DEMOCRATIC MONUMENTS

Many people have worried about the problem of finding a monumental architectural expression which is appropriate to our time. Obviously, important public structures should express dignity and sobriety. Obviously also, the repetition or modification of classic forms is not a final answer. The TVA structures perhaps come closer to a satisfactory solution than any others which have been built. They are contemporary; they are impressive, dignified, and sober. There is nothing awesome here, and yet the beholder is conscious of restrained power. There is nothing sensational, and yet there is a majesty which is consonant with the terrain and with the purpose of the structures.

The reason for this is not hard to find—here is “monumental” architecture for the first time designed for the use of all the people. This isn’t a monument to a ruler or a god or a war. It is a monument to the initiative, the imagination, the hopes, and the ambitions of a nation of free people.

It is to the everlasting credit of the designers who have been connected with TVA that they have succeeded so well in capturing that difference between past monumentality and present democratic purpose. Scale has something to do with the successful result. There has been an intelligent handling of materials. There are subtle contrasts of size, of light and shadow, of natural hills and mass concrete. Yet we feel sure that the most important ingredient has been a real understanding of and sympathy for the problem and all of its implications. Fontana couldn’t have been designed with a tongue in the cheek.

The Editors
SEE WHY ONLY THE GAS REFRIGERATOR

FROZEN FOODS-ICE CUBES

BIG FLEXIBLE INTERIOR

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STAYS SILENT...
LASTS LONGER

Serveel
The GAS Refrigerator
When you pour alcohol on your skin and blow on it, it will feel cool. That's because liquids draw heat from the surrounding area as they evaporate. You could test this for yourself with a thermometer. Both gas and electric refrigerators operate on this principle... but there's a big difference in the application. Study the following illustrations and you'll see why Gas Refrigeration's method is superior.

**YOU CAN MAKE A SIMPLE REFRIGERATOR**

All you would have to do would be to pour continuous streams of ammonia or any other refrigerating liquid and air through a bent metal tube. As the ammonia evaporates on the inside, the outside of the tube cools... which causes refrigeration. The evaporated ammonia is then passed off in the form of vapor gas. However, in practical refrigeration, allowing this vapor gas to escape would be wasteful. It must be recovered and used again.

**ONLY ONE HAS NO MACHINERY... A TINY FLAME DOES THE WORK**

All refrigerators but one use machinery or moving parts to change the vapor back to a liquid and circulate it for re-use. Only the Gas Refrigerator makes cold and ice with no motor, no pump, no valves, no piston or compressor.

- Shown above are the basic principles on which all refrigerators freeze ice and produce cold. Perhaps you're ready to order refrigerators for new apartments or a housing development... or planning to buy replacements for your present apartments. Either way, it is important to know the difference between refrigerators.

As you'll note, there are two types of automatic refrigerators. One uses machinery. The other—a different, simpler refrigerator—operates without moving parts. In their place a tiny gas flame does the work, silently, efficiently. This is the Servel Gas Refrigerator.

Because it freezes with no moving parts, you'll never hear a sound from Servel. No hum of stopping and starting. And it won't lose its efficiency or run up costly repair bills. More than two million families are enjoying this basically different refrigerator right now. Servel, Inc., Evansville 20, Ind.
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**EVERY** Douglas fir door stamped with an official F.D.I. grade-mark comes under the new Fir Door Institute inspection service—to assure the highest possible product quality and uniformity.

Inspection covers workmanship, appearance, grade—and new dimension specifications adopted for stock interior doors. Stock doors are now pre-fit to 1/8-inch less than previous net catalog height, and 3/16-inch less than catalog width, permitting installation without sawing, trimming or planing. On-the-job costs are reduced. A cleaner, more attractive product is assured.

Stock doors are also resin pre-sealed, which prepares them for better finish, protects against moisture, and improves dimensional stability. On order, Douglas fir doors are available Factri-fit—completely machined for locks and hinges.

All these features are covered by official inspection—assuring doors which meet every quality standard adopted by member factories of the Fir Door Institute.

**FIR DOOR INSTITUTE**

TACOMA BUILDING TACOMA 2, WASHINGTON

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The architect gave this fine modern store more "buy appeal" by his smart use of PC Glass Blocks. They also bring plenty of clear daylight into salesrooms, showing off goods on sale at their colorful best. Harmful dust and grit cannot infiltrate through the solid wall of glass, so damage is prevented, cleaning minimized. PC Glass Blocks help to pay for themselves in increased sales and profits. Stiles O. Clement, Architect.

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The attractiveness of these windows is enhanced by fine hardware. Screens are quickly, safely attached from the inside. Washing is quicker and safer—both sides from inside the room for most types.

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For complete information, see Sweet's (Section 16a-9). Or mail the coupon.
ART IS EVERYWHERE

Dear Editor: It was my privilege recently to see in preview the 58th Annual of the Chicago Art Institute which has since opened (November 6-January 11) under the title, “American Abstract and Surrealist Art.” This is the most thoroughgoing investigation of the state of artistic inclination that has ever been undertaken in America, so far as I know. It is an exhibition to end all doubt of the extent and strength of the modern idiom in painting and sculpture in the U.S.A.

If rumor had it that a wave of reaction was sweeping the country, and if designers have been considering retreatment in the face of a new conservatism, you can tell them to “come out now.” Chicago shows painting and sculpture from 29 states, handpicked by two museum staff members who went out seeking for a year, and visited 76 cities in search of first-class talent. The gathering was confined this year to the interior of a mountain far removed from a city, in a brick factory, on carpenter benches, in sawmills, and in kitchens. The lack of strict adherence to the once-stated boundaries of these two schools of expression is quite general throughout the show. Variations within the two forms are there without end, whether the product of sophisticated circles or springing forth from somewhere along the 24,000 miles of roads traveled by the curators. There are individuals at work with paint and chisel to whom tradition, rule, and rote are no longer considered the tools of a painter’s or sculptor’s craft. And while originality is paramount in this extensive exhibition which fills nine spacious day-light galleries at the Art Institute, discipline is also markedly evident in the use of paint and comprehension of design. The rather remarkable dignity of the exhibition is due no doubt to the segregation of this imaginative and emotional art from subject and model painting with which it is usually hung in an annual of this size. Such an arrangement is to the eye of an art critic what an entire modern building development would be to that of an architect. No jolts. Clean lines and space, well placed with as much understanding as those in urban art and education centers. There are mysties and dreamers and men of highly developed design sense on top of a mountain far removed from a city, in a brick factory, on carpenter benches, in sawmills, and in kitchens. The lack of strict adherence to the once-stated boundaries of these two schools of expression is quite general throughout the show. Variations within the two forms are there without end, whether the product of sophisticated circles or springing forth from somewhere along the 24,000 miles of roads traveled by the curators. There are individuals at work with paint and chisel to whom tradition, rule, and rote are no longer considered the tools of a painter’s or sculptor’s craft. And while originality is paramount in this extensive exhibition which fills nine spacious day-light galleries at the Art Institute, discipline is also markedly evident in the use of paint and comprehension of design. The rather remarkable dignity of the exhibition is due no doubt to the segregation of this imaginative and emotional art from subject and model painting with which it is usually hung in an annual of this size. Such an arrangement is to the eye of an art critic what an entire modern building development would be to that of an architect. No jolts. Clean lines and space, well placed color, sharp, tasteful decision on every hand.

The question was paramount, when I left Chicago, whether or not Chicagoans will shout down its most daring exhibition to date. Is the public, like the press, unready to meet art on advanced terms even when presented by its well loved and well attended Art Institute? One Chicago newsmen feared so. He had been sent by his paper to cover the exhibition in preview. Camera in hand, he was obviously nonplussed. He was shown a curvaceous marble abstraction of a shellfish made by a man who had fired bricks all his life; abstractions in brass, in polished California redwood, in Grand Rapids maple, in hammered, welded, and brazed steel; a cardboard collage of remarkable precision and nicety by a Chicago housewife.

The reporter had inspected the prize winners, only eight out of the 13 bearing names he could possibly have encountered before. All of the paintings were new, even when artists were known to him... He sought a way out... Asked permission to bring in a passer-by and photograph his confusion.

Granted this permission, the newsmen picked up at the front entrance an oldish man in cap and overcoat, carrying a carpetbag. Invited into the closed-off special galleries, he was asked to pose for the camera before a tall panel, which he was not told was a first-prize winner. Rico Lebrun’s “Vertical Composition,” the jury’s first choice for awards in the distribution of medals and a purse of $5,500, is an abstraction, a rather powerful re-do of a broken axle and wheels stacked up into a crackling arrangement, tugging to be off in all directions. But it is controlled and subtly colored, thinly painted, trickles allowed to run, and much of the canvas left bare. The painting is typical of the dynamics displayed, and a departure from the anatomical classicism of this artist’s former works.

The camera’s subject looked long at the painting and did not move. “Take off (Continued on page 10)
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THE PENTAGON ... with the largest floor area of any building in the world, rests on 40,000 Raymond piles ...
your cap and scratch your head," ordered the photographer. "I will not," exploded the man who was the public. "I will not ridicule that painting. It is a grand picture!"

I am enclosing for your readers' judgment a photograph of the Lebrun painting; also other prize winners and a selection of sculptures and painting by newly scouted talents, some of whom took liberties with architecture in the name of surrealism. I thought the latter might make you scratch your editorial head in confusion. No?

MAUDE KEMPER RILEY
New York, N.Y.

P.S. The jurors were: Alfred Barr, Director of Research in Painting and Sculpture at Museum of Modern Art; Henry R. Hope, Chairman of the Art Department, Indiana State University; and Gyorgy Kepes, Professor of Design at Massachusetts Institute of Technology.

It would be about as sensible as it would to leave out Spencer Vacuum Cleaning in your new school. Cleaning with mops and brooms would continually stir up dust and spread germs. School authorities agree that absenteeism is reduced and epidemics better controlled when the Spencer type of cleaning is used.

Freedom from dust also means less wax used on the floors, less painting and redecorating, and less wear on rugs, draperies and books. It is easy to clean more frequently with Spencer and the upkeep is very low—frequently as low as one dollar per machine per year.

Many schools near you are Spencer equipped. Ask for the list. Stationary systems for new schools. Portables for schools already built. Large variety of vacuum tools for all purposes. Ask for the bulletins.
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In the strikingly handsome home office building of the New England Mutual Life Insurance Company of Boston, the architects and builders have made fullest use of bronze for its utilitarian advantages, its reduction in maintenance cost as well as its impressive beauty that is enhanced as time goes on.

Main entrance doors and grille work, the auditorium marquee, ornamental work in general and window frames throughout the building were fabricated by the General Bronze Corporation from Anaconda Architectural Bronze.

Added to the obvious advantages of this rustless, traditionally beautiful metal, is long run economy over less durable metals. This is exemplified particularly in windows which require little maintenance, operate smoothly, will never bind or cause panes to fracture through rust accumulation in the channels.

The face of the marquee is formed of sheet bronze, the glass lighting panels are supported in a frame of extruded shapes. Directory boards are also framed by extruded shapes.
house at Modesto, the Harris house in Fellowship Park, Taliesin and Taliesin West, Stone's house for Goodyear, etc., and etc.

HARRIS ARMSTRONG
Kirkwood, Mo.

GO WEST ... GO WEST

Dear Editor: You are to be congratulated on the issue of October 1947. You are actually portraying progressive architecture in your magazine when you give the facts regarding the architects' own offices, for there is a truthful and functional beauty in them as they were designed without the dictates of outside influences. You will realize the exception to your findings on a recent trip wherein you reported that architects' offices resembled the back entrance to a lumberyard. Unfortunately, you only reported on a few of the beautiful offices in the Los Angeles area, and you would be doing a great justice to the profession if you reported on a few of the old well established offices, similar to A. C. Martin, John Austin, Gordon B. Kaufmann, which represent a beautiful and truthful example of what is actually the architect's business problem solved by his own answer to the functioning of his business.

In "Observations" we see that you ventured as far west as Kansas. Why not take a look at Frank Lloyd Wright's Arizona Biltmore Hotel and look over Los Angeles' and San Francisco's recent buildings, with the idea of giving the United States fuller geographical coverage?

JAMES CHARLES RICE
Los Angeles, Calif.

AS AN ARCHITECT SEES

Dear Editor: I have been a subscriber and a keen reader of your magazine PROGRESSIVE ARCHITECTURE for the past two years and in that time have reaped considerable benefits from its professional contents. There is a small criticism I would like to ventilate, however, and it is this opinion that prompts my letter.

In the letter section of certain back numbers of your publication I read with interest the cry of certain architects at the dearth of renderings, sketches, etc., from the pages of your magazine, and it is on this subject that I wish to add my quota. While I have only praise for the excellence of your photographic work, I do not think your magazine was ever intended, judging from your many inculcations, for either the lay mind or the prospective houseowner. Why then can't we have more material from the architect's boardsections, elevations, perspectives, renderings—elucidated by one or two good pictures, rather than pages of photographic shots that tell only half the story.

We are not interested in beautiful panoramas or mountain sceneries; we want to see what goes on behind that wall, that ceiling, or that abnormal roof, not as the cameraman but as the architect sees it. I am not alone in my convictions and await with interest your reaction to my above views.

ARNAUD DE VERTEUIL, JR.
Port-of-Spain, Trinidad

MOST OUT OF SUBJECT

Dear Editor: Basically the present editions of PROGRESSIVE ARCHITECTURE are filled with information directly helpful to the practicing architect, and, personally, I found from a speech you made in Memphis several months ago what your aims were toward modern architectural progress and thinking. Herefore, I could not understand why your magazine was devoted entirely to so-called modern or present-day progress made in architecture. Nevertheless, having studied in the modern school, I am quite pleased in every respect with the publication.

ALFRED H. ABERNETHY
Cardwell & Abernethy
Johnson City, Tenn.

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The standardized chassis of Schlage locks permits the boring of all doors at once for economy of installation. Schlage standardization also simplifies the architect's specification job as it allows locks to be reversed or interchanged if plans change during construction.

