

PROGRESSIVE ARCHITECTURE October, 1944



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Pencil Points

PROGRESSIVE ARCHITECTURE

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October, 1944

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Cover: Composition and rendering by Costantino Nivola: United Carbon Building, Charleston, West Va.: Martens and Son, Architects.

SPECIFICATION:

Tenants to locate electrical outlets themselves

Would such a specification save you grief? And time?

Think what it would mean in client satisfaction if he could point to his new floor and say—"I've changed my mind. I want an outlet here"—and then get it, without trenches, without fuss or woe, in a matter of minutes.

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THE EASIEST THING FOR A BUILDER TO FORGET; Floors are what a building is for

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The matter of cost, in fact, will probably be a surprise. It's well in line! A Robertson representative will be glad to give you detailed information or you can write for

> Q-Floor literature. Electrical Fittings for use with Robertson Q-Floors are available through General Electric construction materials distributors.



ern, fully equipped home represents a sounder mortgage investment because it increases the buyer's *desire* to avoid risk of foreclosure, as well as his *ability* to meet mortgage payments.

We've got some answers

Since as far back as 1936 the General Electric Home Bureau has been studying the problems involved in building "electrical servants" into the home.

We feel that we have got some of the answers to some of the questions which you may want to ask.

We'll be glad to help. Home Bureau, General Electric Co., Appliance and Merchandise Department, Bridgeport, Conn.



Opinions from readers Remarks from the editors Changes of address

Where Credit Is Due in the America Builds Exhibition

Dear Editor:

Views

Your enthusiastic account of the America Builds show for Sweden in the August PENCIL POINTS was pleasant indeed, but for that very reason I should like to complete the story by giving more specific credit to the various people who in one tireless fashion or another were responsible for the Museum of Modern Art's part of the monster exhibition.

When the Museum was requested by the OWI and the American Scandinavian Foundation to assemble the material within two months (to meet the previously scheduled opening in Stockholm), we were already busy with *Built in USA* and a large housing show for England. Elodie Courter, Director of Circulating Exhibitions, and I decided that the only —and far from ideal—way to meet the unprecedented time limit was to concoct the exhibition as much as possible from material already at hand. If there had been time, a broader, more analytical discussion would have been prepared.

Janet Henrich O'Connell, former Acting Curator of the Department of Architecture, now Supervisor of Circulating Exhibitions, was appointed to assemble and coordinate the four sections of the exhibition:

1. Pioneers of Modern Architecture: Richardson, Sullivan, and Wright.

2. Outstanding Buildings of the Past Ten Years; based on Built in USA. (The OWI added some buildings.)

3. U.S. Housing in War and Peace; an abbreviated version, re-edited for Sweden, of the major exhibition which the OWI had commissioned us to prepare for London, where it is now showing. That original exhibition was directed by Mary Cooke, with Catherine Bauer as consultant, and included an analysis of building techniques specially prepared by NHA's Standards Section under the direction of Vernon DeMars.

4. *Planning in the U.S.A.*; assembled in collaboration with the TVA and with G. Holmes Perkins of NHA.

Very much of a group effort, as you can see.

ELIZABETH B. MOCK, Acting Curator, Department of Architecture The Museum of Modern Art New York, N.Y.

Bouquet

Dear Editor:

May I extend my congratulations on your August issue. It's timely, fresh, and contains varied subject matter and presentations.

The color sketches are most effective. It's a pleasure to "pour-thru" such a magazine. Good work!

> G. E. MAYER, JR. Dayton, Ohio

Hearts That Beat As One?

Dear Editor:

I note in your recent issues slanders of The "Dies Committee" and other honest and honorable American institutions. A good place for pencil points is in the waste basket; dirt for the dirty. I am for the Dies Committee.

I do not like "Gropius" gas-pipe architecture any better than Adolph did.

GEORGE BLUMENAUER Architect-City Planner Oklahoma City, Okla.

Additional Planks for the Architects' Platform

Dear Editor:

I have read with great interest your "Platform for Architects." It would be constructive if every architectural editor and practitioner did likewise retire into his "smoke-filled room" and emerge with his own special brand of plank for the Architectural Party in postwar days.

