symbol of the spectrum in a circle was used to illustrate the idea of ARCHITECTURE INTEGRATED. Our objectives at Florida, as stated in the exhibition, are: "*To Teach Architecture as a Unity* by reducing the fragmentation of subject matter to a minimum—blending all into a correlated whole . . .; *To Provide a Milieu for Achievement* so each may travel at his own speed according to ambition, experience, and proficiency . . .; *To Enlarge The Vision* for perception, conception, creation."

●

In the final semester, the mature student at Florida is permitted considerable flexibility in planning his terminal program. He may elect a thesis in architecture; or a thesis in planning with work in sociology, political science, and economics; or, if he desires, the entire semester may be devoted to work in other colleges of the university.

At Florida, architecture is regarded as something broader than an individual building on a single piece of prop-

(Continued on page 140)

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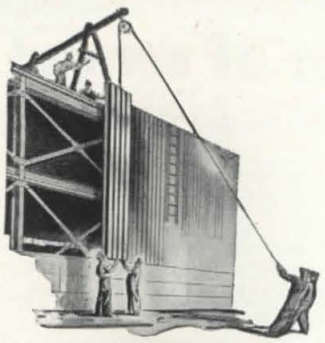

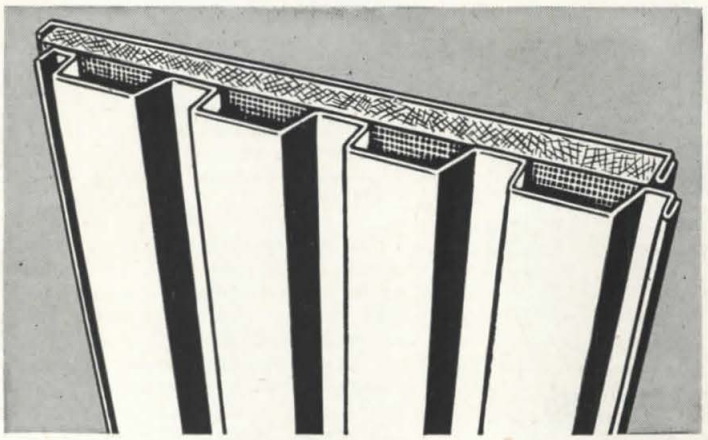

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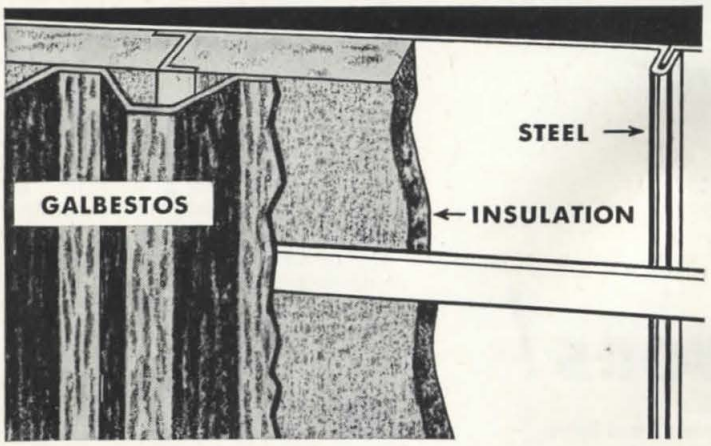

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(Continued from page 136)

erty. Two years ago, for example, the freshman class made a land-use map of the university community of Gainesville, a city of some 25,000 inhabitants. The specialized work in community planning in the fifth year is introduced moreover, not for the purpose of producing planning technicians, but in order that young architects may learn something more of the social, economic, and physical structure of a community, and be aware of the broader problems of architecture and of urban development.

●

The objective of teaching ARCHITECTURE INTEGRATED is, in our opinion, more important than the method employed. But such a program should not be undertaken lightly, and in our experience four factors are essential:

First, there must be a sympathetic university administration. As you may have suspected, the University of Florida provides a most favorable educational environment.

Second, there must be an independent college organization. The exact make-up of the organization is probably unimportant, but architecture should be within a group dedicated to the improvement of man's physical environment and the enrichment of his life.

Third, a faculty of dedicated careerists is essential. Our experience leads us to believe that the faculty ought to be made up of architects of broad background and experience, able to devote their full energies to a career of teaching. An integrated program requires architects who do more than drop in occasionally to give a criticism.

Fourth, and probably most important of all, there must be genuine interest on the part of every member of the faculty in what happens to a student in college and in later life. The fact that 98 percent of our graduates enter architecture or related fields indicates at least a measure of success in this direction.

●

From time to time we will call on other deans, not to get them in competition or to make insidious comparisons, but just to get quiet summaries of the purpose behind the method. I don't think we really know enough about *why* things are done the way they are. I'll grant that a dean seldom speaks for the entire faculty of any school, nor is he necessarily expert in all of the skills represented in a teaching story, but we expect him to know what is going on, and why.

Soon we will have available to us the statistical results of our first major national survey on education. But no survey can interpret individual or group purpose other than in general opinion summaries. The findings of surveys—unless conducted at regular and frequent intervals—will identify situation at a fixed point in time. They can also establish the development of past trends and possibly make graphs or curves projecting trends into a possible future. But the tabulating of ideas and emotions in education is always going to be difficult, if not impossible, since personalities subject themselves to only a few statistical tables. So, irrespective of what may come out of the important study now reaching completion, I count on a continued need for the analysis of objective behind every training program. After all, no good curriculum or course is any more static than comprehensive architecture itself. If a static point is ever reached in either—speedy burial is indicated.