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COSTA'S ICE CREAM PLANT, ROUTE #1, WOODBRIDGE, N. J.

Albert F. Weber — Architect
John N. Wester and Son, Builder

The parapet, permanently displaying the Costa trademark, is in warm buff Enduro Architectural Terra Cotta, with projecting lettering and design in blue. Base course, sills and coping are of blue matte glaze Enduro Terra Cotta, with the fields of the building in buff brick. This same theme is carried out in the entrance to the building, with warm buff matte glaze Enduro ashlar field and deep curved reveal in blue. All display areas of the interior (not shown)—the ice cream processing room, reception room, and lobbies—are faced with Enduro Architectural Terra Cotta in buff ashlar field and blue stencil polychrome cap.

THE design of industrial buildings today often involves the combined problems of function, practicality, and display. In the recently-completed building presented here, a satisfactory solution to these demands is met.

The use of Enduro Architectural Terra Cotta unifies the entire design. Its clear warm colors and plasticity of form provide freedom of design for both display and structural balance. Its impermeable, soil-resisting surfaces, appearing on both exterior and interior, emphasize an all-important point—the cleanliness and purity of the plant.

Whatever your design requirements, Federal Seaboard stands ready to assist in the dynamic utilization of architectural terra cotta. We will advise on preliminary sketches, furnish construction detail, data, and suggestions, color samples, estimates—all without cost. Address your inquiries and sketches to our New York office.
The basic purpose of the January 1948 issue will be to supply our readers information on the latest building materials and equipment. This issue will be unique, however, for in addition to extensive lists of new, reintroduced, or redesigned products, we will also show examples of buildings whose designs were conspicuously influenced by the materials or equipment.

To demonstrate the importance of building materials in design there will be: a church for Manila, P. I., by Antonin Raymond, architect; a house in Los Angeles by Gordon Drake, designer; the town hall, Clichy, France, by Beaudoin & Lods, architects; Town Theater, Long Beach, California, by Hugh Gibbs, architect; Cambridge Diesel Generating Plant in Minnesota, by Long & Thorshov, architects; and an example of the new Durisol construction. As examples of structures in which equipment has been the prime factor in the design solution: General Motors Diesel Equipment Plant, Grand Rapids, Michigan, by Allen & Kelley, architects; a New York house by Sargent, Webster, Crenshaw & Folley, architects; a retail men’s store, Washington, D. C., by Berla & Abel, architects; a washroom in the Fairbanks-Morse Office Building, Chicago, by George Senseny and J. Stewart Stein, architects; and “the largest service station in the world,” Los Angeles, by William Hempel, architect.
New Los Angeles Airport now ready for heaviest air and foot traffic...

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Air traffic will be heavy at Los Angeles' bustling new airport! But patrons of six major airlines are assured of better, faster ticket and baggage service—more comfortable "between flight" facilities await them—in these carefully designed, modern air terminals.

Yes, and even the floors are ready—come what may—as more and more of today's travelers take to the air! For Architect N. M. Cirino specified tough, versatile, immensely practical Tile-Tex Asphalt Tile for the passenger terminals and the administration building!

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One of three new passenger terminals at the Los Angeles Airport. All floor areas are surfaced with foot-easy Tile-Tex Asphalt Tile.

The new Los Angeles Airport was designed by N. M. Cirino, Architect for the Bureau of Engineering, City of Los Angeles. Notice (above) how all the facilities for handling busy air travelers have been compactly arranged for maximum customer convenience. Notice, too, that the brown Tile-Tex floor is marbleized so dust is less noticeable, maintenance is cut to a minimum.

Comfortably resilient Tile-Tex and the acoustical ceiling team up (left) to lessen noise and confusion in this busy terminal.
in Southern California. He went into the Navy in 1942 as a gunnery officer and in 1944 was assigned to the "fabulous" Special Devices office under Admiral de Flores to design exhibits for the Bureau of Aeronautics and the Office of Research and Inventions.

Attention in the Materials and Methods section this month is focused on a discussion of "Apartment House Elevators," written by two authorities on the subject, both consulting engineers with the Otis Elevator Company. This article is a condensation of one chapter of Apartment Houses, the latest addition to The Progressive Architecture Library series (scheduled to come off the press this month). Howard M. Nugent has been associated with the Engineering Department at Otis for many years, and was at one time an assistant to the late D. L. Lindquist, chief engineer of Otis and well known elevator engineer. He has made a special study of the elevator traffic requirements of various types of buildings and in the course of his career has done analyses of such requirements for many noted buildings constructed both here and abroad. A professional engineer, Nugent is a graduate of Stevens Institute of Technology and a member of the American Institute of Electrical Engineers. William H. Easton, Jr., is a relative newcomer to the fields of architecture and building, and has been with Otis only a short while. During this time, however, he has devoted his energies to elevating buildings and applications of automatic elevators. Before joining the Otis staff, Easton was connected with several manufacturers as a metallurgist. He is an engineering graduate of University of Kansas and was formerly associated with the American Institute of Mining and Metallurgical Engineers.

We are also presenting this month, in the feature section, a group of overnight cabins in South Yarmouth, Massachusetts, designed by David Fried of Boston. For biographical notes on the architect, see June 1947 PROGRESSIVE ARCHITECTURE.

The new arts and science building of the Ricker Classical Institute in Houlton, Maine, comes from the architectural-engineering office of Alonzo J. Harriman, of Auburn, Maine. Born and bred in Maine, Harriman attended the University of Maine, where he graduated with a B.S. in mechanical engineering in 1920. He originally intended to be a shipbuilder and his studies were all directed to that end. Finding a dearth of work in that field his first year out of school, however, he shifted to building design and construction. He worked for five years in structural engineering and then decided that he preferred to be an architect-engineer rather than just an engineer, and went on to Harvard to gain his M.A. in architecture. A partnership with Harry S. Coombs lasted from 1928 to 1939, when he established his own firm, an office then consisting of two men and a secretary. By 1942 the firm had expanded by reason of war commissions to 100 persons, with offices in several cities. The work of the firm has been mainly in housing projects and industrial plants.
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DECEMBER, 1947 17
Maynard Lyndon, whose men’s wear shop in Beverly Hills, California, we present this month, is a midwesterner by birth. He received his architectural training at University of Michigan, and spent the years 1935-1942 in Detroit doing schools and public housing as the architect member of the firm, Lyndon & Smith. His experience also includes work for the Department of Interior in Washington, D. C. He has been in private practice in Los Angeles since 1942, concentrating on schools and public and commercial work.

William V. Kaeser, architect of Madison, Wisconsin, writes, “I came to Madison in 1935 to build a couple of houses and have been here ever since.” One of these houses, in nearby Whitewater, is presented in this month’s issue. After receiving his B.S. in architecture at University of Illinois in 1931, Kaeser went on to M.I.T. for his master’s degree. He also attended Cranbrook, where he studied city planning as well as architecture for a year and a half under Eliel Saarinen. The city planning study was borne out in the three years he worked on the City Planning Commission in Madison while maintaining his own office. His work has been mostly residential, although being located in the middle of the dairy belt, he has also done some specialized work on milk processing buildings.

The second part of the streamlined specification for hospital casework, by Ben John Small, concludes the technical section this month.

NOTICES

NEW ADDRESSES
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In Hanover, New Hampshire, a man named Adelbert Ames has been working quietly for some years on a series of visual experiments which may have an important effect on architectural design. The Dartmouth Eye Institute has attracted the excited attention of philosophers, psychologists, sociologists, and doctors; the only contact architects have had with the studies was at the Princeton Conference last spring, when Professor Ames and his story were lost in the discussion of the gathering. Although the study of visual sensations may seem like a dull subject on which to report progress, every progressive architect should at least know that these important studies are going on. Ames himself insists that a brief summary of his findings cannot be made, and that a complete understanding of what he is doing can come only through "the personal experiencing of numerous phenomena through laboratory experiments." However, the architectural implications might be summed up as follows:

1. Visual sensations are not inherent in the external "things" at which we are looking.
2. These visual sensations are derived entirely from our own experiences, personal and inherited.
3. These sensations are directives for action "in furtherance of our purposeful values."
4. We recognize the value and purpose of an object, a building, or a town, by an intuitive "value sense," which, Ames insists, is what we know as the esthetic experience.

The experiments which lead up to this conclusion are simple enough to experiment, but difficult to describe. One elemental series relates to the nature of what is "real." A lot of strings, arranged in different ways, at different distances, in different planes, look to an observer peeking through a hole as though they were chairs. What causes this misreading of facts? Ames goes through many experiments which indicate the well known "clues" that lead to our visual sensations: brightness, color, size, perspective, shadow, softness of edge, parallax, overlay, etc. He studies the sense of distance between things, the sense of distance from the observer, so-called "objective characteristics," relation of characteristic to distance, etc.

Many of the experiments study one's emotional, as well as aesthetic, reactions to illogical sensations. One feels very much upset to discover that certain objects are not what they seem to be; it is astonishing the physically sick feeling one can experience as a result of visual dishonesty.

Up to this point the experiments seem merely scientific support for the architectural truth that Louis Sullivan expressed poetically: "That which exists in spirit ever seeks and finds its physical counterpart in form . . . the building, to be good architecture, must, first of all, clearly express with its function, must be its image . . ." But the Dartmouth experiments go on from here and point to the active results of visual sensations, that the beholder's sense of surety established by a form which is related to its function (it's "purposeful value"); there is action which results from the visual experience. The implication is that the buildings and the cities which we design can lead to purposeful action and can help destroy—or prevent—pride and prejudice that come through a lack of surety.

This relation between sensations and actions becomes apparent in a simple demonstration based on a room which is constructed in perfect floor, ceiling, walls, and windows all are built in a distorted fashion, so that the upper right corner is closer to the observer than the upper left corner. Since the perspective is correct, if you look at the room with one eye from one exact point, the room seems rectilinear. Special glasses can also give you this effect.

With a pointer, the observer is asked to touch a spot in the upper left corner and then immediately touch a spot in the upper right corner. It can't be done; on a second try, you'll come closer to succeeding. And so on.

The conclusions? As stated, in terms of architecture, above, it seems to be true that your sensations, and not your knowledge, determine your action; experience, if it is always related to the same purpose (moving the stick, in this case) will have a determining effect on sensations.

All of this may mean a new approach to esthetics. It certainly points to the architect's responsibility in establishing a recognizable sense of surety or lack of surety resulting from our sensations. When there are "multiple indications which supplement one another; there is a sense of surety. "Multiple indications in conflict with each other" result in a sense of lack of surety.

Here is an actual challenge: this thesis indicates that "design" is more than a matter of carrying a sense of surety or lack of surety from our sensations. When there are "multiple indications which supplement one another; there is a sense of surety. "Multiple indications in conflict with each other" result in a sense of lack of surety.

By identifying the "esthetic experience" with "value-sense," the experiments would seem to banish forever the eclectic theory that esthetic content is something to be added to a building form. It is that form, in the sense of its clear expression of its function. Then each part of the form, each detail, each bit of ornamentation is to be considered as the "multiple indications that supplement one another." There could not be a clearer, more rational call for architectural design which is esthetically, emotionally, spiritually appropriate to our times and our people.
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A standard plywood form produced the rough-surfaced concrete on the left. Note how smooth the finish on the right looks—the work of a KIMPREG Plywood form. Both panels have had many re-uses.

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No. 6 OF A SERIES—

PARGING OR TOOLING THE BACK OF FACE BRICK

PARGING

The face brick should be back-plastered with not less than 3/16 of mortar before the back-up units are laid.

Or if the back-up units are laid first, the front of the back-up units should be plastered in the same way.

Before backplastering, however, all mortar joints should be cut flush. Parging should not be attempted over protruding mortar joints.

TOOLING

As an alternate for backplastering, the joints on the back of the face brick may be tooled to give concave finish.

This encourages the bricklayer to fill the head joints, since proper tooling cannot be done if mortar is lacking.

Therefore before the tooling can be completed, it is necessary for the bricklayer to point up the open joints.

Because Brixment is more plastic and works easier, it actively encourages the bricklayer to do better work. The brick are bedded more quickly, with full joints, and without excessive tamping. Parging and tooling are done in minimum time, with minimum effort.

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It seems the bus boy persuaded the chef to let him sculpt a lion out of butter for a centerpiece. When the prince saw the masterpiece he said “Junior, you are too good to waste your skill on ephemeral butter, and you shall carve lions in stone to flank my drawbridge and I shall pay you well.”

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Curved panels of Insulux Glass Block bring daylight with privacy to tenants of eight-story apartment building. Architect: Berla & Abel, Washington, D. C.

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For safety, plus other advantages outlined below, revolving doors by International are unequalled. Your inquiry will bring detailed literature and a list of nearby installations so you can see firsthand how completely a revolving door will solve your entrance problems, no matter how tough.

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1. WHAT SPECIAL SAFETY FEATURES SHOULD THEY HAVE? First, immediate and unimpeded egress in emergencies. With International Van Kannel Revolving Doors, slight excess pressure on any two wings in opposite directions causes the wings to open outward. International’s exclusive, adjustable tension, ball-and-socket mechanism assures years of dependable service with a minimum of upkeep.