To your "choice" dozen, let me suggest that the following be added:

(a) Architecture, both in the field of beauty and in functional use, is a collaborative undertaking. We, the architects, will work to merge our private organizations with those of our collaborators, until no architectural firm without engineers, and no engineering firm without an architect, will be considered complete. To this end we will strive to secure complete reciprocity and understanding between the engineering and architectural registration agencies, to make possible the legal use of the term, "Architect-Engineer." We will seek full collaboration between the national organizations of architects and engineers.

(b) Planning is the very essence of the professions, including architecture, engineering, landscape architecture, cityplanning, housing, and social and economic planning. We will strive to bring these and other qualified groups together through democratically elected representatives into a national council of planners, with headquarters in Washington, D. C. We will do our share to properly finance the activities of this national council, to make it a powerful force in protecting the public against inadequate planning, in educating the public to the social and economic value of wise planning, and to influence Congress and governmental agencies,

through the accumulated evidence such a centralized clearing house alone can gather, to the shaping of a wise national planning policy.

(c) Realizing that the architect must deliver a complete service if he is to hold his position in the planning and building profession, we will seek to perfect a method of practice that shall include construction on a professional basis.

(d) Believing that the best in human nature and talent is developed about "The Round Table," where all elements involved meet on an absolute parity, we will advance and support the building congresses, councils of planners, and inter-professional councils. By so doing we believe the functional consciousness which Robert Kohn has often pleaded for, will be developed, needed exchange of information will be accomplished, wise programs formulated, and the integrity of the professional ideal preserved.

Personally, I was gratified to note in your third Plank that "We pledge ourselves to study this problem (land control) and to work for its equitable solution." As far as this statement goes, it indicates a willingness to face unpleasant, perhaps unpopular issues. Taxation and this problem are inseparable. Both as now in force do irreparable damage to good architecture, sound housing, and city planning. Would it not be timely to republish the report of the A.I.A. Committee on Taxation, made some years ago?

In the July issue of *American City*, the following was noted:

"Taxes can be abolished—ground rent cannot. Ground rent is the value of location among people. Someone must inevitably collect it, though no one person creates it. That someone should be the Public Treasurer.—Joseph S. Thompson."

With this in mind, I suggest still another addition to your special "dozen planks":

(e) The architect, in designing, computing and planning, must be analytical in his approach. He must constantly search for cause and effect. He must have a scientific attitude and never be really satisfied until he finds the truth and can write Q.E.D. after his solution. Therefore, as architects, we pledge ourselves to seek out the causes and remedies of the social and economic ills that now threaten democracy and the practice of architecture.

So-called "realistic planning" at Versailles brought on World War II. Read Lin Yutang's "Between Tears and Laughter," to understand what threatens the world in the peace-making when victory comes in this war, and how real planning must include fundamental human needs. It is perhaps this same so-called "realistic planning" that leads you in your "sixth plank," as it leads also so many contemporary housing (Continued on page 10)

4 STEPS OF RAYMOND SERVICE



INVESTIGATION OF UNDERGROUND CONDITIONS - As test borings are made - either through soft grounds or through timber, solid rock or other obstructions - samples are taken for analysis, water levels noted and reports rendered recording all data.



 INTERPRETING THE RESULTS - In determining bearing values and allowable loads, all available data are correlated and analyzed to determine the influence of each item on the result.



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IDEAS ARCHITECTS

TOMORROW'S GROCERY STORE

Whole Store a Window Display. Stores and shops of all kinds have found that eliminating old-fashioned window displays can do more than almost anything else to step up exterior appearance. Moreover, windows are easier to reach for cleaning. The entire shop becomes an inviting selling display for merchandise.

Counter Package Rack Saves Space, makes shopping easier. The rack fits just below counterlevel, giving shoppers a place to rest their purchases. It helps keep counters clear for service. This rack can be attached to present counters or included in new counter design. Covered with Armstrong's Linoleum in a pattern to harmonize with the floor, the counter and rack are both smart looking and easy to keep clean.

These and many other ideas are yours for the asking—Our new Ideas Portfolio offers the best ideas of leading grocers as revealed in a recent survey conducted in collaboration with the National Association of Retail Grocers. It includes

a full color print of a model grocery. Designed primarily to stimulate interest in future remodeling, this portfolio may help you meet grocers' or other retailers' needs. Write Armstrong Cork Company, Floor Division, 6910 State St., Lancaster, Pennsylvania.