Next month I hope to discuss, in part, the first report of the A.I.A. Commission to Survey Architectural Education and Registration (Dean Burdell's committee, of which I have spoken before). This first report was given at the A.I.A. Convention in Chicago in May. I am sorry that it takes so long for me to get to the first commentary on this report, but the dates of publication of that report and the deadlines for this column just don't jibe! I am giving you advance warning, however, that I expect you to read that paper in its entirety before my comments are made. In fact, I'd like to get comments from you on this first report by my deadline for the August issue—but let's see, that would be by June 15. *Time's a-fleetin'*.

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it's the aw

By BERNARD TOMSON

Last month, this column discussed the extent to which the architect is protected against use or copying of his plans, or reproduction of buildings designed by him where he has not secured statutory protection by registering his work in accordance with the *Copyright Act*. It was pointed out that his protection ends, once he has made copies of his design available to the public in such a way as to render it common property. Such action, termed "publication" ends the architect's common law right of copyright.

This protection may be extended, however, if he registers his work under the *Copyright Act*. The *Act* then supersedes the common law and extends his protection. In effect, it permits the owner to release copies of his design provided he has stamped them with his brand.

The correct definition of a copyright is: the sole right of multiplying copies. Securing a statutory copyright means, therefore, that the copyrighted matter cannot be copied without the author's consent. The law permits the owner of copyrighted matter to print, reprint, publish, copy and sell the copyrighted matter. The owner has also the corollary right to execute and complete the copyrighted work, if it is a model or a design for a work of art.

●

Architectural plans may fall within either of two categories of work classified as copyright-able. One category (Sec. 5 (g)) includes "works of art, models or designs for works of art." This section is limited to inchoate works of art and would include models or designs of architects. Another category (Sec. 5 (i)) includes "drawings or plastic works of a scientific or technical character." Under *Copyright Office Rules*, architectural plans and designs for engineering works are included in this classification.

There is no section of the statute which specifically mentions completed architectural works. It is doubtful whether a building or other work of architecture may be copyrighted after it has been completed, as the law in England permits it to be. Authorities on the subject have expressed the opinion, however, that architects may obtain adequate protection against copying of a finished work if they copyright their models or designs.

What are the characteristics which a plan or design must have in order to be protected by copyright? A requirement insisted on by the courts, and considered implicit in the statute, is that works to be protected must be "original". The degree of originality may be very slight, nor must it necessarily be novel. It should not be confused with artistic merit, which is not required. What is required is independent thought and not a mere repetition or copying of the work of others.

All the essential elements of the design may be in common use. It is the arrangement or combination of the elements which makes for originality. In one case, where a design for a memorial had been copyrighted, it was contended by the person alleged to have infringed it, that all of the essential elements were in common use prior to the copyright. The court regarded this as immaterial

(Continued on page 144)

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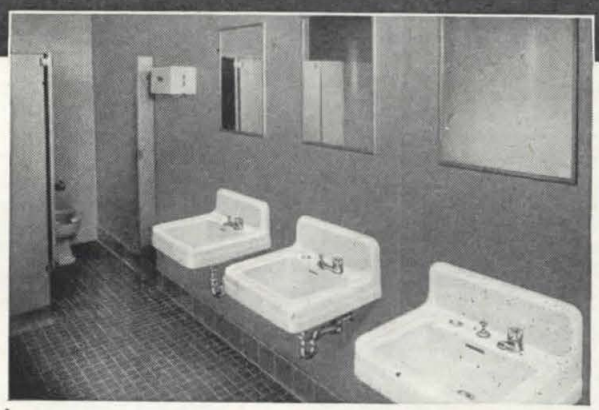

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it's the law

(Continued from page 142)

and stated that the combination of elements in the design and their plan or arrangement made the work original. Since the defendants had not shown any work similar to the design or proved that anyone had produced a similar combination of elements, the argument that the work was not copyright-able failed.

With respect to the problem of originality, the court made the following general remarks:

"In truth, in literature, in science and in art, there are, and can be, few, if any, things, which, in an abstract sense, are strictly new and original throughout. It is a great mistake to suppose, because all the materials of a work or some parts of its plans and arrangements and modes of illustration may be found separately, or in a different form, or in a different arrangement, in other distinct works, that therefore, if the plan or arrangement or combination of these materials in another work is new, or for the first time made, the author or compiler is not entitled to a copyright."

●

By the same token, the copyright law protects also *reproductions* of existing works in different adaptations, arrangements, or mediums of expression. The protection extends to the old and new matter in combination on the theory that the original work plus new matter constitutes new work. In one instance, a design of a miniature shrine was copyrighted, the principal elements of the design being taken from a shrine established by the Roman Catholic Church. While the various elements embodied in the design were symbols of worship and therefore deemed common property, the arrangement of these elements in an original fashion satisfied the criteria of originality and independent labor so as to permit copyright of the design.

It is important to remember that the copyright law does not protect ideas, but only the media or forms in which they are expressed. It is possible for an idea to be expressed in totally different manners, and it is these different manners of expressing it that are protected. This principle has received consistent expression by the courts but has been misunderstood by authors who have sought protection for ideas and systems rather than for their method of expression.