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FACTS AND FIGURES
Authorized by Congress, December, 1941. Closure effected, November, 1944. Highest dam east of the Rockies; fourth highest (and largest in volume of concrete—2,800,000 cu yds) in the world. 480 feet high; 2,365 feet long; 377 feet thick at its base. A gravity type structure, the dam extends straight across the river gorge and seals against rock. Along its eastern extension (toward the visitors' building) is the spillway gate structure, which feeds into two sloping 34-foot-diameter discharge tunnels drilled through the eastern embankment. These empty into the river below through upturned, bucket-shaped, concrete deflectors that throw the water upward and outward, thus dissipating the kinetic energy of the more than 400-foot fall, to minimize scouring action. Alongside the spillway gate is the visitors' building. This is connected to the powerhouse at the base of the dam by an incline railway.
POWERHOUSE from the south. Note cantilevered roadway at top of dam.

below. At far left of photo, spillway-gate structure.
At the eastern end of the roadway across the top of the dam, beyond the spillway openings, is the visitors' building, which includes a large circular reception room with information booth, concession space, and toilet facilities. The cab that will take visitors down the incline railway to the powerhouse is entered from platforms at three levels. Like the powerhouse, the reinforced concrete visitors' building is faced with limestone. While the whole Fontana installation is vast in proportions, the design approach is unostentatious. Emphasis is appropriately given to elements that express the strength and power of the project—aspects that may evoke understandable pride in the visiting citizen-owner—but the design is simple and bold rather than fussy or imposing.
TVA DAM

FONTANA, TENNESSEE

POWERHOUSE

The powerhouse is a reinforced concrete structure surfaced on the exterior with limestone. The roof is covered with precast concrete slabs. The massive concrete piers that support the crane rails within become the basis for the design of the southern wall of the building, with heat-absorbing glazing installed between the frame members. Inside the building, the concrete structure is left exposed; the floor of the generator hall is gray ceramic tile, and the generator casings are finished in terra cotta red and gray.

The station is designed for three 67,500-kilowatt generating units.
THE POWERHOUSE is located in the natural river bed at the toe of the dam.
The powerhouse control room is designed to facilitate the precise activities which go on within it. Approximately 33 by 55 feet in area, it has a parabolic-curved ceiling with a maximum height of 14 feet, providing optimum light reflection from the indirect source to the instrument panels with minimum glare. The suspended ceiling is covered with acoustical tile. Walls and light soffits are sand-finished plaster; the floor is asphalt tile. Visitors view the room through a large plate glass window beneath the light trough.

Selected detail showing how light and air are controlled.
INDUSTRIAL OFFICES  NILES, CALIFORNIA

PROBLEM: To provide offices, first-aid room, and toilet facilities for a branch plant of the Schuckl Canning Company. Job involved replacement of obsolete existing structures.

SITE: The narrowest corner of a flat, triangular plot, with a railroad siding on one side, a highway on the other.

SOLUTION: Full use of the odd-shaped site—toilet rooms, etc., placed immediately adjoining plant; office structure separately located down in the angle of the property; elements all connected by a covered walk bordering a landscaped patio, screened from the rail siding by a high fence which becomes a wall of the loading dock at the rear.

WURSTER, BERNARDI & EMMONS, Architects
In studying the plan approach to the new facilities to take fullest advantage of the wedge-shaped site, it developed that, while wash and locker rooms had to open directly into the plant work area, there was no need for the offices themselves to be housed within the cannery, so long as they were readily accessible. From this fact grew the parti of the dual structure with covered walk and patio between. In addition to providing a pleasant place visually, the patio also serves as an outdoor lunchroom for employees. A simple wood structural system proved both economical and appropriate to the comparatively rural location. Details of a wall of the building are shown in the Selected Detail on Page 54.
WURSTER, BERNARDI & EMMONS
Architects

PATIO

FRONT OFFICE

LABORATORY

DECEMBER, 1947 53
SELECTED DETAILS

Plan thru Window 1/2" SCALE

WINDOW WALL
INDUSTRIAL OFFICES, NILES, CALIFORNIA

WINDOW Section
1/2" SCALE

WURSTER, BERNARDI & EMMONS
Architects
PROBLEM: To design as a related group six rental cabins with two sleeping rooms each that would offer guests relative privacy and opportunity for quiet relaxation in a choice resort area of Cape Cod.

SITE: A bluff overlooking the tidal Bass River toward the east, with pine woods to the north and west.

SOLUTION: Staggered alignment of the six cabins in such a way that big window-doors in living-sleeping rooms all enjoy the view, instead of looking at the wall of the cabin next door.
Cabins
SOUTH YARMOUTH, MASSACHUSETTS

DAVID FRIED, Architect

A lane branching off from the drive to the owner's house borders the cabin community; off-the-road parking space for two cars adjoins each unit. One living-sleeping room of each cabin opens to the southwest, the other, to the southeast, and each has a pleasant, uninterrupted outlook. The cabins were originally built without kitchens, meals being served in the owner's farmhouse; experience proved that units with housekeeping facilities were more desirable in this neighborhood, however. The wood-frame cabins, built on concrete slabs, are a colorful group; walls are painted white; trim, variously yellow, coral blue, etc. Wallboard is used for both interior and exterior surfacing. The ceilings are finished with insulating tile.

Pati and Bob Mercer Photo

VIEW FROM SOUTH showing the two guest terraces
PROJECTING FENCES give privacy to each terrace.

TYPICAL FIREPLACE

A TERRACE adjoins each living-bedroom.
THE SOUTH STAIR, with clear glass wall, provides a striking visual contrast between the old and the new.
THE BUILDING takes advantage of the sloping site to provide three levels of above-grade classrooms. The entrance comes at an intermediate level.

AND SCIENCE BUILDING

RICKER CLASSICAL INSTITUTE, HOULTON, MAINE

ALONZO J. HARRIMAN, Architect

PROBLEM: To replace an old classroom building that was destroyed by fire with an easy-to-maintain, modern structure with movable-type partitioning for plan flexibility, and classrooms with near-maximum natural illumination.

SITE: A slope, adjacent to the location of the old building, chosen because the natural contour made it possible to provide full-height classrooms on the level below the entrance grade.

SOLUTION: Extremely simple, direct plan with central corridor and most classrooms facing east or west; corridor daylighted by glazed stair wells at either end.
ARTS AND SCIENCE BUILDING

ENTRANCE CANOPY at south end of building

VIEW FROM SOUTHWEST. Heater room structure, foreground.

SOUTH STAIR WELL
ALONZO J. HARRIMAN, Architect

Three of the classrooms—Drawing, Chemistry-Lecture, and one small room—have north light; all others face due east or west. The big wall-to-wall windows are of double glass, except for ventilating units at the base. Artificial lighting of classrooms is indirect, from an incandescent source. Ceiling and floor finishes are continuous so that the partitioning can be relocated to provide for any future changes in curriculum.

The main walls of the building are of masonry-brick over cinder block backup. Floors and roof are concrete supported on lightweight steel joists. Above and below the bands of wood sash, a light steel frame structure is used, surfaced outside with corrugated asbestos and inside with cement-finish structural board. A low-pressure steam system heats the building.
SHOW-WINDOW FRONT is of \( \frac{1}{2} \)-inch plate glass set with flush stops and 1/16-inch clear opening between glass panels.

Alterations to

MEN'S WEAR SHOP

BEVERLY HILLS, CALIFORNIA

MAYNARD LYNDON, Architect

PROBLEM: To remodel an existing building into a quality retail shop supplementing an established tailoring business.

SITE: An interior block property facing west.

SOLUTION: Deeply recessed front to cope with afternoon sun; open scheme to place the shop as well as the merchandise on display.

The space from front to back is organized around four use areas—the arcade-type front providing comfortable off-sidewalk window shopping; the forward sales portion of the shop itself; an intermediate area (skylighted above the mirror) for consultation and preliminary selection; and the generous skylighted fitting room, arranged to spotlight the customer. The color scheme throughout is muted to serve as a background for both merchandise and customers—all-over green carpet, oak casework, natural plywood on walls, and acoustical tile on the ceiling. Cold cathode tubes, concealed above wall cases, illuminate the wall as well as the cases.
DISPLAY at front is flexibly handled on low platforms that may be arranged in numberless ways.

GENERAL VIEW from inside show window toward rear of store
FRONT, facing east

[Architectural plan and floor plan diagrams]
WHITEWATER, WISCONSIN

PROBLEM: To design the home of Professor and Mrs. Cord O. Wells who both teach and who like to have groups of students congregate for a discussion or buffet supper. Other specific space needs were a kitchen, two bedrooms, a bathroom, and a one-car garage.

SITE: A hillside on the west side of the street.

SOLUTION: A two-level plan, with garage, daylighted laundry, and storage space on the lower level; a long living room, large enough to accommodate student gatherings; neatly planned circulation, with privacy for the living room and bedroom wing, and direct access to all main living areas from the entrance hall.

WEST SIDE. The owners report lighting bills are low "because of added light we get during morning and evening hours."
The owners' opinion is that "we have the house that best suits our way of living. . . . We have had many visitors. . . . the majority are enthusiastic, particularly young people. Our own opinion is that it is just a fine place in which to do a lot of living."

STRUCTURE

The house is of wood frame, arranged around a 4-foot module. Exterior walls are of natural redwood siding; inside the house, walls are finished with plaster. Doors and trim are of white pine; floors are red oak, except for the hall floor which is poured concrete. The brick of the fireplace is yellow-cream in tone.
BEDROOM. "Heating is not a problem," the owners tell us. "Some heat is lost because of the large glass area, but more is gained from the sunlight."

KITCHEN. "We like the beautiful light effects at all hours of the day—in the living room, bedrooms, and kitchen." On fine days the kitchen is flooded with morning sun.
When Are Elevators Required?

The building laws of many localities require that apartment buildings of six stories or over have elevator service. For example, a New York State law: "Every multiple dwelling hereafter erected exceeding in height 6 stories or sixty feet shall be equipped with one or more power passenger elevators operated or capable of being operated at all times, at least one of which is accessible to each apartment above the entrance floor."

This is a good law but a poor rule. All apartment buildings of four or more stories should be served by elevators, and many three-story apartment houses are being so equipped. Whether or not elevator service should be provided in a three-story building depends partly on the type of tenants expected. The decision is also influenced by the fact that with elevators, upper floor apartments become more desirable and bring higher rents than lower floor apartments.

How Many Elevators Are Required?

One elevator will serve adequately the 50 to 70 apartments in an average-rental building not over six stories high, handling both passenger and service traffic. Even in high-rental buildings of six stories or less there is seldom a second elevator; if there is, it is more likely to be for service than for passengers.

Two elevators are normally adequate to serve buildings more than six stories high. Six stories is the maximum which healthy tenants can be expected to climb without hardship, even in emergencies; hence even when the traffic does not appear to warrant them, two elevators are needed so one will be available while the other is being serviced. Usually, both are located in a single bank near the building entrance, one being used for freight and service during part of the day, and for passengers during periods of increased traffic. Sometimes the second car is strictly a service (and "standby") elevator, located near the service entrance.

There are two important exceptions to this two-elevator rule. First, in
ELEVATORS

high-rental buildings it is sometimes desirable to provide two passenger elevators and a third for freight and service. Second, the apartment hotel type of building, characterized by many small apartments and single-room suites, needs elevator service similar to that of a hotel, and may require more than two passenger elevators. These cases must be given special study.

What Floors Should Elevators Serve?

One type of arrangement, known as “skip-stop,” in which elevators serve alternate floors, was originally proposed as a minimum for high-density buildings at the lowest possible cost, and has been specified for a few low-rental housing projects. It does reduce initial cost of elevator installations, principally by eliminating alternate hoistway entrances, but does not provide good elevator service.

The elevators in an apartment house should serve all floors on which there are apartments. They should also serve the basement, if there is one, particularly if it is used for laundry and tenant services. In apartment buildings where the roof is used for sun bathing or recreation one elevator may serve the roof, but this is a rare provision except in very large metropolitan installations. Normally, each passenger elevator in an apartment building has hoistway entrances on every floor from basement to top floor.

What Type of Control?

Two basic types of control are used with modern passenger elevators: signal and collective. In apartment installations the fundamental difference between the two is that signal control elevators require an attendant, while collective control elevators can be operated by either the passenger or an attendant.

The present trend is toward collective control elevators for even the highest-rental apartment buildings. This type of operation provides re-

TRAFFIC FLOW: The number of elevators needed in a building depends upon volume and time distribution of elevator traffic. Data on traffic behavior are usually obtained from traffic-flow charts. The number of passengers handled during each five-minute period of the day is counted; results are plotted against time. The charts illustrated were made from surveys conducted in the Metropolitan Life’s Parkchester development in New York. Chart 1 illustrates how traffic behaves in a building unit containing 67 apartments and populated by 174 persons, all served by one elevator. Chart 2 is from data collected in a two-elevator building unit containing 98 apartments and a population of 281. The traffic-flow pattern exhibited is typical of many apartment buildings tenanted by families of medium-salaried office workers.

Apartment house elevators are usually busy throughout the day, and are not subject to as pronounced traffic peaks as they would be in office buildings. Traffic does increase in the morning when tenants leave for business, in the afternoon when children return from school, and in the evening when tenants return from work, but these periods are spread out because tenants and their children work and attend school at various distances, and leave at different times. Usually the evening increase, the greatest, seldom exceeds 6% of the building’s population during any five-minute period. As a result, passenger-handling capacity of the elevators during peaks or maximum traffic-flow periods is not the major consideration in planning apartment house elevators.
attendant position, after which, in operating the car, the attendant presses floor buttons for the passengers, closes the car door, and starts the car.

ATTENDANT OPERATION PROVISIONS: Collective control elevators may be obtained with or without the attendant operation feature, but attendants should be provided for if there is a reasonable probability of their being needed. Typical car control panels for elevators with (Fig. 3) and without (Fig. 4) the "attendant" provision are shown. Provision for attendant operation consists of an auxiliary panel containing a key switch marked "attendant" and "automatic." When the elevator is to be passenger-operated, the switch is locked in "automatic" position and the elevator functions as an automatic, full collective control elevator. When an attendant is in the car, he turns the switch to "attendant" position, after which, in operating the car, the attendant presses floor buttons for the passengers, closes the car door, and starts the car.

ATTENTION TO RELATIVE SAFETY: The passenger elevator is a potentially dangerous machine, and it is essential that these machines be designed and installed so that they will provide the utmost in safety. It is the function of the elevator architect and engineer to design an elevator that is safe, efficient, and economical. The American Safety Code for Elevators provides a comprehensive guide for the design and installation of passenger elevators.

Load and Platform Size

In order to minimize the danger of overloading passenger elevators, car platform area is limited by the load it is designed to carry, as specified in the American Safety Code for Elevators. A given area may be obtained by an infinite combination of dimensions, but the major elevator manufacturers, working through the National Elevator Manufacturers' Industry, have standardized upon a limited number. From these standard sets of dimensions all passenger platforms should be chosen.