Views

(Continued from page 8)

authorities to accept without question —"there is an area in which . . . subsidized housing . . . is necessary and proper." Who is fearlessly showing why this condition exists, what causes it, and how those causes can be eliminated to give to the low wage-earner once more the American privilege of building and owning the home he should have and so desires?

One of my students, now working in an airplane factory, recently bought two old garages, and for two hundred dollars, turned them into an adorable apartment. Where there is a will there is a way, if we do not legislate it out of our reach.

If the collection of economic rent by the Public Treasurer, and the resulting elimination of taxes would remove the causes now preventing private industry from serving those in the low wage bracket, is it not cowardly of us not to face the music—analyze the problem, seek the reform which will make better homes, cities and bring us one step nearer to the Good Life we dream about?

And just one more addition for full measure—how about this?

(f) It is the prime duty of the professional man to give the best that is in him to his client and community. He must not be dictated to, ordered, or commanded. He must give advice that his conscience and his best talents dictate. In short—he must be free. Therefore, as architects, we pledge ourselves to militantly attack anything and everything that menaces our integrity as professional men serving our clients and the public and the cause of good architecture. This means we shall be ardent supporters of the democratic way, and mortal enemies of all things Fascist.

I can't bring this to a close without a word on education, so here it is:

(g) We urge and will work for a system of training young men as architects that will develop their ability to think and to analyze and to understand their duty and their privilege in democratic communities. Every false motivation such as grades, honors, prizes, and competitions must give place to the maximum development of each individual student by himself, with the help of his teachers and his comrades. We, as architects, will strive to cooperate as never before with our educators, to assist them in training progressive architects and good citizens. In such an education of the architect, it is essential

(Continued on page 12)

The second se

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Economical of THIS graceful, tan-like conduit installation will delight the eye of any electrical contractor. More important still, it is evidence of one contractor's skill and ability to economize on space. Note also that for maximum efficiency and to facilitate the insertion of wiring, the conduit has no sharp bends.

Youngstown's BUCKEYE CONDUIT is easy to handle and install. In the hands of experienced men, it can be compactly installed within normal walls and floors, so that it requires no extra space. Hidden from sight it still provides a quick, safe method for enlarging or changing wiring systems at any future time.

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PENCIL POINTS, OCTOBER, 1944 11

Views

(Continuea from page 10)

that complete collaboration between the profession, the schools, and the registration agencies, as long as they exist, be secured.

We have the following over the entrance door to our School of Architecture and

STSAL

Protects Deck Loads

of War Supplies as

Effectively as

it Shields Buildings

and Materials

industry.

of a home.

buildings.

materials!

Allied Arts, at the University of Oregon:

"A School of Architecture should be a happy home where students are helped to educate themselves."-Saarinen.

"Here is the minimum of restraint and the maximum sense of responsibility." Prince Campbell.

Now I have practiced what I preached -I hope others will take up your challenge and advance their own Platform for the architects of the future.

> ELLIS F. LAWRENCE, F.A.I.A. Portland, Oregon

Facts

Dear Editor:

I want to encourage you in the liberal and intelligent position you took on the subject of government housing.

It certainly required courage based on belief and this belief based on facts which reactionary yappers and pull backs refuse to consider.

Keep it up, you are doing a great public service, also a service to architects.

> W. J. COPPOCK, Reg. Engineer Moylan, Pa.

What Every Architect Should Know

Dear Editor:

I have just read the May issue of PENCIL POINTS. Permit me to offer congratulations on the whole issue with special commendation on the article entitled "Education for Planning" by K. T. Wittmann, A.I.A.

This is the type of thing Architectural magazines should develop, emphasize, and re-emphasize.

If the Architectural profession is fading out and the term "Architect" must now be supported by hyphenating it with the word "Engineer" to give it a breathing spell, it is, I believe, because Architects have not educated themselves to give complete, responsible, and desirable service in keeping with the opportunities of modern times.

Following traditions involving materials and methods of building can be worse than useless unless they can be proven the best and cheapest under tests of modern knowledge of nature, including human nature.