In the leading case on this subject, an author secured a copyright of a book explaining a system of bookkeeping with illustrations depicting the way the system should be used. The U. S. Supreme Court held that the copyright was not infringed by a book using the same plan as far as the result was concerned but with a different arrangement. The decision indicates that the author of the

(Continued on page 146)

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Johnson & Johnson, *Engineers—Architects*

it's the law

(Continued from page 144)

first book does not have a copyright in the idea of the book, but only in the description of his idea. The rule has since been reiterated that no copyright exists in a plan or method of art, although it may in their description.

●

A recent case on this point may serve to point up the difference between the right to be protected in an idea and the manner of expressing it. In that case, an engineer had procured a copyright of a drawing showing a novel bridge approach designed to unsnarl traffic congestion. He had presented his drawings before a Municipal Bridge Authority, which subsequently constructed a bridge approach similar to the engineer's design. The engineer then sued the Authority for infringement of his copyrighted drawing.

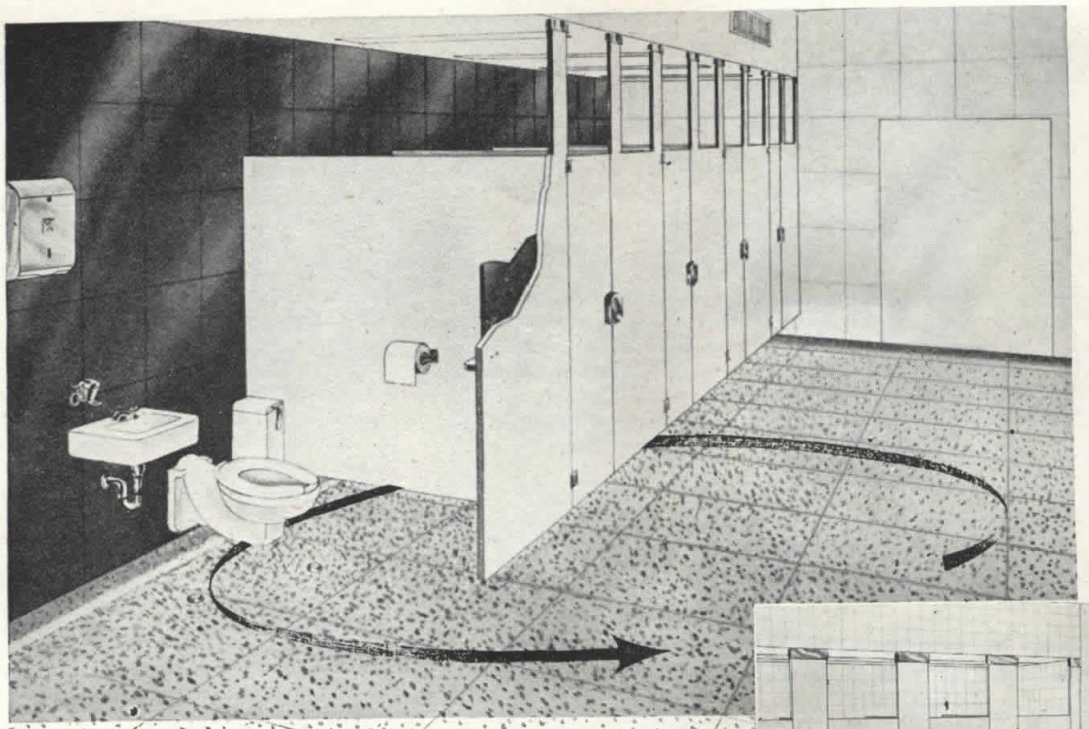
The court decided that the design had been conceived and executed from other sources of information, namely, a bridge already constructed in another locality. The court went on to say that even if the Authority had copied his idea, he could not recover for an infringement. His drawing showing a bridge approach would not prevent anyone from using and applying the system of traffic separation set forth in his design. Here again, the engineer's system of traffic separation embodied an idea and this idea anyone could utilize. Before an exclusive right can be obtained in an invention or discovery, the court stated, it must be subject to the examination of the patent office. The court compared the design with a book containing a system of shorthand. There is no copyrightable material in the system itself but the explanation of how to do it is copyrightable.

If the same idea can be expressed in different ways, similarity in composition between a copyrighted and un-copyrighted work does not necessarily lead to the conclusion that the one is a copy of the other. Furthermore, there are many figures and symbols which are not copyright-able since they are in the public domain, that is, available to everyone —as political or religious symbols.

●

Whether a copyright has been infringed by the reproduction of another work, without the copyright owner's consent is a question of fact. To begin with, there must be similarities in the two works. The problem is to determine whether the similarities are mere coincidence or are the result of plagiarism, for it often happens that a person has by independent thought and creative ability and labor produced a work of art that bears substantial resemblances

(Continued on page 148)



Floors are cleaned faster, easier in this modern ladies' washroom with these off-the-floor fixtures:

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2. Floor foot-flush valves.
3. Wall-hung lavatories.
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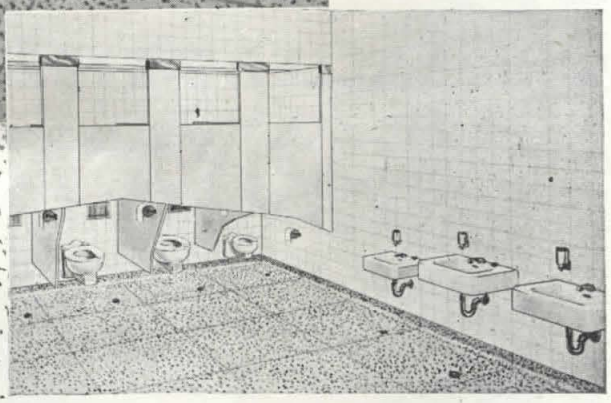

Why Off-the-Floor Fixtures are a "Must" for Modern Washrooms

"Keep the fixtures off the floor!"—A sound recommendation from the plant washroom designer who wants his client to have the best in employee health, morale and efficiency . . . a minimum of absenteeism and wasted man-hours. For example—wall-hung lavatories and toilets with ceiling-hung partitions aid a faster, easier cleaning operation. They reduce illness and absenteeism, too, by doing away with filth-catching corners and crevices, permitting better ventilation.