Of the several platform sizes considered standard for passenger elevators, only four find extensive application in apartment buildings. These are all relatively small since high passenger-handling capacity, even during periods of increased traffic, is not a factor in selecting apartment elevators.
mended platform dimensions, together with their respective passenger capacities, are as follows:

**TABLE I—Platform Dimensions**

<table>
<thead>
<tr>
<th>Rated Load</th>
<th>Passenger Capacity</th>
<th>Platform Size Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200 lb</td>
<td>8</td>
<td>5'-0&quot;</td>
<td>4'-0&quot;</td>
</tr>
<tr>
<td>2,000 lb</td>
<td>13</td>
<td>6'-4&quot;</td>
<td>4'-5&quot;</td>
</tr>
<tr>
<td>*2,000 lb</td>
<td>13</td>
<td>6'-4&quot;</td>
<td>4'-8&quot;</td>
</tr>
<tr>
<td>2,500 lb</td>
<td>16</td>
<td>7'-0&quot;</td>
<td>5'-0&quot;</td>
</tr>
</tbody>
</table>

*For 400 fpm speed and over

The 1200-lb platform is large enough to handle passenger traffic in most installations, but too small to accommodate furniture. It is frequently used in small three- and four-story apartment houses, but it is not recommended for larger installations. The 2000-lb platform will satisfactorily accommodate furniture and is therefore widely used in apartment houses of all sizes. The 2500-lb platform is used where extra service and spaciousness are factors.

**Service Elevators**

The preceding discussion of control, speed, and size is based principally on passenger-handling requirements. It applies equally well, however, to apartment building elevators which are to be used for both passenger and service purposes. Removable wall pads are recommended for protecting the finish of the car when furniture or bulky freight is being handled.

When a separate service elevator is provided, it should be located near the building's delivery entrance, and should have a 2500-lb platform, or larger, to accommodate bulky furniture. Its control should be of a type which does not require full time attendant operation—collective control with the attendant feature is generally employed. Speeds of from 150 to 350 fpm are commonly specified for service elevators.

**Hoistway Size**

Hoistway size is governed by the size of the platform and the clearances required on all sides, to provide room for car guide rails, counterweights, counterweight guide rails, hoistway wiring, hoistway doors, switches, interlocks, etc. Due to the standardization program referred to above, values shown in the following table are approximately applicable to many makes of elevators, although in practice the only safe procedure is to obtain data and dimensions directly from the manufacturer of the particular equipment used.

**TABLE II—Hoistway Sizes**

<table>
<thead>
<tr>
<th>Rated Load</th>
<th>Platform Size Width</th>
<th>Depth</th>
<th>Hoistway Size Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200 lb</td>
<td>5'-0&quot;</td>
<td>4'-0&quot;</td>
<td>6'-4&quot;</td>
<td>5'-3&quot;</td>
</tr>
<tr>
<td>2,000 lb</td>
<td>6'-4&quot;</td>
<td>4'-5&quot;</td>
<td>7'-8&quot;</td>
<td>5'-9&quot;</td>
</tr>
<tr>
<td>*2,000 lb</td>
<td>6'-4&quot;</td>
<td>4'-8&quot;</td>
<td>7'-8&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>2,500 lb</td>
<td>7'-0&quot;</td>
<td>5'-0&quot;</td>
<td>8'-4&quot;</td>
<td>6'-4&quot;</td>
</tr>
</tbody>
</table>

*For 400 fpm speed and over

**Pit Depth**

Depth of the pit (distance from lowermost landing to bottom of hoistway) is governed by the speed of the elevator and by the local building code. It must be sufficient to allow for overrun of the car, for installation of a buffer, and for other necessary pit equipment. Allowances generally range from approximately 4½ ft when the speed is 100 fpm or less to 12½ ft for 600 fpm.

**Overhead Clearance**

Overhead clearance (distance from uppermost landing to top of machine supports) is also dependent upon elevator speed and local code requirements. This clearance must provide for height of the car frame, for a
run-by allowance, and for whatever overhead machinery projects below the machine beams. It will vary from about 15½ ft for a 100-fpm elevator to about 25 ft for 600 fpm.

Because the type of equipment and local code requirements influence pit and overhead dimensions, it is not always possible to fix these in the preliminary planning stage; architects should remember that pit and overhead allowances may have to be changed when the equipment is finally decided upon.

**Should the Machine be Above or Below?**

Wherever possible, the machine and its control equipment should be mounted above, directly over the hoistway. When the machine is mounted below, overhead loading is materially increased, the number of auxiliary sheaves is increased, and length of the hoisting ropes is nearly doubled. All these disadvantages involve increased maintenance and installation costs, so that any saving in penthouse construction is more than offset. It was formerly believed that mounting the machine below eliminated noise in top-floor apartments, but with the advent of sound isolation for machines and quiet switches for controllers, this argument is no longer valid.

**Type of Machine**

Two types of elevator hoisting machines are commonly used with electric passenger elevators: geared and gearless (Figs. 5 and 6).

Where they can be used, gearless machines are generally considered superior to geared since between a gearless and a geared machine, equally well designed and constructed and operating under identical conditions, the gearless machine will consume less power for the same number of trips and stops, will operate more smoothly over a longer period of time, will stay in adjustment better and be quieter, will require less replacement of parts, and will have a longer over-all life than the geared machine. This is because the worm and gear of the geared machine involve areas of friction and wear which are not present with the gearless machine. On the other hand, initial installation cost for a gearless machine will probably exceed that for a geared machine.

Thus it might appear that gearless machines should be superior to geared machines for all installations. From a practical standpoint, however, this is not the case. As the rated speed of a direct current motor decreases, size and weight of the motor increase, because more iron is required to conduct the increased magnetic fields of slow-speed motors. In effect, this means that the practical application of gearless machines is limited to medium- and high-speed elevators, and that geared machines must be used for low-speed installations. Just what is the critical speed above which gearless machines are preferable and below which geared machines should be used? This is a highly controversial subject. Gearless machines are seldom used for elevator speeds below 300 fpm; most manufacturers provide gearless machines for all speeds above 400 fpm. Between these limits, however, the relative merits of the several sizes of geared and gearless machines offered by various manufacturers are not clearly defined.

In most cases, the choice between geared and gearless machines will be made by the manufacturer on the basis of height of the building, duty of the elevator, and kind of service to be furnished. For apartment buildings 10 stories or less in height, geared machines are generally considered adequate. For higher apartment buildings, gearless machines are usually recommended.

**Alternating vs. Direct Current Motors**

All gearless elevator machines, and most geared machines designed for use with elevator speeds greater than 100 fpm, are equipped with direct current motors. Direct current is preferred to alternating because it makes possible motors having better starting and stopping characteristics, with speed more easily controlled over wide ranges.

The direct current required is usually supplied by motor generator sets, a separate set for each elevator. From a service standpoint, although first cost of an AC motor may be less, the advantages of a DC driving motor, properly controlled, are measurable in terms of smoother riding cars, lower starting current, dynamic braking, and a generally higher quality of operation. Thus, wherever AC and DC machines are both available for the same elevator speed, the choice must be made between quality and first cost.
This overlapping of speed and consequent choice of machine lies between speeds of about 100 and 250 fpm. For elevators whose rated speed is 100 fpm or less, and where traffic is expected to be very light, there are fewer opportunities for the higher quality of DC installations to demonstrate themselves, and AC motors are generally used. These function very satisfactorily on low-rise, low-speed installations where the extra cost of DC cannot be justified.

**Machine Room Dimensions**

Minimum inside dimensions of the machine room required for apartment building elevators vary from about 7½' x 11' for a single low-speed elevator to approximately 17' x 22' for two “duplex” high-speed elevators. If efficient utilization of space is important, it is advisable to obtain exact dimensions from the manufacturer before completing the machine room design.

**Leveling**

Apartment house elevators should be self-leveling. All automatic elevators will stop within a short distance of the landing due to the action of the automatic stopping equipment; but unless the car is self-leveling its platform may be several inches above or below the landing when the car comes to rest.

Many non-leveling automatic elevators have been installed in apartment buildings in the past, but they cannot be considered up-to-date or desirable. In apartment houses, where the passengers are often laden with babies and bundles, the importance of having the platform level with the landing is obvious; tripping accounts for an appreciable number of all accidents which occur at elevator entrances.

**Door Openings**

There is an optimum width of door opening for each of the platform sizes recommended for apartment house use. Chosen from a passenger-handling standpoint, the following have been found most efficient for use with their corresponding platform widths and have been accepted as standard:

<table>
<thead>
<tr>
<th>Duty Load</th>
<th>Platform Size</th>
<th>Door Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200 lb</td>
<td>5'-0&quot;x4'-0&quot;</td>
<td>2'-8&quot;</td>
</tr>
<tr>
<td>2,000 lb</td>
<td>6'-4&quot;x4'-5&quot; or 4'-8&quot;</td>
<td>3'-0&quot;</td>
</tr>
<tr>
<td>2,500 lb</td>
<td>7'-0&quot;x5'-0&quot;</td>
<td>3'-6&quot;</td>
</tr>
</tbody>
</table>

**Car and Hoistway Door Operation**

Both car and hoistway doors should be power-operated in all installations which employ the 2000-lb car with 3'-0" door opening or the 2500-lb car with 3'-6" door opening. With collective control elevators, a moderate-speed operator (Fig. 10) is used which opens the car and hoistway doors simultaneously.

Whenever a moderate-speed electric door operator is used on an automatic elevator, the car door should be equipped with a safety shoe, which consists of a flexible rubber section mounted on the front edge of the door. If it touches a passenger or obstruction, the projecting shoe yields and makes an electrical contact which causes both car and hoistway doors to reverse to the open position. High-speed door operators are not recommended for automatic elevators.

For small buildings with low-rise elevators, where 1200-lb cars are used, hoistway doors may be manually operated. Fig. 11 shows details of this arrangement, which usually includes a single-swing door.

**Door Types**

In addition to the single-swing door, three types of horizontal sliding car and hoistway doors are used in apartment buildings: single-slide, two-speed slide, and center-opening.

The single-slide type is satisfactory for door openings up to and including 3'-0" and is widely used with the 2000-lb, “all-purpose” apartment building elevator. Fig 13 is a plan of this type of installation.
With the 2500-lb car (3'-6" door opening) either center-opening or two-speed car and hoistway doors can be employed (see Figs. 14 and 15). Center-opening doors require more space but are usually recommended wherever they can be employed. The two-speed arrangement, in which one section of the door travels twice the distance at twice the speed, is used where space limitations prohibit center-opening doors.

**Door Safety Devices**

Because an overwhelming proportion of all serious elevator accidents involving the riding public occur at hoistway entrances, the importance of adequate door safety devices cannot be over-emphasized. Electrical-mechanical interlocks to prevent hoistway doors from being opened when the car is not at the landing are required by all building codes and should never be omitted. These interlocks must also prevent movement of the car while the hoistway doors are open. Car doors should be equipped with electrical contacts which prevent the car from moving unless the car door is fully closed.

**Layouts**

When the number and type of elevators have been decided upon, the manufacturer prepares a "layout" showing the proposed installation in plan and elevation. It is based upon the building plans, and provides all information required by the architect and building contractor.

For preliminary studies such detailed layouts are not generally available; but most manufacturers will furnish on request preliminary "typical layouts" for any standard type of elevator installation. A typical layout provides sufficient dimensions and other information for preliminary design purposes, but all typical layouts must be used with caution, as local codes and other considerations may alter the dimensions shown.

**Reactions on Supports**

The architect can obtain complete solutions for vertical transportation design problems by consulting a reputable elevator manufacturer. The solution, as worked out after consultation with the architect, will be presented in the form of a final layout, amplified by a specification in a contract. However, there is one responsibility in connection with elevator installations which the manufacturer will not assume. The architect, engineer, or builder must be responsible for the design of the building structure to withstand the stresses which the elevator will induce in it.

In designing a building to receive an elevator, proper support must be provided for the elevator and its machinery. Walls, or beams capable of supporting the weight of the machine, the loaded car, and the counterweight, plus an allowance for impact loading, must be provided at the top of the hoistway. Also, firm supports must be provided at each floor for brackets to support the guide rails.

Table IV indicates the approximate order of magnitude of overhead loading for some typical apartment house elevators. Specific reactions to be provided for, and their points of occurrence, are always computed for each individual installation and furnished to the architect by the manufacturer, based upon the equipment selected.

<table>
<thead>
<tr>
<th>TABLE IV—Approximate Reactions on Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Load (lb)</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>1,200</td>
</tr>
<tr>
<td>2,000</td>
</tr>
<tr>
<td>2,000</td>
</tr>
<tr>
<td>2,000</td>
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<tr>
<td>2,500</td>
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<tr>
<td>2,500</td>
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<tr>
<td>2,000</td>
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<tr>
<td>2,000</td>
</tr>
</tbody>
</table>

**Types of Hoistway and Car Doors:** Fig. 13 shows single-slide car and hoistway doors, commonly used for openings up to 3'-0" wide. Fig. 14, center-opening doors, requires more space than other types but provides superior service; usually used for openings wider than 3'-0". Fig. 15, two-speed doors, requires one leaf of the door to travel twice as far, twice as fast, as the other.
Typical Streamlined Specifications for METAL CASEWORK FOR HOSPITALS—PART II

BY BEN JOHN SMALL, A.I.A. Associate, Alfred Hopkins & Associates. Architects; and co-author (with C. H. Cowgill) of the new book. "Architectural Practice"

PROGRESSIVE ARCHITECTURE presents the second and concluding portion of this specification on hospital "furniture," which is one of a series of streamlined specifications. Together with the first portion (published November 1947) this should prove to be a valuable and reliable document for the hospital architect.