The Architect must somehow learn to know not only the psychology of aesthetics, but the applicable fundamentals of economics, finance and business, real estate and building law, hygienics, sociology and civics, as well as structural and mechanical engineering, not to mention the prevailing contrariness, perversity, and capacities of men.

A drawing made by one who cannot evaluate costs, nor even tell how its execution in material form will look, last. or serve, is not nearly enough.

> HENRY K. HOLSMAN, F.A.I.A. Chicago, Illinois

Wanted-The Work of Cram and Ferguson

MARTIN RAY YOUNG, JR., who has just opened offices for the practice of architecture at Fifty South Udall Street, Mesa, Arizona, would like to obtain a copy of the above volume, which has been out of print for some years. It was a Pencil Points Press publication (1929).

Wanted-a late edition of Parker-Nolan "Architects and Builders Handbook." Kindly state price and condition. Write Box No. 25, C/O PENCIL POINTS.

(Continued on page 14)



HERE AGAIN, BRONZE COMBINES



New England Mutual Life Building, Boston. Cram and Ferguson, Architects. Turner Construction Co., General Contractors.

and utility

EVIDENCE OF THE architect's intention to build for permanence is seen in the bronze windows of the strikingly handsome home office building of the New England Mutual Life Insurance Company of Boston. Fabricated from Anaconda Architectural Extruded Shapes by the General Bronze Corporation, these windows lend impressive dignity and the enduring, rustless beauty that only bronze can impart.

Even more important, perhaps, is the fact that such windows require no maintenance, no painting, operate smoothly, will never bind or cause panes to fracture from rust accumulation in the channels.

Architectural bronze, traditionally beautiful, increasingly useful, provides long run economy over less durable materials. 4433

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(Continued from page 12)

BUILDING PRODUCT FACTS

Readers have sent so many letters on the new PENCIL POINTS feature, Building Product Facts, that Don Graf is using these Views columns to publish excerpts from them by way of acknowledgment, instead of attempting to answer them individually. Such suggestions and criticisms are most helpful. Address your letters to Don Graf, C/O PENCIL POINTS, 330 West 42 St., New York 18, N. Y. A number of comments appeared in the September issue. Others follow:

I like the sheets. . . EARL D. HAY, Professor M.E. University of Kansas Lawrence, Kansas

I believe that the BPF offers opportunities and even greater benefits than the original Data Sheets. I note with interest and approval the additional material covering references, manufactur-



Just the Jips of Your Fingers

In every Von Duprin Fire and Panic Exit Device you'll find a precision-built mechanism such as you never expected to see in *any* lock.

No matter whether the exterior is the black malleable iron of the Victory models or the dropforged bronze of the pre-war . . . and post-war . . . types, you'll find the same precisely forged working parts of bronze and bearing metals, the same expert fitting and assembling.

This mechanism is the heart of the device. Its workmanship and balance provide both the smooth, finger-tip operation, and the long life for which Von Duprin is famous. It makes the device a real Von Duprin, with the strength to stand up under any emergency, to let the people out of your building safely, surely, quickly always.



ers' trade associations and provision for local sources of supply. I intend to save this series. . .

W. H. SCALES, Architectural Engineer New Orleans, La.

BPF should be useful to all architects. . .

J. ADAM FICHTER, Architect Akron, Ohio

I think this is an excellent idea. It will benefit me greatly in writing specifications.

H. I. GAINES, A.I.A. Asheville, N. C.

Looks good to me. This series should make a valuable file. . . L. G. HARDY

Butte, Montana

The idea is an interesting one. . . RICHARD SECK, Architect Atlanta, Georgia

Your presentation would solve a problem that has long been a headache to the architect and engineer. Expect to make good use of it. . .

THURSTON R. JAHR, Architect Dearborn, Michigan

Splendid idea, well conceived. It is needed right now. . .

EDWARD L. BUNTS, A.I.A. Colorado Springs, Colo.

A corking idea. More power to you and to PENCIL POINTS. . .

PERCY D. BENTLEY, Architect Eugene, Oregon

Congratulations and good luck on this excellent idea. . .

IVER T. ALMBERG Chicago, Ill.

If you save us a few minutes of search for facts now and then, you are putting \$ in our pockets. . .

UZZELL S. BRANSON, Architect Blytheville, Ark.