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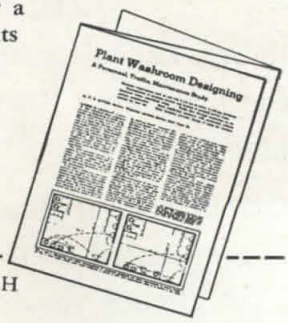

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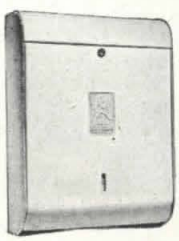

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Symbol of Modern Washrooms

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it's the law

(Continued from page 146)

to a work which has been registered as a copyright. The test of infringement, then, is whether an original independent production has been made or whether the work is merely a copy of the original registered work. A "copy" has been described as that which comes so near the original as to give every person seeing it the idea created by the original.

How much copying must there be to result in infringement? The general rule is that copying of some substantial or material portion of the copyrighted work will constitute infringement. Or, stated in another way, it means that it is not necessary that the whole work be copied but it is sufficient if so much is taken that the value of the original work is noticeably diminished or the labors of the author are substantially appropriated by another.

In one case where the design of a miniature shrine had been copyrighted, the court determined that it had not been infringed by the production of another shrine containing the same elements. In this case the elements in the two productions were deemed common property, and the designs, though using the same elements, differed in all details of decoration. The court found little if any similarity between the two designs in the method of arrangement and composition. It stated the following criterion for determining infringement:

"Whether one work is an infringement on copyright covering another work is dependent on whether an ordinary reasonable person would fail to differentiate between the two works or would consider them dissimilar by reasonable observation."

●

Whether an architect is protected against copying of uncopyrighted plans when they are published in a magazine, or other periodical which is itself copyrighted, has not been decided by the courts. However, the inference may be drawn from cases involving similar problems that the architect is not protected unless his individual contribution is copyrighted and is so labeled in the magazine.

A copyright notice in a periodical covers everything that is copyright-able in the work, provided that copyright in *all of the contents* belongs to the one whose name appears on the notice of copyright. If the publication does not have exclusive right to the article or design as owner, then separate notice is required in the part belonging to the contributor.

If the architect submits a plan to a magazine and the plan is accepted and paid for, the plan may become the property of the magazine, and reproduction of it by third persons would constitute infringement for which the magazine, not the author of the design, would have a remedy. If the architect remains the owner, then it would appear that to be protected against copying of his work he should procure a copyright of the work and place a notice of copyright on the design appearing in the periodical. The purpose of the notice is to warn the public against infringement and if it does not appear on each copy of the work reaching the public, the protection afforded by the copyright is lost.

It is clear, then, that an architect is not protected against copying of his work if he has not procured a copyright. The only way he can secure protection is to register his plan or design in accordance with the provisions of the Copyright Act. The degree of protection afforded by a copyright will necessarily depend on the individual situation.

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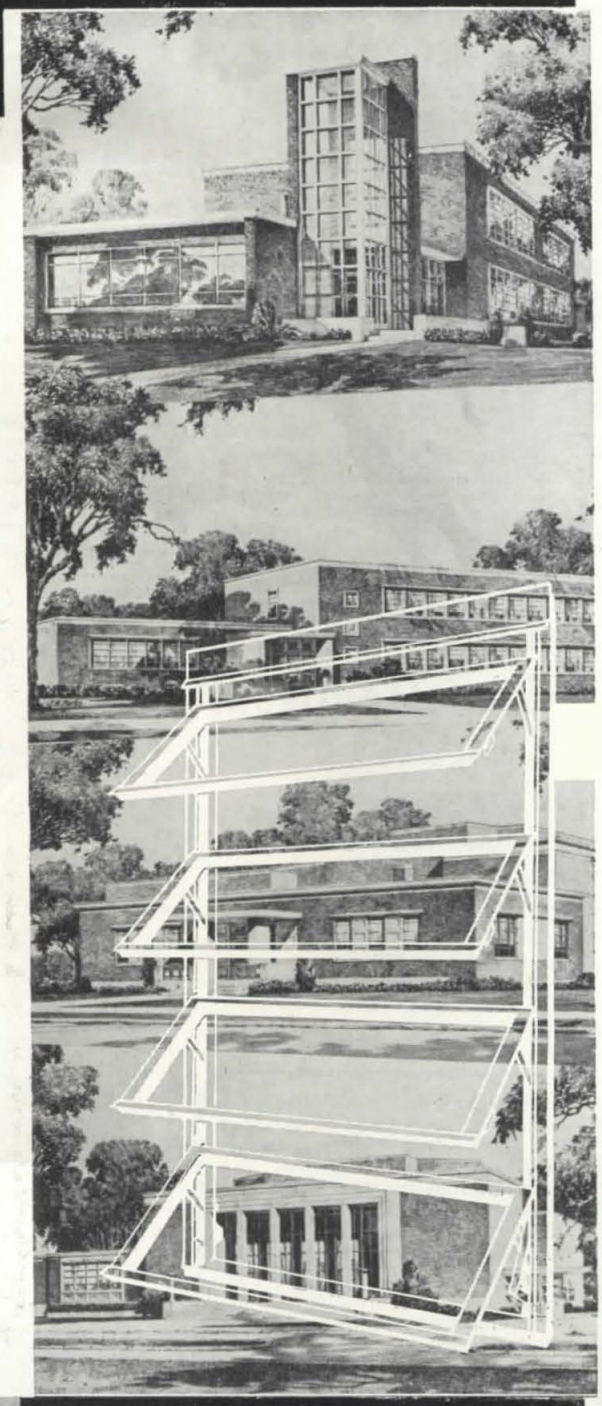