FURNITURE STEEL CONSTRUCTION (continued)

I) Access panels. End of all free standing tables: equipped with removable panels filling open space between rear edge of two rows of pedestals. Panels: 16 gage steel, have series of louveres punched in same pattern. Inside front head, scroll to angles secured to rear of pedestal between legs, flush with top panel to and bottom edges reinforced with 5/8" by J" angle welded to front panel. Panels: installed flush with finished pedestal panels.

J) Legs, where required: 18 gage steel tubing, 3/4" dia. footed and threaded, adjustable bronze shoes, chromium plated.

3. BOX DRAWERS:

A) Outside head: flat, 20 gage steel. Edges: bent and in horizontal section with 1/16" bevel; corners: oxy-acetylene welded to create slight radius to eliminate sharp corners. Provide rubber bumpers on drawer head strike. Inside head: 22 gage steel formed with 1/16" bevel; corners: oxy-acetylene welded to inside surface. Panels: 20 gage steel, spot welded to flanges of drawer body. Drawer bodies: 22 gage steel with bottom and sides bent up in one piece, with top edges formed into head for stiffness.

B) Drawers of front area exceeding 60 square inches: equipped with progressive suspensions herein described. Others: equipped with channel suspension.

4. CARD INDEX AND VERTICAL FILES:

A) Construction: similar to box drawers excepting that drawer sides shall not be full height and drawer bottoms struck down to flush position when in closed position.

D) Drawer pulls: cast white bronze; have threaded studs with lock washers for fastening to drawer head. Drawer pulls: chrome plated, to match other hardware.

E) Drawer lock—pedestal type: where three or more drawers are included in any one pedestal or group of pedestals with a plunger type automatic locking device locking all drawers at one operation, controlled by one key. Locking plunger: installed in top member of pedestal. When in extended position, drawers: unlocked; when pushed in to flush position, locked by this one operation. Lock: contained within plunger, 4 pin tumbler grooved key type.

F) Label holders: unless otherwise specified, drawers: have cast bronze, chromium plated, label holders, approved size.

6. DOORS:

A) Solid panel type—hinged: Doors: either solid, ventilated or louvered panels as indicated or specified, other doors as indicated or specified: flush panel type, combination panel type.

B) Solid panel type—ventilating: Ventilated doors: have either round vent holes or louvers as indicated or specified: top and bottom of door panel as indicated. Doors indicated or specified: have 1/4" diameter holes drilled or punched thru panels with bolt fixings placed between panels both above and below vent holes to reinforce panels. Panels: reinforced together with steel tubing provided to fit vent holes.

C) Glass doors—hinged: Doors equipped with glass and rolls formed of 18 gage steel. These members: not less than 1/16" thick with face not exceeding 2 1/4" wide; have rounded 1/4" return for glass fixing separate and removable glass retainers strips also rounded to meet glass panel. Where stiles and rails are field fitted, reinforced, welded flush, smooth. Where doors are pre-assembled in factory, by proper fixing effect on back of left hand door to cover vertical center joint. Doors: hung so as to be flush with cabinet face. Doors which protrude: or are unembellished: not permitted. Provide doors with rubber bumpers.

D) Glass doors—sliding: Stiles and rails for sliding glass panels for hinged doors, arranged as double or triple sliding according to number and design as indicated. Run doors on bronze track installed within channel at bottom; support doors with two bolt bearing sheaves for each door. Provide doors with rubber bumpers. Equal eccentric flared, chromium plated counterbalance pull set flush with stile face. Equal doors with locks as specified herein.

7. DOOR HARDWARE:

A) Hinges: Equip doors with dual axis concealed, continuous channel member intermembered with hinges and effectively sealing opening between door and frame. Continuous hinges: when door is fully closed are closed, no part of hinge visible. Hinges: swing open to full 180 degrees. Assemblies: may use olive knuckle type, 3" in size, having bronze bushings between knuckles and leaves of both sections, recessed flush in doors and casework plasters. Hinges: chrome plated.

B) Knobs: solid bronze or white metal alloy, oval shape, die cast, remodeled. Active knobs: operate against rose on door face; locked when turned to key. Locks: equal, designated, contained within door knob. Knobs: chrome plated to match hinges in finish. Cabinet knobs: not exceed 1/2" from door.

C) Door bolt mechanisms: Latch bolt mechanisms: furnished for single door cupboards and right hand door of double door cupboards. Left hand door of double door cupboards: furnished with single automatic locking device; automatic spring type, built with bronze, chromium plated, spring latch operated by combination lock similar to Eagle 02291 installed on double door, both sections, recessed flush in doors and casework plasters. Locks: chrome plated.

D) Friction catches. Doors not required to be equipped with up and down bolt latching mechanisms: equipped top and bottom with cam lock metal plate catches.

E) Locks, where indicated or specified, 4 tumbler pin suspension type, made by Sargent & Co., Yale & Towne, National Lock Co., or F. C. Wright. Locks for sliding doors: similar to Yale & Towne 1722, set flush on door, sliding in case member. Where there are three or more doors in one opening, aforementioned locks: installed in and between doors and push bolt cylinder locks where locks are indicated or specified for intermediate doors. Combination locks where indicated: similar to Yale & Towne Series CC, Series WC, hand changing tumblers, Barrel nose of all locks: plated to match other casework hardware.

F) Keys. Locks within items of metal equipment, within room or space, keyed alike, but differently from each other room or space. Each door or space having its own key. Building grand master key. Each room or space having key up to and including 6 locks in all items of metal equipment:

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8. SUPPORTS:
A) Support wall hung cabinets on 2" by 4" wood support blocks for fixing to the wall at specified locations. Provide lock box or lockable cover for access to support blocks.

9. HOOKS FOR BROOM CLOSETS:
In broom closets provide two steel strips each fitted with a pair of hooks for hanging brooms and mops.

10. INSTRUMENT CABINETS:
A) Instrument cabinets: dimensions as indicated. Inner corners are covered with glass panels, latch mechanism.

11. DRILL AND REAMER CABINETS:
A) Drill and reamer cabinets constructed same as for metal storage cabinets. Each key is die-stamped with lock number, proving lock schedule, equipped with 4 tumbler grooved key locks, key alike for all 4 sides at front to take doors. Doors: 18 gauge steel, painted same as for cabinet shells. Hinges, approved handles. Place rubber bumpers on outside of hinged covers.

12. TILING BINS:
A) Tiling bins: double wall construction, with outer double wall 22 gauge steel and inner double wall 20 gauge. Hinged at front and rear to take doors. Doors: 18 gauge steel, painted same as for cabinet shells. Hinges, approved handles. Place rubber bumpers on inside of hinged covers. All parts of bins: reinforced, sound deadened with sound deadening material, specially constructed for this purpose. Bins are to be constructed with front and back doors to close between for easy removal. Where it is required for the bins to be in continuous rows: construct in groups of not more than three, with common partitions for mechanical connections.

13. PASS BOXES:
A) Pass boxes: furnished and set complete with glass panels, chrome plated. Pass boxes: double wall construction, insulated completely. Pass boxes are to be placed on all sides, top and bottom including doors with lead of 1/2" thick for enclosing partitions. All parts of boxes: reinforced, sound deadened with sound deadening material, specially constructed for this purpose. Bins are to be constructed with front and back doors to close between for easy removal. Where it is required for the bins to be in continuous rows: construct in groups of not more than three, with common partitions for mechanical connections.

14. NURSES’ MEDICINE UNIT:
A) Nurses' stations: arranged as indicated, consist of upper cabinet with glazed door containing a plate glass shelf, intermediate recess section: stainless steel top and sides, cabinet for holding 2’ roll of bandages, sink: 16 gauge stainless steel. Recess sections are to be designed same as upper cabinet. Lower section: consist of undersink stainless steel cabinet with lock, containing adjustable shelf, narcotic drawer with lock. Narcotic drawer lock: 4-pin tumbler; parallel pin, type, different from other all locks in building. Nurses' stations equipped with 4 caseworks, top: 18 gauge, wide, extending around two sides and top. Sink: constructed with double wall, with apertures for stainless steel sink. Sink dimensions: 12" x 12" x 7 deep. Shelves: ventilated by 4 louveres formed in sink apron.

15. NARCOTIC LOCKER:
A) Narcotic locker: constructed with single plates at back, sides, top, bottom and door. Plates: 1/8" thick, open heath screen in body of locker to prevent dust and air currents. Single or double as indicated, hung on two 3" fast pin steel hinges. Locker corners: reinforced with 2" by 2" by 3/16" angle iron. Lockers: locked by 2 cross bolts 1" in diameter, operating thru 1/2" by 3/16" angle iron, held in place by plate over bolt. For double door locked, double cross bolts 1" wide, up and down bolt. Bolt work on both doors: chrome plated. Lever bar handle equipped with locking dogs on rear. Bolt work is chrome plated with lock combination black with white enamel dial.

16. FILM TRANSFER TABLES:
A) Film transfer tables: construct as indicated. Top: 18 gauge steel, finished same as for cabinet shells. Hinges, approved handles. Place rubber bumpers on outside of hinged covers. All parts of boxes: reinforced, sound deadened with sound deadening material, specially constructed for this purpose. Bins are to be constructed with front and back doors to close between for easy removal. Where it is required for the bins to be in continuous rows: construct in groups of not more than three, with common partitions for mechanical connections.

17. CLOTHES LOCKERS:
A) Clothes lockers: of indicated dimensions. Sides, backs, tops, bottoms: 20 gauge steel, formed same as for cabinet shells. Lockers: provided with 4 tumbler grooved key locks, key alike for all sides at front to take doors. Doors: 18 gauge steel, painted same as for cabinet shells. Hinges, approved handles. Place rubber bumpers on outside of hinged covers.

18. MATTRESS RACKS:
A) Frames for mattress racks: 1/4" by 1/4" by 1/4" angle iron, securely welded together, cross braced, made rigid, equipped with 2 cross bolts 1" in diameter operating thru 1/2" by 3/16" angle iron, held in place by plate over bolt. For double door locked, double cross bolts 1" wide, up and down bolt. Bolt work on both doors: chrome plated. Lever bar handle equipped with locking dogs on rear. Bolt work is chrome plated with lock combination black with white enamel dial.

19. CLOTHING STORAGE RACKS:
A) Shelves for clothing storage racks: 27’ deep, two fixed shelves, supported on angle steel, 18 gauge steel, flanged down 1/4", back 1/4", with 2 cross bolts 1" in diameter, reinforced on underside with 2 chrome plated adjustable shelf supports. Shelves: 18 gauge steel, flanged down 1/4", 3 in width by 1 deep, continuous for entire length of locker, treated to underside of same. Shelves, framing, galvanized iron.

20. LADDERS AND TRACKS:
A) Ladders: rolling type, with steel track 1" in diameter, straight grained hardwood, finishing same as apparatus. Remove casters from any unit without disturbing adjoining units or any track. Where it is required for the ladders to be in continuous rows: construct in groups of not more than three, with common partitions for mechanical connections.

21. SHELVING:
A) Angle type. Construction used: one in which each unit is independent from others adjacent to it, requiring no removal of one unit without disturbing adjoining units or any track. Provide for stainless steel sinks. Sink dimensions: 12" x 36" x 7 deep, with flange at top, bottom, back, edges: 18 gauge, flanged for bolting to uprights. Optional angles where required for reinforcing of shelves: 1/2" by 1/2" hot rolled angle inserted into channels of metal equipment: of furniture steel. Where required, in as long lengths as practical, stainless steel.

B) Beaded type. End uprights in two parts, 18 gauge steel, flanged for bolting to metal channel section with 1" flange, treated to inside beaded uprights. Middle spacers: single shelf, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, two rows of 3/32" diameter adjustable bolts for securing to centering, extending full height of uprights with casework. Casework is to be continuous from floor to underside of top; spacers are to be chrome plated, unless otherwise indicated. Uprights inaccessible from outside: equipped with 18 gauge steel plate, curved front and rear. Shelves: 20 gauge steel, flanged for reinforcing, secured with 4 tumbler grooved key locks, key alike for all sides at front to take doors. Cornice shelves: 18 gauge steel, have flanged top set back 1/16", and in long lengths as practical, chrome plated. Shelves: 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel, flanged for bolting to metal channel section with 1/2" wide flange at rear, 18 gauge steel.
with rounded and mitered ends where indicated, supported on brackets, 1" clear of encapsulating partitions, as specified herein. Sinks and Brackets, "Carbonized Birch Construction."

22. CUBICLE PARTITIONS:
A) Cubicle partitions: flush wall type, 2" thick, 16" gage steel panels, 16" gage interlocking stiles and rails, 16" gage mitered headers and rails. Square spigots between walls: filled with fibre board insulation, 11/2" thick, compressed tightly against vertical steel members, by steel reinforcing members. Exposed joints: continuous, rigidly suspended in front of heat mechanism. Doors: insulated with aircell as specified herein for cabinet work with frames, cabinet construction: same as specified for other cabinet work. Install between walls continuous reinforcing members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension. Apron: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. After tops have been set in place these two members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.

B) Cabinet bottoms: made removable for access to electric apparatus. Inside walls: 18" gage, outer walls: 20" gage stainless steel. Space between inner and outer side walls: 12". Door: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. Apron: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. After tops have been set in place these two members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.

C) Where required to provide holes in tops of cabinets, use leaded soapstone rebates, flush with tops; make provision for linoleum or rubber edging. Bottom edge: have h" return for fastening to underside of counter top flange with countersunk oval head machine screws. Screws on front face of binding: not permitted. Binding: have 4 finish.

23. BLANKET WARMERS:
A) Blanket warmers: double wall construction throughout including sides, top, back, bottom, with 3/4" air space between walls. Inside walls: 18" gage stainless steel, securely welded to both inner and outer walls, outer drawer heads: filled with insulation, cabinet construction: same as specified for other cabinet work.
B) Cabinet bottoms: made removable for access to control valves. Continuous bottle partition 2" less in width than corresponding dimensions of cabinet interior, rigidly suspended in front of heating mechanism. Top: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. Apron: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. After tops have been set in place these two members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.
C) Valves, traps: furnished and installed under other Sections. Steam coil: formed from 3/4" diameter copper tubing, insulated with 3/4" air space between walls. Inside walls: 18" gage stainless steel; outer walls: 20" gage stainless steel. Install between walls continuous reinforcing members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.