Very good idea to file these cards according to the principal noun. I have always found it difficult to locate something as filed in A.I.A. filing system. . . JACQUES ABADIE, JR., Architect Washington, D. C.

Just what is needed. Please give us the chemical properties of various products and information as to how, where, when and of what it is made. I have confounded many an owner and contractor with "anhydrous calcined gypsum," instead of using the term "Keene's Cement." . .

LINDSAY MADISON GUDGER, A.I.A. Asheville, N. C.

(Continued on page 16)

Let's Look at the Record

U. S. Post Office and Custom House, Key West, Florida. Built in 1932 under the direction of the Office of the Supervising Architect, Washington, D. C.

Key West reports,

"Aluminum in excellent condition"

ALCOA

Aluminum windows, doors, entrances, spandrels, grille-work, stairs and railings continue to contribute to the distinctive beauty of this structure. Installed twelve years ago, all of this aluminum is in excellent condition today. Its lasting ability has helped hold down upkeep costs, in the face of material and man power shortages. In those buildings to be constructed as part of the war effort—housing projects, hospitals, recuperation centers, sewage treatment plants and other public works—aluminum will provide these same advantages. Plan on including aluminum for its fine appearance, long life and ease of maintenance. ALUMINUM COMPANY OF AMERICA, 2198 Gulf Bldg., Pittsburgh 19, Pa.

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(Continued from page 14)

THE ARCHITECT—POSTWAR—POST EVERYBODY by R. M. Schindler

If we disbelieve the prophets of a revolutionary change in our economy after the war, we shall be forced to base our plans for the immediate future of the architect on the trends of the prewar past.

On this basis, optimistic hopes for radically new city planning and government-sponsored housing will hardly materialize. The increasing conservatism of the United States, as expressed in our Congress, eliminates the possibility that this body will top our billion-dollar debt structure by housing grants. But houses we shall need, and the only way to get them into the hands of the people is to reduce their cost to fit the average income. Improved construction methods, prefabrication, etc., may help. but will not do the whole job. It will be necessary to attack the complicated organization of the contemporary building industry and eliminate all unnecessary charges which make the home a life-long financial burden.

A few years ago one of our statisticians found that only six percent of all building was executed under the guidance of an architect. Our California Architects'



PREFABRICATED ACCESSORIES ready to install



Prefabricated elbow unit



Prefabricated T-branch unit



Prefabricated anchor unit



Prefabricated gland seal

FACTORY PREFABRICATION SAVES TIME AND MONEY ON THE JOB

The Ric-wiL Unit Method eliminates 80% of the field work usually associated with the installation of insulated piping and makes possible phenomenal speed on the job. Prefabricated 21-foot sections are delivered to job sitecomplete with pipe, insulation, couplings and accessories -ready for hoisting onto trusses or lowering into narrow trenches. Often a number of units are welded and coupled on the ground before installation, minimizing overhead and trench work under difficult conditions. On one job, 1500 feet of Ric-wiL Conduit were installed and pipe welded, ready for couplers and insulation between units -in only two working days . . . Ric-wiL Insulated Pipe Units are available in single or multiple pipe systems, for piping steam, hot water, oil or viscous fluids where flow temperature must be maintained.

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PREFABRICATED EXPANSION LOOPS Completely assembled expansion units are provided as required, fitted with couplers, ready for quick installation. Adaptable to underground, surface, and overhead systems.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS THE RIC-WIL COMPANY - CLEVELAND, OHIO



Association took notice with a start and tried to convince the public of the architect's value by means of radio talks. The oncoming war blurred the effectiveness of this campaign and redirected the profession into another frantic attempt: to convince government agencies that we architects had something to contribute to the war effort. Complete failure to accomplish this culminated in the advice to disguise ourselves as simple technicians when applying for public office.

In a way, this was no new disguise. The architect has always over-emphasized his value as a supervisor and policeman of construction work, with the result that his real social contribution is generally unknown. It can be understood why the owner hesitates to employ an architect for the portion of the job which any technician can apparently do as well at lower cost, especially since the law protects the owner against gross structural inadequacies and flagrant dishonesty. In most communities, plans and structures are inspected by structural, plumbing, electrical, and health inspectors, and in addition, the finance agencies (banks, FHA) check the construction at repeated intervals.