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AWNING WINDOWS
ALUMINUM or WOOD

the illustrations

Page 52

Clearwater County Memorial Hospital—all photos: *Photography, Inc.*

Page 54

Magic Valley Memorial Hospital—photo: *Kehler Photo Shop.*

Page 55

Marin General Hospital—rendering: *Russell Williams.*

Page 57

Fayette County Memorial Hospital—photo: *Gregg Photo Studio.*

Page 64

Upper Manhattan Medical Group Center—rendering: *Robert Schwartz.*

Page 65

District VI Tuberculosis Hospital—model: *Harry Inge Johnstone;* photo: *Thigpen Photography.*

Page 66

Arkansas State Hospital—over-all perspective: J. J. Truemper, Jr.; Neurological Dayroom rendering: *Roy Spence, Jr.*

Page 67

Crippled Children's Hospital—model: *James B. Blitch;* photo: *Leon Trice.*

NOTICES

Exhibit Committee Announced

PHILIP C. JOHNSON and EERO SAARINEN served this year with EDGAR KAUFMANN, JR., Director of "Good Design," as the Selection Committee for new merchandise for the exhibition which opened in Chicago on June 21.

Current Exhibition

The Akron Art Institute, Akron, Ohio, announces an exhibition of contemporary furniture design by EAMES, NELSON and NOGUCHI for the Herman Miller Furniture Co., through July 25.

New Practices, Partnerships

JAMES B. PANNELL and A. F. BORDLEAU announce the formation of a partnership under the name of BORDLEAU-PANNELL, Architects, 410 8th St., N., P.O. Box 1163, Great Falls, Mont.

MARVIN FITCH and DONALD SCHILLER announce the formation of a partnership for the practice of architecture under the name of FITCH & SCHILLER, Architects, 100 W. Chicago Ave., Chicago 10, Ill.

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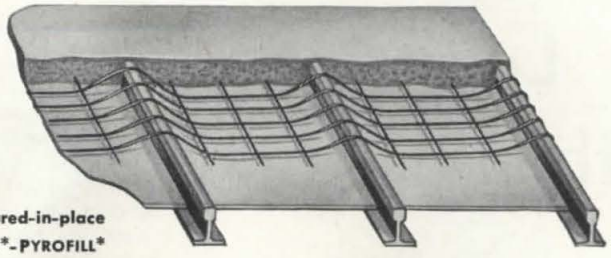

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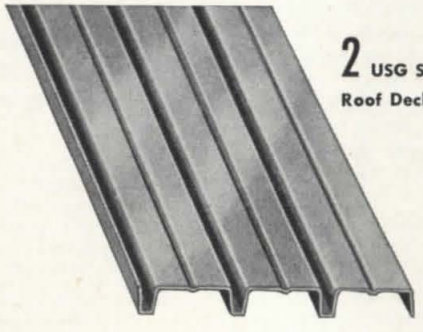
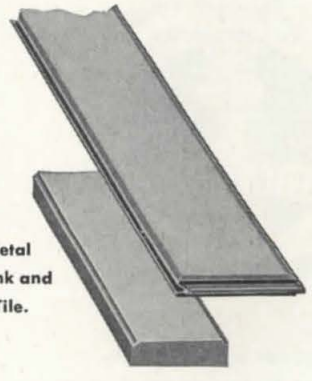


2 USG Steel Roof Deck.



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(Continued from page 20)

quent perspective are the product of functional, mechanical, and structural requirements, as well as of the emotional or esthetic considerations.

•

"A colleague once referred to the writer as a 'designer of buildings,' as distinguished from an 'architect,' pointing out that I design buildings around their functions, whereas an 'architect' designs a building primarily as art. I am satisfied if my buildings serve their purposes and are pleasant to behold inside and out.

"But to return to the preliminaries, the above documents do not comprise the complete preliminary presentation. In addition, an outline specification is prepared, without resorting to pompous phrases like 'the contractor shall,' describing what the architect's *intentions* are as to the construction system, materials, finishes, and mechanical and electrical systems.

"Finally the submission has a revised tabulation of cubages and cost computed at a cost per cubic-foot agreed upon with the owner at the inception of the planning. The author absolutely insists on an agreement as to cost per cubic-foot from the beginning, but he takes no responsibility as to the course of the national economy or international events. He does inform the owner from time to time as to the course of the building-cost index, so that if prices went up, say 10% since the first agreement as to the cost per cubic-foot, the owner could easily compute where the cost of his project stands, within reasonable limits.

"It is interesting to note that under the traditional approach to project development, the cube of the building almost invariably keeps on rising as the project progresses from stage to stage. With the approach here described, the writer has been able to report consistent, if only minor, reductions in cubage from one stage of development to the next, unless the owner decided to increase the scope of the project. And that is easily accountable in terms of cubage and cost. A careful record of such additions is kept by the architect, so that the owner cannot at some later date point an accusing finger at the architect and blame him for the increased cost of the project.