24. BED-PAN WARMERS:
A) Bed-pan warmer cabinet: double wall construction throughout including sides, top, back, bottom, with 3/4" air space between walls. Inside walls: 18" gage stainless steel; outer walls: 20" gage stainless steel. Install between walls continuous reinforcing members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.
B) Cabinet bottoms: made removable for access to control valves, traps. Continuous bottle partition 2" less in width than corresponding dimensions of cabinet interior, rigidly suspended in front of heating mechanism. Top: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. Apron: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. After tops have been set in place these two members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.
C) Valves, traps: furnished and installed under other Sections. Steam coil: formed from 3/4" diameter copper tubing, insulated with 3/4" air space between walls. Inside walls: 18" gage stainless steel; outer walls: 20" gage stainless steel. Install between walls continuous reinforcing members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.

25. SALINE SOLUTION WARMERS:
A) Saline solution warming cabinets: double wall construction throughout including sides, top, back, bottom, with 3/4" air space between walls. Inside walls: 18" gage stainless steel; outer walls: 20" gage stainless steel. Install between walls continuous reinforcing members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension. Apron: have two rubber bumpers on inside edges of door, front flanged over channel reinforcement. After tops have been set in place these two members of stainless steel, conforming to progressive ball bearing roller suspension specifications for progressive drawer suspension.
THIS MONTH’S PRODUCTS

AIR AND TEMPERATURE CONTROL

Unit Heater Thermostat. A unit heater ther­mostat for either heating or cooling. Normal duty 1/4 hp at 115/230-v AC. Heating range 40-80°F; cooling range 55-95°F. Contact rating 110 amp at 115 v.

Hydrotherm Heating Plants. Two large size, automatic, gas-fired central heating plants: model 2V2HW 3, capacity 600 sq ft; model 2V2HW 5, capacity 1000 sq ft for manufac­ turing large residences. Volume water heating for apartment houses, hotels, laundries, com­ mercial buildings, etc. Occupies little space. Hock & Ackerman, Inc., 18 E. 41st St., New York, N. Y.

Sno-Breeze evaporative cooler. Fan-type model air cooler for small plants, offices, homes, motels, large house trailers. Can be mounted in window or outer wall. Features water reg­ ulation valves; adjustable spray; rustproof cabinet with quick change filter pad louvers; clog­ proof; recessed adjustable air grill. Delivers approximately 3000 CFM; 32” high, 28” wide, 28” deep. Palmer Manufacturing Corp., Phoenix, Ariz.

Winco Window Ventilators and Fans. Ventil­ators and fans to be inserted in glass block panels; one, two, and three blocks high; four stock sizes. Assure privacy, keep out drafts, rain, etc. Silent aluminum fans. Winco Ventil­ator Co., Inc., 6063 Maple Ave., St. Louis 12, Mo.

DOORS AND WINDOWS

Removable Paze Window. Three-sash win­ dow with removable center sash. Facilitates washing of whole, 8 sq screens on top and bottom panes. Center sash is stationary, requires no screen. Hines-Frederick Corp., 1026 17th St., N.W., Washington 6, D. C.

Protecto Automatic Window Lock. A window lock for double-hung window which locks automatically when windows are closed. Zinc-plated; rust-proof. New Product Co., 19 W. 44th St., New York 19, N. Y.

Preslok. A keyless door lock which closes at flick of a lever; opens as proper combination is typed on out four small buttons. May be installed in standard 1¾” wood door. Said to afford greater security than ordinary door lock. Security Lock Corp., Walden, N. J.

Tentee Door Stops and Plates. Made of light­weight plastic; Door stops, “push” and “pull” plates. Tarnishproof and dirt-resistant. Ten­ nessee Eastman Corp., Kingsport, Tenn.

ELECTRICAL EQUIPMENT AND LIGHTING

Colorlighting Clips. Lightweight spun alumi­num color clips fit over standard reflector bulb, have color filter which prevents escape of heat. For spotlights and floodlights in 17 standard colored lights. Amplex Corp., 87 Columbus St., Brooklyn 2, N. Y.

Onan SCR-155 Electric Plant. A high-capacity, aluminum electric generating plant for heavy duty service. Available in 60 or 50 cycle AC (2000 and 3000 watts); DC (5000 and 3500 watts battery charged). Stationary or portable models: manual or electric start­ing. D. W. Onan & Sons, Inc., 43 Royalston Ave., Minneapolis 5, Minn.

Electrical Conversion Set. Complete conver­sion set shields and alters appearance of electrical fixtures by substituting either glass­ paneled or louvered models without dis­mounting original fixtures. Sylvanics Electric Products, Inc., 500 5th Ave., New York, N. Y.

FINISHERS AND PROTECTORS

Resistall. A fire-retardant paint applicable as primer or finish coat; reduces with any common thinner; tints with regular oil colors. Will not flash, flame, or burn; also resists weather, moisture, salt, air, water. Bryskey Chemical Mfg. Co., 408 Madison St., New York, N. Y.

Mercotone Deep Colors. Oil paints available in seven basic shades: yellow, blue, red, maroon, green, brown, and deep blue. May be used in tinting enamel and semi-gloss paints. M. J. Merkin Paint Co., Inc., 1441 Broadway, New York 18, N. Y.

Charlex. Cloth backing for mounting maps, charts, photographs, documents, etc., by passing a heated flattron over the sheet. Available in cut sheet sizes as well as in roll form. Seal, Inc., Shelton, Conn.

INSULATION (THERMAL AND ACOUSTIC)

Arrestone. A non-combustible, metal-pan acoustical unit with a noise reduction co­ eficient of .95. Passes snap on “T”-runners and can be removed for washing, painting. Has backed-on enamel surface; 12” x 14” x 1”. Thermal properties. Armstrong Cork Co., 1010 Concord St., Lancaster, Pa.

Celangene Vimilite. Weather shields said to be more effective than tarpaulin in winterizing new construction by raising temperatures 15° with shutting out daylight. Consists of a plastic-coated wire (or plastic) mesh. Can be stored for re-use and do not constitute a fire hazard. Rolls 36” and 28” in width. Cel­angene Corp. of America, 180 Madison Ave., New York 16, N. Y.

LOAD-BEARING STRUCTURAL MATERIALS

Alumi-Drome. A 36” x 60” aluminum, unit­type arched roof, self-supporting, prefabric­ated building for use as crop storage, barn, tool house, workshop, store, garage, etc. Concrete foundation extends one ft above ground. Said to provide excellent natural insulation. Vermil-proof. Two windows at each end; twin louvers at top. Maximum interior height, 19 ft. Reynolds Metals Co., 2500 S. 3rd St., Louisville, Ky.

NON-LOAD BEARING STRUCTURAL MATERIALS

Alumicon Safety Tile. Shock-resistant, light­weight, non-slip tile which can be applied over existing wood, concrete, or steel floors. Said to be resistant to water, oil, fire, and commercial acids and alkalis; also rela­tively unaffected by weather. Comes in red and green. American Abrasive Metal Co., Irvington, N. J.

SANITARY EQUIPMENT, WATER SUPPLY, AND DRAINAGE

Balanced Flow Water Pump. A tankless, self-adjusting domestic water-supply pump which provides fresh water for one or more outlets. Compactness of unit makes installation possible under kitchen sink or in any corner which provides protection from freezing. Gould Pumps, Inc., Seneca Falls, N. Y.

“Packaged” Sink Frame. Sink frame which permits installation without use of special tools. Can be used with standard plywood top. Sink or frame can be removed any time without damaging or altering cabinet top. Comes in 15 stock sizes; anodized or alumi­num-finished, Walter E. Selek and Co., 223 W. Hubbard St., Chicago 10, Ill.

Rudy-Gilcor Boiler. An automatic oil-fired hot water supply boiler shipped completely as­sembled. Recommended for farms, small commercial buildings, restaurants, gasoline stations, or wherever manually controlled tank heaters are necessary. Rudy Furnace Co., Dowagiac, Mich.

Thermador Bilt-in Electric Range. A stainless­steel range which can be fitted into any floor plan at any desired height. Consists of 2 basic and 5 auxiliary units; cooking faces and master oven, secondary oven, grill and gas-train, makes maximum use of available space. Thermador Electrical Manufac­turing Co., Los Angeles 23, Calif.

SPECIALIZED EQUIPMENT

Duplex Speaker. Two-way speaker which re­produces entire FM range without distortion. Available in top-quality radios or by custom installation. Altec Lansing Corp., 250 W. 57th St., New York 19, N. Y.

Oasis Model OB-4. A bottled-type electric water cooler for use where plumbing is not available. Serves 80 persons per hour. Ebco Manufacturing Co., Columbus, Ohio.

Bed-Or. A cabinet for use with roll-away box spring beds of any standard size. Has eight drawers and center chest; storage space equals ordinary dresser. Sands Furniture Co., 5401 Sweeney Ave., Cleveland, Ohio.

The Ranger DC Welder. A flexarc engine­driven DC welder, complete with electrode leads, helmet, and electrode holder. Gener­ator is connected to Hercules 1XB engine. Welding current has a range from 30 amp at 20 to 250 amp at 30 v. Portable or station­ary models available, Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

SURFACING MATERIALS

Cedro Macho. Wood having many mahogany characteristics now imported into the United States from Costa Rica. Widely used in Europe for marine and furniture construction. Said to be completely resistant to expansion in water and contraction under the sun; also resists vermin. Don B. Wallace & Co., Detroit 26, Mich.

Decorative Micarta. The well-known laminated plastic, manufactured by Westing­house, is now being sold by U. S. Plywood Corp., 55 W. 44th St., New York 19, N. Y.
Air and Temperature Control

1-143. Breidert Air-X-Hauster, 8-p. illus. booklet on a roof ventilator which employs venturi action of outdoor air currents to exhaust air from residential, commercial, industrial buildings; also for marine installation, etc. Explanation of principle; advantages; test results. G. C. Breidert Co.

1-144. Type C Worm-Feed Stokers, AIA 30 C-1, (Bul. S-70—2nd Edition), 8-p. illus. bulletin on a line of worm-feed stokers which feed up from below fire. Eliminates soot and smoke; prevents blowback of smoke fumes. Three rates of speed; safety cut-out switch; also automatic air volume control. Construction data; standard sizes; details. List of other products. Brownell Co.


1-130. Refrigerating, Ice-Making and Air Conditioning Equipment (Bul. 80-B), Frick Co. Reviewed November.

1-137. Kewanee Type-C Steel Boiler (Bul. 97) AIA 30 C1, Kewanee Boiler Corp. Reviewed November.


From Surface Combustion Corp. Reviewed November.

1-139. Gravity Warm Air Heating System (Form GQP 36-5-A), AIA 30-B.

1-140. Winter Air Conditioning (Form GQP 46-5-B), AIA 20-B.


Doors and Windows


4-111. Kinnear Motor Operated Doors AIA 16-D-13 (Bul. S-17-4-17), 8-p. illus. bulletin on an electrically or wall-mounted. For use on rolling doors; also supplied with emergency hand chain. Details of construction; advantages; specifications. Kinnear Mfg. Co.


4-112. NuEra Double Hung Aluminum Window, 6-p. illus. folder on double hung aluminum window with movable jamb member which permits removal of sash for cleaning. Combination of jamb member and sash lock gives burglar-proof protection. Extremely narrow sash frames, mantins, etc., to reduce interference with vision. Illustrations of operating method; installation data; construction details and drawings. Dimension tables. NuEra Window Co.

4-113. Safe Builders' Hardware (Cat. 19), 80-p. booklet illustrating line of door locks, push and letter plates, knockers, knobs, hinges, cabinet hooks, handles, etc. Alphabetical and numerical index; also finish symbol prefixes. Dimensions; weights; specifications. Safe Padlock & Hardware Co.

4-109. Truscon Steel Windows and Industrial Doors, Truscon Steel Co. Reviewed November.


Electrical Equipment and Lighting

5-102. Display Window Lighting, AIA 31F, 6-p. folder on window reflectors, disc louvers, spot light sockets, trough reflectors for display windows. Illustrations; descriptions; features; dimensions. Claude Banks Co.


5-104. Electric Plants (Form A-138-20M-447), 16-p. catalog on electric generating plants in alternate current models, direct current, and battery charging plants. Instructions on methods of choosing sizes, starting methods (manual, electric, remote, etc.). Illustrations and specifications of various models. Watts, volts, weights, and dimension tables. Application details. D. W. Onan & Sons, Inc.

5-105. Powerstat Theatre Dimmers (Bul. 247), 4-p. illus. folder on continuously tapped auto-transformers for theaters, school auditoriums, ballrooms, cocktail lounges, store windows, etc. Illustration of various types. Operating data; speed rating table. Also data on custom-built dimmers. Price list included. Superior Electric Co.


Finishes and Protectors


Insulation (Thermal, Acoustic)

9-82. Infra Insulation, 16-p. illus. booklet on aluminum accordion-type insulation material for use where one layer remains exposed;
COPPER AND COMMON SENSE

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It is common practice for the architect to inspect a resilient floor installation after the job is completed. However, a single inspection made at this time may fail to reveal unsatisfactory subfloor conditions. Subfloor inspection can be made easily and quickly prior to the installation of the resilient flooring material. Inspection should also cover some materials and workmanship which are most readily seen while work is in progress. Thus, it is wise for the architect to begin inspection with the subfloor and continue through the various phases of the flooring installation.

The following information and the factors outlined in the table at right should be helpful in the timing of inspections. In most instances, the installation of a resilient floor can be checked during the architect's routine inspection of general construction.

**SUBFLOOR INSPECTION**

The condition of the subfloor has an important bearing on the appearance as well as the life and serviceability of a resilient floor. A subfloor in poor condition may greatly shorten the life of the floor.