Unless the public will come to realize the importance of the architect's spiritual contribution, his standing in the building industry will deteriorate further. The weakness of his present position and his consequent feeling of inferiority can best be shown by comparing the services rendered and remunerations received by the various members of the building industry.

Starting from the end of the undertaking, we find:

1. The landscape architect: He plans the environment of the house, specifies the plants, and supervises their planting. His principle equipment consists of a knowledge of plants and locale, coupled with a feeling for style and enough imagination to give form to his garden. Little detailing is involved, since nature provides the units for his "arrangement."

He charges the owner fifteen percent on the total cost of the job, and in addition collects a commission of about twenty percent from the nursery providing the stock.

2. The interior decorator: He purchases and arranges furnishings and textiles. Equipped with a sense of design and a knowledge of the market, he contributes taste and color to the interior. Because he deals largely with historical designs and with the products of mills and shops, his personal creative effort is reduced to a minimum.

Mark-up for his services: one hundred percent over cost.

3. The tradesman: The recipient of the so-called subcontract, he furnishes the various materials which compose the building, and through his technical skill (Continued on page 18) Was the roof of tomorrow here yesterday?

The roof of tomorrow

already has a service record!

Present day buildings are benefiting by the service records piled up in past years by roofs made of Koppers Old Style Pitch and Approved Tarred Felt. And buildings of the future will have roofs made of these same reliable materials which are still giving as good performance as when first installed.

With all the wonderful new products of recent years,

no roofing material has been developed which is an improvement on coal tar pitch. It is long lasting, self-healing, requires little or no maintenance.

Specify Koppers Old Style Pitch and Approved Tarred Felt, and enjoy the good will these Koppers products build over a period of years.—Koppers Company, Tar and Chemical Division, Pittsburgh 19, Pa.

Albert Kahn Associated Architects and Engineers, Inc., Detroit - Architects and Engineers,



Views

(Continued from page 16)

and labor incorporates them into the building.

His profit on the transaction, besides and above expense and a salary for himself, should be at least ten percent. 4. The general contractor: He com-

putes costs and manages execution according to plans and specifications.

Provided these are complete, his knowledge of the building processes need not be extensive, which is increasingly the case. The contractor, during the good old times, used to maintain mechanical equipment and possibly lumber and material yards. At present, however, his principal tool is the telephone. He signs the lump sum contract and promptly sublets all work to the various sub-contractors, without having to contribute any special talent for the benefit of the owner. Union wage scales and price fixing arrangements amongst manufacturers prevent his helping the deal by shrewd trading. Supervision of the building process by public inspect-





Data based on complete tests enables us to recommend exactly the right outlet for any condition and GUAR-ANTEE results. You are assured of uniform, properly diffused air of the desired temperature at specified level, with required air movement and elimination of hot, cold, or drafty areas. Use ENGINEERED AIR DISTRIBUTION — see your Barber-Colman representative. Write for descriptive bulletins.

BARBER-COLMAN COMPANY 1230 ROCK STREET • ROCKFORD, ILLINOIS ors relieves him largely of responsibility for structural soundness of the building. The present form of the building loan, with its progress disbursements, reduces to a minimum his financial contribution and his need for capital.

5. The loan agency: It provides the missing portion of the money needed for the building, charging interest. The government now agrees to insure the loan, thereby relieving the agency of mortgage risks. In spite of this, the agency usually forces the owner to build in the most conventional and commonplace fashion so as to assure quick resale in case of default. Thus the architect is prevented from anticipating imminent changes in building conception. This kind of control retards architectural development in general, and victimizes the owner in particular, because designs produced under such limitations depreciate rapidly.

(To be concluded next month)

NOTICES

WALTER E. CHURCH, A.I.A., EARL P. NEWBERRY, and FRANK ROEHR, A.I.A., partners of the late Morris H. Whitehouse, A.I.A., announce that they are continuing the practice of architecture under the firm name of WHITEHOUSE, CHURCH, NEWBERRY and ROEHR in their present offices at 619 Railway Exchange Building, Portland, Oregon.

WILLIAM C. SCHNEIDER, A.I.A., announces the opening of his office at 5920 W. North Ave., Milwaukee 8, Wis. The office will be shared with E. W. Burgess, Consulting Engineer.