"The author does not mean to imply that the working drawings which follow the preliminaries are exact reproductions of the preliminaries. On the contrary, minor changes continue to be made both on the motion of the owner and by the architect. Even now, at the moment of publication, there is the temptation to revise the preliminaries to have them conform with the latest changes effected in the working drawings, for fear that some reader may discern imperfections. Our better judgment dictates that it is in the nature of things that a preliminary could not be 'letter perfect' as even final drawings are." I.R.

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General Contractor: Henry C. Beck Co.—Atlanta
Acoustical Contractor: Builders Specialty—Atlanta
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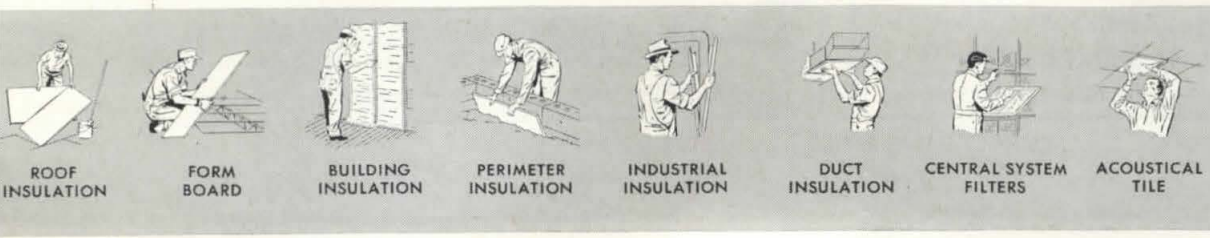

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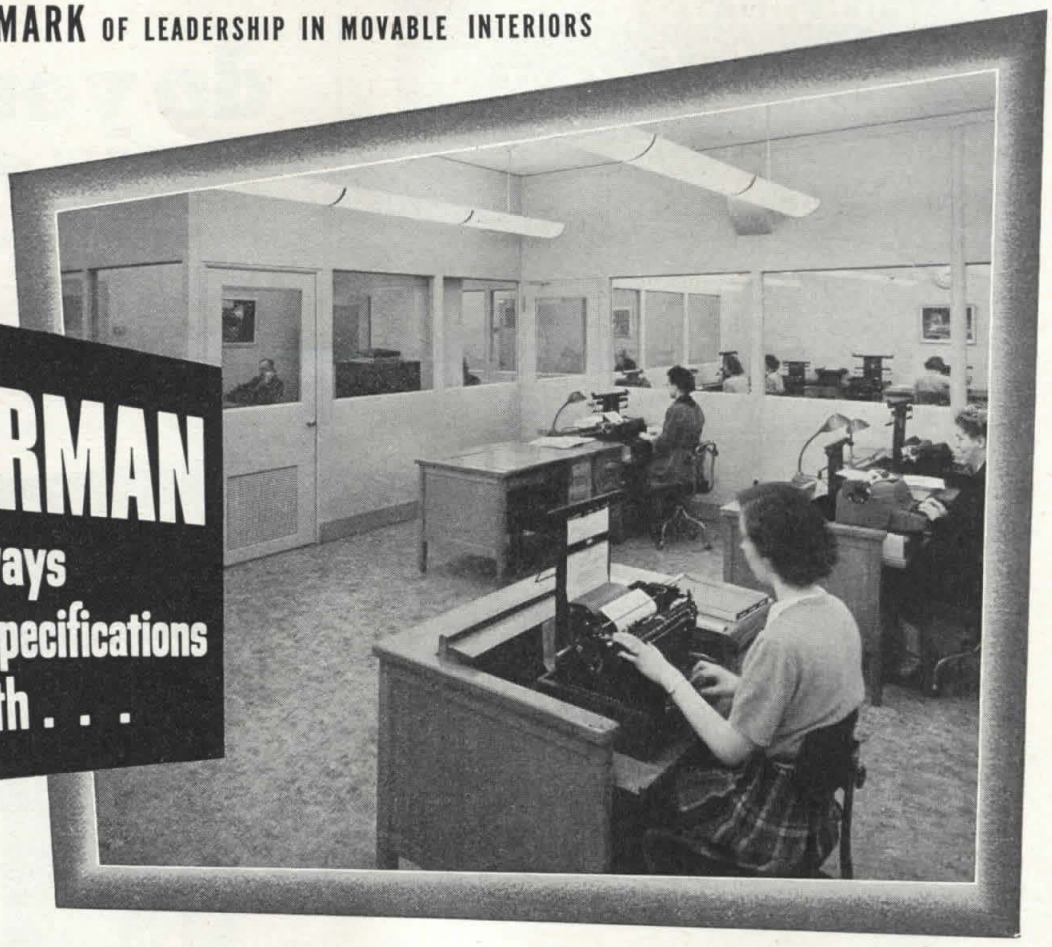

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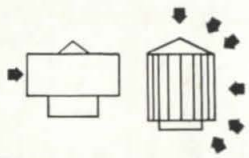

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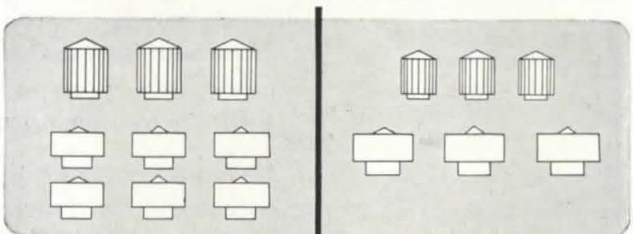