**New Concrete Subfloors**—It is important that all new concrete subfloors be thoroughly dry and cured to a hard, non-powdery finish. Dampness or a damp or powdery surface will prevent the bonding of the adhesive to the subfloor. A smooth subfloor is also important since any irregularities will show on the surface of the resilient flooring material and high points will receive excessive wear. Concrete subfloors should be free of expansion marks, trowel marks, and other imperfections.

**Old Concrete Subfloors**—Inspect for proper filling of holes, cracks, and the leveling of uneven areas. As in new concrete subfloors, the slab should be thoroughly dry and free from oil, paint, varnish, dirt, and other foreign matter.

**New Wood Subfloors**—Where resilient floors are to be installed over new wood subfloors, the architect should check his construction specifications against the manufacturer's recommendations as to construction in single, double, tongue and groove, or hardboard underlayment subfloors. Major changes from the manufacturer's recommendations may require individual recommendations for the proper installation of the resilient floor.
**Old Wood Subfloors**—All loose boards should be re-nailed and all badly worn or damaged boards replaced. Uneven areas should be sanded or properly filled with a floor fill according to the resilient floor manufacturer's instructions. Sanded wood floors should be sealed to prevent warping from absorption of moisture from adhesives. As in concrete subfloors all previous finishes, oil, dirt, and foreign matter should be completely removed.

**INSPECTION OF MATERIALS**

Before the flooring contractor starts the job, all resilient flooring materials to be used on the job should be inspected for quality, color, and type as specified in the architect's flooring contract. Particular attention should be given to the types of lining felt and adhesives being used, especially if the contract agreement or the architectural specifications permit the use of adhesives and underlayments other than those recommended by the manufacturer. Resilient flooring troubles often can be traced to improper adhesives.

**INSPECTION OF THE INSTALLATION**

To insure quality workmanship, the architect should inspect the floors during installation. Shoddy workmanship, such as careless cutting and fitting, can be detected and corrected early in the job.

One of the most important operations in the installation of linoleum and Linotile® floors is the "rolling" process. During this process all air bubbles, ripples, and uneven areas are rolled out. This operation is also necessary to insure proper bonding of the resilient floor to the sub-floor. To insure a satisfactory installation, the time required for proper rolling should not be shortened in order to speed the completion of the flooring installation.

In areas where Marbelle or patterned linoleum is being used, particular attention should be paid to seam matching during installation. (See illustrations B and C.)

In resilient tile installations, such as asphalt tile, rubber tile, Linotile, and cork tile, all edges of the tile should be tight to the floor. All joint lines should be symmetrical. (See illustration A.) To prevent undue indentation, radiator legs should rest on metal slugs.

**Inspection of special installations**—The preceding comments cover ordinary inspection details encountered in checking the installation of the most common types of resilient floors over wood and concrete subfloors. Details covering the inspection of resilient floors over other types of subfloors such as magnesite and metal depend upon individual circumstances. For such cases, Armstrong Cork Company will be glad to offer individual inspection recommendations. Inquire at any Armstrong office or write stating your problem to Armstrong Cork Company, 8912 State Street, Lancaster, Penna.

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**FACTORS IMPORTANT IN RESILIENT FLOOR INSPECTION**

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<th>Pre-Installation Inspection</th>
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<tr>
<td><strong>Type of Subfloor</strong></td>
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*Fig. B.*—An example of a perfect workmanship in seam cutting and pattern alignment. The white line indicates the seam. Note how the over-all effectiveness of the floor design is greatly increased by proper matching of the design repeat.

*Fig. C.*—For the proper appearance of Marbelle linoleum installations, the strips should be "reversed" or turned end for end. This gives a continuous flow to the graining and eliminates the optical illusion of "raised seams" which may otherwise occur in large installations of Marbelle linoleum.
ARCHITECTURAL PRACTICE


If we could hand this book to a distinguished architect of the last century, his reactions of confusion and amazement would reflect the amazing strides that the profession of architecture has made in the last 50 years. Of course, some architects have not taken the trouble to keep abreast; others have tried in vain. The importance of this book, therefore, is that it gives the architect or student a means of knowing the fundamentals of architectural practice today.

The book frankly purports to be a textbook, and as such it will be a great boon to those young architects who are preparing for their state registration examinations. But such a collection of office forms, accounting systems, contract forms, and legal advice under one cover takes it out of the textbook class and makes it a valuable reference book for the architect and for his office. No student boning up for his state examinations will be able to absorb more than a small fraction of its meaty contents, but he will at least know where the material, advice, and data he wants can be found. For this reason it will also serve well in architectural schools, both in courses in architectural practice and specification writing.

Textbooks have a right to be dull. Often the results of the heavy, ponderous grinding of fine minds, transformed to the typed page, appear to be stilted and hard to read. The mature, easy, simple style of Architectural Practice, however, allows one to read on and through rather unexciting subjects without a sense of time wasted or of boredom. There is enough change of pace, a touch of comedy thrust in just when the interpenetration of the various state certification requirements. Here, page after page looks much alike, and if the mind wanders one has to turn back to a page long past in order to become oriented. This book is not limited to the casual factual discussion of its main themes, but highlights them with pertinent observations in the realms of psychology, philosophy, ethics, and sociology, all of which serve to heighten the reader's interest.

You may question why the chapter, "A Negotiated Agreement Between Architect and Union," which takes up eight pages, is included. After reading it, perhaps you will decide that it is time for architects to know what the unions would demand should they control the architects' offices. If architects know what the unions want and provide that, or better, they will never be up against the labor problems which have beset so many businesses. Few architects' offices have any set standards governing holidays, sick leave, and overtime rates, all of which are included in the negotiated union agreement. The rules set down on the pages of this chapter might well be adapted as standards for any office.

Fee standards have recently been developed by various Chapters of the American Institute of Architects. These are fully reproduced in this book and are therefore up to the minute; they may well encourage an acceptable all-American fee standard.

A full discussion of contractual agreements is one of the most important parts of the book. The Standard A.I.A. General Conditions of the Contract are printed one by one with an explanation of their intent directly following, offering the reader an excellent opportunity of understanding them clearly.

"Financing Building Projects" is in itself a valuable treatise on present-day finance. It skillfully sketches the whole gamut of our system, followed by a detailed discussion of building finance. There is a question as to the need for so much of this background; it is discursive and out of the realm of the book title. On the other hand, the accounting system for architects which is presented is most practical and useful.

Sins of omission from this monumental work are few. Under "Management" there might be included a "Guide to Office Routine or Procedure." Perhaps this omission was intentional; it would be impossible for one such "Guide" to serve the varying types, sizes, and characters of architectural offices.

The hand of the experienced and skillful specification writer is evident. The fine organization of a most complex and diversified subject, the clarity of expression, the unity of the sections and their orderly relation to one another, show that specification writing may be applied to a wider field.

The authors should be thanked by the profession for their painstaking and laborsom research and for their time consuming job of analysis and assembly. This book is a needed one and will be widely used.

HAROLD R. SLEEPER

U.N. ARCHITECTS' WORK


Here is the complete report on the work of the international design panel that has been watched with such interest by all architects. It includes a statement on the acquisition of the site, explains the program and the technical requirements, and presents the preliminary plans, sections, and visualizations that have been arrived at. The report and the book are excellently prepared; text is lucid and logical, and layout and ornament are handsome.

T. H. C.

FIRST CATHEDRAL BOOK


For the subject of the first in a series of booklets depicting English cathedrals the publishers chose St. Paul's in London. Of all the historic cathedrals it alone was built for the Anglican service and it alone was substantially completed during the lifetime of the architect. The story of the design and construction of St. Paul's as summarized in this booklet has many features familiar to architects. The client's difference of view and taste, shortness of funds, difficulty in getting materials, slow payment of the architect's fee were problems which Sir Christopher Wren also had to face. Partly because of them he produced a work of architecture trite in style and ornament, but despite them a work great in scope, scale, and effect.

LAWRENCE E. MAWN

WELL DUNN


In the daily traffic flow of architectural practice, time and space for humor are often lacking. The New York cartoonist Alan Dunn fills these voids in a very solid way. "I work with architects sufficiently," he says in a foreword, "to have found the subject a fruitful source of cartoon ideas." The subsequent 152 drawings, many of which originally appeared in Architectural Record, have frequently straining for a point, these droll comments from a knowing bystander stress the foibles of avowed Modern Stylists and penetrate if not interpenetrate, the design clichés and private terminology of the more earnest theoreticians.

G.A.S. (Continued on page 86)
EVERYTHING YOU WANT TO KNOW

about Q-FLOOR wiring

Packed into this brand-new Data Manual are answers to all your questions on planning for Q-Floor wiring. In its 92 pages you'll find enough specifications, descriptions, detail drawings, and installation photographs to give you the full story of this completely modern wiring system. The book has been designed throughout to acquaint you with the versatility of Q-Floors and Q-Floor wiring, and to make it easy for you to incorporate it in your plans. For your free copy of the Q-Floor Wiring Data Manual, write on your letterhead to Section C63-1269, General Electric Company, Bridgeport 2, Connecticut.

Contents:

General Data—Ten pages of explanation, telling what Q-Floor wiring is, and what it can do—and a question-and-answer section, giving you down-to-earth answers to your own questions.

Product Listings—Catalog descriptions and photographs of Q-Floor wiring components.

Layout Design Data—Diagrams and photographs explain how to get the utmost in electrical flexibility with Q-Floor wiring; how to fit it into your plans.

Installation Data—Details on construction requirements and on methods of installation.

Dimensional Drawings—Detail drawings of Q-Floor wiring components.

Illustrations—An excellent selection of installation photographs and pictures of new buildings utilizing Q-Floor wiring for flexible, economical electric systems.

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ON LARGE PROJECTS OR SMALL BUILDINGS

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DECEMBER, 1947 85
REVIEWS
(Continued from page 84)

MONA LISA'S MUSTACHE

Terrific Terence has not done it again. Some three years ago the knowing author of Goodbye Mr. Chippendale almost hilariously expelled all sorts of musty furnishings and revered household junk to clear a place in our homes for contemporary furniture designed for Americans. He soon had a large following and gave fresh inspiration to many designers and decorators who had wearied of perpetuating hand-me-downs. He argued ably then for modern design, but in his newest book he cannot find a good word now for art of our time. There was reason to hope that he would slash down all the insane-to-vicious painting (including the domestic product that is nauseating even avant-garde critics these days) and clear the walls for honest American art. Moved instead to expose Black Art dabblings of European painters, sculptors, and architects who have been well publicized as "men of genius," Gibbings himself does not come out of the welter of magic, astrology, and portents (some political, as well as midnight hocus-pocus in dank caves) in time for more than a skipping dismissal, on his last page, of the whole structure raised by artists since the impressionists. Architects fare no better since the whole chapter, "Magic in Architecture," is devoted to the Bauhaus origins and isms without suggestion of any good results from the school's research and design experiments. This partly witty book is recommended reading for those who don't like modern art and artists anyway.

C. M.

SWISS WOOD HOUSES
Schweizer Holzhäuser. Paul Artaria. Wepf & Co., Verlag, Basel, Switzerland, 1947. 127 pp., illus. 10 francs

An attractive picture book with some text, illustrating contemporary homes in Switzerland. The architecture has a distinct regional character, with plans fairly free and in most cases carefully studied. The editors of Homes applaud this Swiss counterpart.

T. H. C.

TOWARDS A NEW ARCHITECTURE
Le Corbusier. Translated by Frederick Etchells. The Architectural Press, 13, Queen Anne's Gate, Westminster, S.W. 1, London, England, 1947. 269 pp., illus. 15s

This is a new English edition of the classic work by the world's most articulate designer. It still reads well and, although the illustrations are the original ones used in the 1923 French edition and are quaint in some instances, the points then made are still valid. It is easy to understand the influence of the book; but also easy to see how it has been misunderstood.

T. H. C.

19TH SCHOOL YEARBOOK
The American School and University. American School Publishing Corp., 470 Fourth Ave., New York 16, N. Y., 1947. 650 pp., illus. $4.00

The nineteenth annual edition of this yearbook contains articles in programming, planning, construction, lighting, heating. While its slant is toward administrators, architects new to the field could gain information from its 244 editorial pages and 406 advertising pages.

T. H. C.

(Continued on page 88)
Whether you use one drain or a thousand, the production facilities that make the drains are important to you. They mean the difference in your being able to finish a job on schedule . . . in coming out with the profit you estimated . . . in eliminating any "kick-back" after the job is completed. During the war years you were more than tolerant of delays . . . but you were looking to the day when you could get what you wanted when you wanted it. Josam was looking toward that day too, and developed newer and larger production facilities.

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You may never guess how many drainage products Josam's new facilities will be able to produce, but you can be assured that they can now turn out all that you will need. This ability to more than triple prewar production didn't happen suddenly ... Josam's policy for almost thirty-five years has always been to keep ahead of plumbing drainage requirements by continuous improvement of both product and process. Today, the Josam line includes over a thousand different types of drainage products, making the right type of plumbing drainage product available to you for every purpose!

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There are no substitutes for Josam Products
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And it was such a beautiful tracing when it first left the board — but look at the prints now, after that last revision... a nice big "ghost" firmly astride the front elevation. Moral... don't use inferior tracing cloth.

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4. No surface oils, soaps or waxes to dry out
5. No pinholes or thick threads
6. Mechanical processing creates permanent transparency

Arkwright TRACING CLOTHS
AMERICA'S STANDARD FOR OVER 25 YEARS

CONCERNING TOWN PLANNING

Le Corbusier. Translated by Clive Entwistle. The Architectural Press, 12, Queen Anne's Gate, Westminster, S.W. 1, London, England, 1947. 237 pp., illus., by the author. 10s. 6d

Never one to pass up an opportunity, Le Corbusier answers 18 leading questions on architecture and town planning posed by a projected English magazine. The magazine was dropped; Corbu goes on. A readable summary of the author's well established points of view.

T. H. C.

PRINCIPLES OF TILE ENGINEERING

Harry C. Plummer and Edwin F. Wanner. Structural Clay Products Institute, 1756 K St., N.W., Washington, D. C. 453 pp., 6" x 9", illus. $4.50

This is the first comprehensive handbook on the properties and use of structural clay tile, including facing tile. The authors, with a background in research for the Structural Clay Products Institute, have done a very thorough job. Material drawn from publications of the National Bureau of Standards and other research, as well as data from the various manufacturers, are clearly presented and generously illustrated.

Various structural systems are covered, including patented systems. Complete design data are given for spacing and reinforcing various types of slabs. Federal specifications applying to tile and mortar are summarized and specifications are given for erection of tile walls and piers and construction of various types of floors.

The arrangement of the book is convenient and attractive although the type is over-small. The illustrations (with few exceptions) are particularly complete and clear.

JOHN RANNELS

THE GENERAL HOSPITAL

Hospital Care in the United States. The Commission on Hospital Care, The Commonwealth Fund, 41 E. 57th St., New York 22, N. Y., 1947. 651 pp., illus. with charts and maps. $4.50

This is a comprehensive study of the general hospital in this country, its function and functioning, its role as a socially useful unit, and its possible extension and improvement. Serious students of hospital planning should have the book.

T. H. C.
Nation's Most Modern Stores built with POZZOLITH CONCRETE

These four metropolitan stores, embodying the most modern features of department store design, are representative of the many important structures being built today with Pozzolith Concrete.

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**REVIEWS**

(Continued from page 88)

**VICTORIAN MODERN**

Robin Boyd. Renown Press, Morton Ave., Carnegie, Melbourne, Australia, 1947. 70 pp., illus.

Published by the Architectural Students’ Society of the Royal Victorian Institute of Architects (those incorrigibles who publish *Smudges,* the best student paper going), this book is a wise and witty review of the development of architecture in Victoria. The study leads logically to the contemporary expression, but its broad-minded approach can be judged from the subtitle—“One Hundred and Eleven Years of Modern Architecture in Victoria, Australia.”

T. H. C.

**NOTICES**

**SCHOLARSHIPS, COMPETITIONS**

A scholarship and medal fund in the name of SIR CHARLES REILLY of the Liverpool School of Architecture, has been proposed by a committee of British architects. The fund will give an annual award for the student with the best solution of a design problem set and judged by the Liverpool School. Subscriptions and queries may be addressed to the Hon. Secretary and Treasurer, Mr. A. G. Sheppard Fidler, c/o Barclays Bank Ltd., 170 Fenchurch St., London E. C. 3., England.

Nelson A. Rockefeller, president of the Museum of Modern Art, has announced an International Competition for the Design of Low-Cost Furniture. The competition opens at the beginning of this month and will close eight months later with the award of prizes and grants totaling $50,000. Full information may be had by writing to Museum Design Project, Inc., 11 W. 53rd St., New York 19, N. Y.

The American Field Service has established a scholarship program whereby students all over the world may study in foreign countries. The 50 scholarships awarded annually are open to applicants of both preparatory and college age. Two of this year’s winners, MILAN STAMM and VLADIMIR BRTAN of Czechoslovakia, are studying at the Wyoming Seminary in Kingston, Pa., and at the Choate School in Connecticut, respectively. Both expect to pursue courses in architectural engineering.

**NEW ADDRESSES**

STANLEY C. PONIO, 391 Delaware Ave., Buffalo 2, N. Y.

REGIONAL OFFICE OF AIRPORTS AND BUILDINGS DIVISION, AMERICAN AIRLINES, 59 E. Monroe St., Chicago 3, Ill.

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Because they speed up building time 20 to 30%.

Because they save a tremendous amount of drafting room time.

Because they provide dry, clean, quiet, incombustible, weight-saving construction.

And this is why the largest post-war office buildings in the South, in New England and in Canada are also using Q-Floors.

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You can see Q-Floor fittings at any General Electric construction materials distributor's. Write for detailed information for your file.

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Built any size, for installation in old or new buildings. Write today for complete information.
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The scene is the stair leading from the registration center at General Electric's Lighting Institute at Nela Park, Cleveland.

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G-E LAMPS
GENERAL ELECTRIC
Blue Bell, near Philadelphia, is the site of "Rogue's Roost," a fine example of the French Provincial style, in native Pennsylvania stone. Its quiet charm is enhanced by the interesting arched treatment of doors and casement windows. This careful attention to detail prompted the architect to specify Getty Internal Gear operators for every window in the house, in keeping with the simple elegance of the other appointments. Since 1938 these operators have been giving unflagging service, opening and closing the wood sash quietly, efficiently. And the exclusive Getty Internal Gear construction means freedom from maintenance, year round ease of operation, positive casement control with a flip of the finger.

Getty, originators of the Internal Gear operator, offers the finest in casement operating devices. The housing of these operators is of solid cast bronze; the worm is machine cut of case-hardened cold-rolled steel. May be used with draperies, shades or venetian blinds, and are available in a variety of finishes to harmonize with any interior decoration.
Nail down these three important facts about Certified Ballasts:

- They assure dependable operation of a fluorescent lighting fixture.

- They are tested, checked and certified by Electrical Testing Laboratories, Inc. as meeting rigid manufacturing specifications.

- Leading fluorescent lamp makers will guarantee lamp performance when Certified Ballasts are specified in a fixture.

The word "CERTIFIED" on a fluorescent lamp ballast tells you instantly that here is a product that gives you the greatest possible efficiency in operation and performance of fluorescent lighting. Insist on ballasts bearing the ETL shield in the fluorescent lighting equipment you sell. Give your customers the protection they need and want.

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3501 Addison St., Chicago, Illinois

General Electric Co.
Specialty Transformer Division
Fort Wayne, Ind.

Wheeler Insulated Wire Co.,
378 Washington Ave., Bridgeport, Conn.

Jefferson Electric Co.
Belliwood, Illinois

Sola Electric Co.
2525 Clybourn Avenue
Chicago 14, Illinois
JOBS AND MEN

(Continued from page 94)

Good education; experience in contemporary and progressive design and methods. Partnership practice prior to war. Officer, Navy Civil Engineer Corps during war. Presently in charge of design and plan production of large and important work. Box 78, PROGRESSIVE ARCHITECTURE.

CONSTRUCTION SUPERVISOR—Canadian, young, aggressive, extensive experience in residential construction and prefabrication (factory and field), moving to Los Angeles in November, desires position as supervisor or construction salesman. Not afraid of long hours or hard work. Would like chance for advancement. References and full information upon request. Box 79, PROGRESSIVE ARCHITECTURE.

MILLWORK DRAFTSMAN—now employed, desires part-time, free-lance drafting work. Thoroughly experienced in all phases of architectural millwork, from store fixtures to churches. Accurate, dependable work from rough sketch to finished drawing. Box 83, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER—desires sales agencies in building materials requiring engineering know-how. 15 years’ broad experience in plant maintenance and consulting engineering work. Registered professional engineer. New England territory desired on commission basis. Box 84, PROGRESSIVE ARCHITECTURE.

ARCHITECT—38, veteran, registered California, desires association or partnership with established firm for practice in western United States. Varied experience includes responsible charge of land planning, public works, industrial and large-scale community development projects. Box 85, PROGRESSIVE ARCHITECTURE.

NOTICES
NEW PRACTICES. PARTNERSHIPS

DONALD G. FUDGE and ALPHEUS F. UNDERHILL have announced their association with offices at 103 E. Woodlawn Ave., Elmira, N. Y.

FERFIS & ERSKINE have associated at 577 Larue Ave., Reno, Nev.

STANLEY A. MOE and NORMAN K. FUGELSO have formed a partnership at 4040 Wilshire Blvd., Los Angeles 5, Calif.

GEORGE L. EKVALL has opened an office in the Funk Bldg., Fifth and Capitol Way, Olympia, Wash.

ROBERT A. LITTLE has opened an office at 1303 Prospect Ave., Cleveland 15, Ohio.

J. ALONZO PLATER has announced a partnership with HOWARD H. MACKEY, with offices at 1611 N. Broad St., Philadelphia, Pa.

FREDERICK PERL, formerly of Berlin, Paris, and Rio de Janeiro, has opened an office at 12 E. 46th St., New York 17, N. Y.

GLEN M. DREW has announced the opening of his office at 505 Vine St., Poplar Bluff, Mo.

JULIUS STEIN has opened an office at 515 Madison Ave., New York 22, N. Y.

APPOINTMENTS

The Virginia Polytechnic Institute has announced the following appointments to the faculty of the Department of Architecture, all as associate professors of design: HEINRICH W. WAECHTER, HENRY H. WISS, and CHARLES S. WORELEY.

Pratt Institute has made some additions to its art staff. As design critics, HUSSON JACKSON and ARTHUR MALSHI; as Instructor in construction, RONALD A. WORK.

The appointment of MORLEY JEFFERSON WILLIAMS as professor of landscape architecture has been announced by EDWIN G. THURLow, head, Department of Landscape Architecture, North Carolina State College of Agriculture and Engineering of the University of North Carolina.
ARCHITECTS . . . because it offers beauty, practical utility.

BUILDERS . . . because they save time and money installing it.

DEALERS . . . because it is a clean, fast-moving line.

MRS. PUBLIC . . . because "it's just what she has always wanted"—in fact she helped design it.

This new Stanley line is a 4-Way Winner. It appeals to everyone. It's a sure-fire line if there ever was one. Here's why—

A nation-wide consumer survey dictated the styling. Years of research produced the strong pressure-cast rust-proof alloys that guarantee lasting beauty. Careful engineering developed its numerous easy-installation features.

Everybody likes this new Stanley Cabinet Hardware for BOTH new cabinets and replacements. It sells itself! Write for full information.

The Stanley Works, New Britain, Conn.

STANLEY

WHY COPPER...FOR 
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*We mean Convection Heating*

When you recommend heat by convection to Mr. Home-Owner-to-be, heating efficiency depends on the convector equipment you have in mind. Tuttle & Bailey assures efficient transmission of heat...with heating elements entirely constructed of copper.

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DECEMBER, 1947
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THE HOUSING PROBLEM HAS NOT BEEN SOLVED, DESPITE SOME EXTRAVAGANT CLAIMS THAT ALL IS NOW WELL. Not enough housing is being built, and what is going up is in most cases badly conceived and too expensive. It is heartening to see that the A.I.A. Committee on Urban Planning (Louis Justement, chairman) has come through with an intelligent analysis and constructive suggestions leading toward a program. Published in the September A.I.A. Bulletin, it will be voted on by the Board of the Institute at its December meeting. Constructive thinking of this sort is the architect's responsibility, and is in pleasing contrast to a release from the National Association of Real Estate Boards in which NAREB President Morgan L. Fitch is quoted as saying, "A formidable array of threats confronts the realtors . . . eighteen bills relating to housing, which were introduced during the first session (of the 80th Congress) will remain as live legislative proposals for action." Apparently to a realtor a "proposal for action" is a "threat"; to an architect it's a hopeful promise of better buildings.

I APOLOGIZE TO JOHN BURCHARD. Last month I said I didn't know what he meant by "pseudo-science." I think I now know. I quote from a University of Illinois press release:

"A variety of home research projects, from coalbin to roof, will be carried on with a new house being built at the Small Home Research Center of the University of Illinois . . . The one-story, five-room house will have 768 square feet of floor space. This is considered a 'minimum house,' and one of the research projects will be to see how well a three-person family can live in it. The total area is only a little more than the floor space of two box cars, and is typical of the area of many small houses built today . . ."

In addition to the living-space study, seven other research projects will be carried on in the same structure . . . "One of these is the study of a kitchen-utility room. University home economists want to answer the basic question of whether laundry should be done in the kitchen of a small home . . ." "In its construction, the house will try out three other new ideas. The roof is being made of aluminum shingles. An awning-type window is being placed along one side of one bedroom so that it can be compared with ordinary double-hung windows on other sides. Two new methods of applying asbestos siding are being used, together with the conventional method, to see which produces the best looking result."

Am I wrong when I think this sounds like nonsense? One family living in one house can't provide any general conclusions on "how well a three-person family" can live in the space of two box cars. One family's experience won't prove a thing about laboratory planning. You don't have to build a special house to discover the "best looking" method of applying asbestos siding. This sounds like the kind of "scientific analysis" that produces cigarette advertising, not improved technology. Right now the profession wants and needs real research data, test results, technical information. Oh dear, I suppose I've stepped on a lot of toes again.

I HAVE BEEN REREADING SULLIVAN'S "KINDERGARTEN CHATS," and it's slightly discouraging to realize that that man wrote almost everything that can be said about architecture 46 years ago. Discouraging, because here we are still arguing. It must be admitted, though, that most designers in this country now subscribe to the theory of an appropriate expression, even if they don't practice it.

Occasionally, however, we still get a letter insisting that we should publish traditionally-minded work. I wish the radicals who feel that way would stop trying to import foreign ideologies to our fair shores. We see too many magazines from all over the world not to recognize the sources of such un-American ideas. For instance, I've just received a copy of New Times, a weekly Journal published in Moscow, in which one K. Alabian reports his impressions of an international architectural meeting in Brussels. He says: "A keen discussion developed over the question of the trend of Soviet architecture. Some of our Belgian colleagues declared that classical architecture was reactionary. To this we said that we aimed at architecture which would constitute monumental art, and endeavoured accordingly to assimilate the cultural heritage of the past. The nihilistic trend in the modern Western architecture is, to our mind, not progressive, but decadent. The contemporary architecture of any European or American town is a regimented art, it has lost its artistic individuality." Confusing, isn't it?

I HAD LUNCH WITH JEAN LABATUT OF PRINCETON ONE DAY LAST WEEK, and he told me of the successful summer course at Fontainebleau which he helped conduct. The study was based largely on field trips, which were arranged so that visits would be paid, on the same day, to excellent historical examples and excellent contemporary examples of good design. Saint Chapelle and the modern church at Raincy, for instance: two illustrations, in different periods, of exciting design resulting from a use of modern materials in a modern manner. It occurred to me as we talked that France is the only country in the world where this lesson could be taught by means of examples so far separated in time, yet so closely related in purpose. It seems like a most intelligent use of the Fontainebleau facilities.