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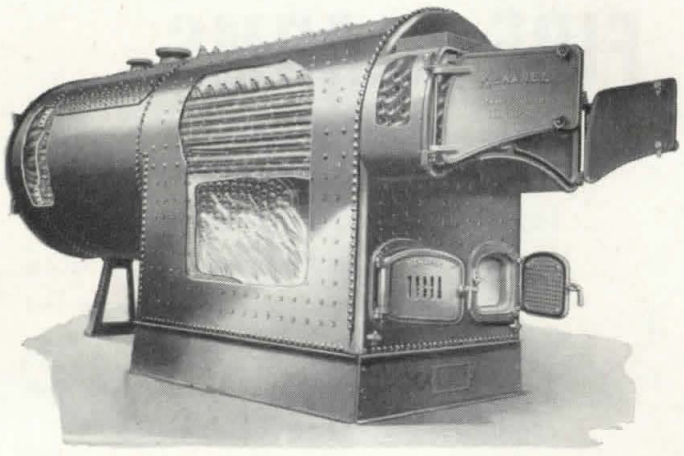

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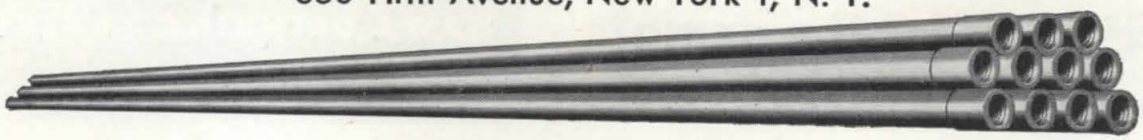

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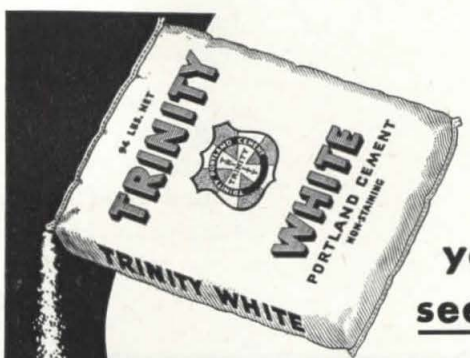

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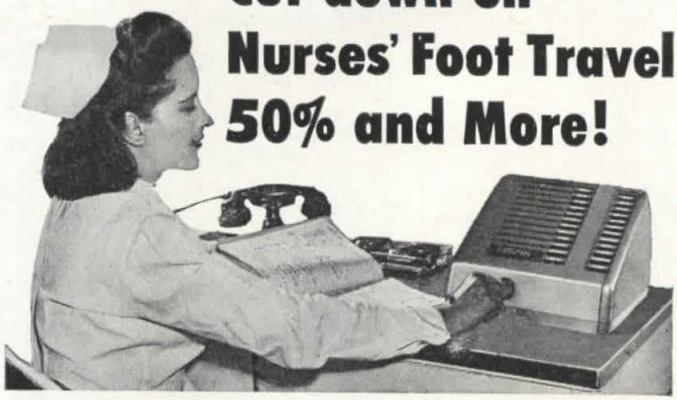

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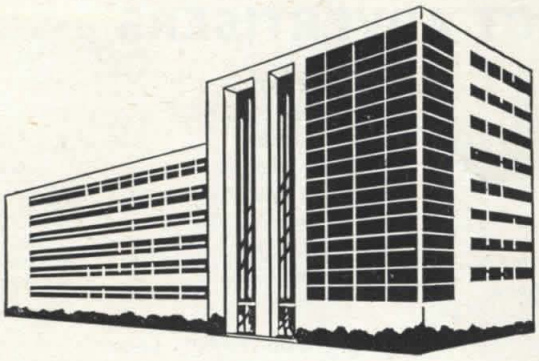

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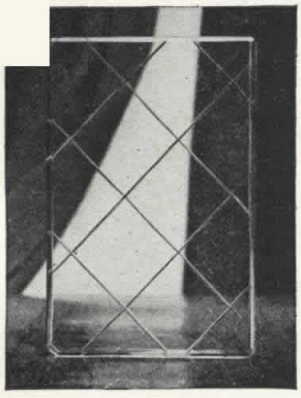

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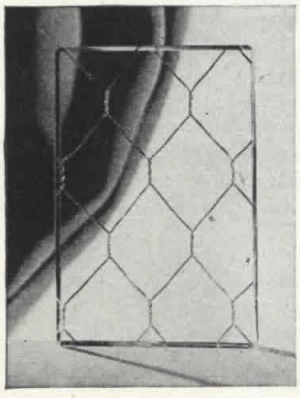

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P.S.

It Seems To Me that the A.I.A. Conventions are getting *too* big and *too* successful. It used to be that the major pleasure in attending the annual meeting was the casual social contact with everyone else who was there. There were people from all over the country whom one hadn't seen for at least a year, and one got to see them. Now there are many, many more people from various regions that one would *like* to see, but there is just too much going on, and all of a sudden the week is over and John has departed along with the rest and you never did have that drink together.

I know that this is not an original observation, and the unexpectedly large turnout in Chicago this year has set the Institute bigwigs to wondering and worrying. One solution proposed is a series of regional conventions, which, if well conducted, would presumably reduce the attendance at the national show. I don't subscribe to this theory. I like very much the idea of developed regional meetings with truly worthwhile programs (I'm going down to Atlantic City this month to the Middle Atlantic District Conference), but I feel that the desire to see and meet and talk to people *outside* one's own region will still be an impelling reason to attend the annual national Convention.

Another complaint, probably unfair because again I know that the fault is recognized by those who devised the program at Chicago—is the fullness of the program. This year it was a good one (with some quibbling exceptions to be noted later) and I must admit it was nice to see the various meeting rooms filled to overflowing. And yet the Convention had some of the aspects of a three-ring circus, with concurrent discussions on Civil Defense matters, Acoustics, and such. And the sessions were too optimistically provided with speakers (who ever believed that four principal speakers *and* a panel discussion with eight members could be crowded into an afternoon meeting?). The result inevitably was that there was a certain amount of rush and a certain amount of skipping of scheduled talks. A lot of us wanted to hear Harlan McClure on *Education*, and he just got passed over. And one whole panel with prepared talks had to be skipped, to the more than slight displeasure of some of the speakers who had been persuaded to travel to Chicago. Bill Wurster's presentation of Maybeck's work was hurried, and it would have been nice to be able to draw a deep breath after John Burchard's stirring talk instead of being rushed, without a pause, into amendments to amendments to resolutions.

However, The Program In General Was An Excellent One. Civil Defense is such a controversial topic and there are so many points of view on the various aspects of it (and the approach to it is so professionally immature in many instances) that the discussion was ragged and uneven. One of the experts on one of the panels has written me, "I have been accustomed to find confusion and an apathy about Civil Defense, but that afternoon at the Edgewater Beach was more than I had anticipated." However, for my money, it was worth attending in order to hear Jaqueline Tyrwhitt, the British architect and planner who has been teaching at Yale this year. (P/A will publish some portions of her paper in a subsequent issue).

A great deal of time had to be spent, this being the year that it is, in a discussion of building controls and the various Regulations and Plans and Orders which are plaguing the construction industry right now. I know by this time (being a confirmed convention attender and all conventions now centering around this one topic), that the audience isn't going to get any conclusive answers from the Assistant Administrators who breeze happily through an authorized talk on generalities and then sweat through a question period which can't produce anything but vague answers. The interesting thing that came sharply into focus at the Chicago meeting is that no one knows—no one can know—whether we are being controlled for an emergency period of brief duration or for a continuing era of fear of the bomb. The rights and wrongs of things are very different under these two possible circumstances, and the architect's advice to clients also would be very different.

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Other Program Items were Dr. Burdell's preliminary report on the Survey of the Profession (to be commented on in P/A by Carl Feiss); and a discussion about Acoustics on which I'm afraid our P/A reporter will have to ask to be excused, because he got waylaid by a convivial group in the Tavern on the Green.

As far as I'm concerned, the less said about the Annual Dinner on the Navy Pier the better. The boys from Skidmore's office who tried to make that great barn look reasonably decent had an impossible job, and I can't imagine a more depressing atmosphere in which to see the graduates from mere corporate membership made Fellows. If I hadn't met Ruth Mielke hunting for her husband (I was just hunting for something to eat) the whole affair would have been wasted.

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Well, It Was A Good Time and it certainly ended up with a bang, when the last-night party in my room merged with the last-night party in Clair Ditchy's room and went on and on with Bob Schmertz singing his wonderful architectural hill-billy songs. As usual, no sleep to speak of but plenty of good talk with good people. Glenn Stanton got elected president (no surprise) and I'm sure he's going to do a very conscientious job and will want support and advice from all the architects who have the future of the Institute at heart. There were contests for a number of the regional directorships and the secretaryship. Although I don't think any radical overturns resulted, the fact of an acceptance of contests is a continuing healthy thing.

The big disappointment to many of the architects who have become seriously interested in the housing problem and dislike the increasing opposition of the real estate fraternity to the program which the A.I.A. has supported in recent years was the tabling of two resolutions brought forward by the Housing and Urban Design and Housing Committee—deploring the House of Representatives' reduction of public housing units this year to 5000 and urging reasonable standards for defense housing.

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Personal Reminiscences: Richard Neutra showing up at odd moments of night and day, asking me the last morning to have breakfast with him at 7:00 a.m., and as a postscript to my startled rejoinder that I probably wouldn't still be up then, leaving me a nice note written across an ad for A.I.A. Standard Accounting Systems: "I tiptoe out of town, breakfast at the airport, take off for climes with lesser wet bulb . . ."; Walter Bogner dancing with Katherine Ford, who at least had a crutch to hold her up; Bob Cerny and I getting our own pictures taken but not published (I did sneak into *Building's* May issue behind Ralph Walker's composed profile); Harold Himes catching me at a late breakfast and talking business while I was concentrating on getting a coffee cup off the table; Ellamae League demonstrating that a hostess can be charming while sitting on the floor; Bob Little being told that Miami shirts are not *au fait* in the Edgewater Beach terraced dining room; Helen Belluschi demonstrating that a dean's wife can be as gay as anyone; Alex Cochran breezing in and blowing out; Paul Harris giving a fine lecture to Neutra and Belluschi; Marion Manley arranging a deal that didn't come off; Vi Hudnut arranging one that did (he had a ringside table); Jay Belcher contemplating with horror the thirst of a number of architectural students; Harris Armstrong and Joe Murphy and Bob Elkington and Hari van Hoefen, among others, working for Tom FitzPatrick, who lost; . . . sorry, no more space.

Thomas H. Creighton