TYSON T. FERREE, Architect, announces the re-opening of his office at 220 Professional Building, 101 West Green St., High Point, N. C. He will work on postwar projects and jobs carrying priorities.

GEORGE COOPER RUDOLPH AND ASSOCI-ATES, Architect-Designers, have moved their offices to 155 East 44 St., New York 17, N. Y.

CHARLES DU BOSE and ROBERT DU BOSE BURBANK announce the formation of a partnership under the name of DU BOSE AND BURBANK for the practice of architecture and industrial and commercial design. Offices are located at 51 East 42 St., New York 17, N. Y.

B. H. WHINSTON, Architect, announces the re-opening of his office at 465 Lexington Ave., New York 17, N. Y.

WILLIAM ARNOLD JOHNSON, A.I.A., has moved his offices to the First National Bank Building, Everett, Wash., from the Post Building, Tacoma 2, Wash.

FREDERICK L. LANGHORST, Architect, has moved his office from 402 Jackson St., to 447 Sutter St., San Francisco 8, Calif.

JOHN R. CASSELL Co., INC. (drafting instruments, etc.) are located at a new address, 138 E. 47 St., New York City. NOW, MORE THAN EVER, **DOUGLAS FIR DOORS** MEET MODERN REQUIREMENTS



Attractive 3-panel interior doors-basic, all-purpose layouts in keeping with today's design trends-assure the utmost in client satisfaction when you specify Douglas Fir Interior Doors. What's more, these fine doors are durable, long-lasting -and if FACTRI-FIT features are specified (see below) they go up quicker, fit better, hang better.

Plan now to feature these improved Douglas Fir Doors. Write for catalog

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Tacoma 2, Washington

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Remember! NATURE MAKES Durable.

Durable Douglas Fir Doors are made from all-heartwood.vertical-grain.soft, old-growth Douglas Fir.

PENCIL POINTS, OCTOBER, 1944 19

How Research Bumped Into a Blank Wa



SHEETROCK Fireproof WALL AND CEILING PANELS









Did U-S-G Research Men reach a "dead-end" when they came face to face with a blank wall? ... Not at all, because that's exactly what they set out to find ... a sys-

tem that combined Sheetrock* wall and ceiling panels into one continuous surface... where joints became notably conspicuous by their absence.

The advantages of Sheetrock fireproof wall and ceiling panels are well known. With their use, interiors go up on the "double-quick" . . . no waiting for decorating—wood trim may be applied immediately. These points hav been demonstrated through twent years and more of use.

The treatment of the joints was th one remaining problem to be solved That became a thing of the past wit the Perf-A-Tape* System of Joint Cor cealment . . . not only are joints cor cealed but "welded" together so so curely that the joints are stronger tha the Sheetrock panels themselves.

Continual research and new develop ments, proved in practice with an ey to the future, have kept Sheetroo well in the lead, as the most wide used gypsum wallboard in the worl *Trademarks Reg. U. S. Pat. G



Manufacturers of Building and Industrial Products Since 1901

GYPSUM . LIME . STEEL . INSULATION . ROOFING . PAINT

The opposition, so far, seems to come primarily from those who have a sizable stake in things as they are. Has anyone polled the inhabitants of the Tennessee Valley, to see what they think of TVA? And how many of those who oppose the idea know the tremendous regard which technicians and other informed people in other countries, whose judgment is apparently quite sound. have for TVA? On September 23rd the N. Y. Times commented editorially, after reviewing the success of TVA, on the blossoming of that once-backward region, and stated: ". . . . unified development, with the Federal Government doing what only the Federal Government can do, and with abundant opportunities left for States, local communities, and private individuals, has proved its worth. . ."

Orderly postwar development of Washington, D. C., is planned by various Federal and District government agencies, subject to approval of Congress, availability of funds and materials.

Slum clearance, development of park and recreational areas, improvement of roads and highways systems, erection of Government buildings needed, construction of bridges, construction of schools and libraries, are among projects listed. The housing issue (see PENCIL POINTS June 1944) is still a controversial one in congressional committees.

The Washington central downtown area is under study by federal and municipal planning agencies and by a firm of consulting engineers; experts are trying to decide whether the city should have a subway system or whether tunnels under the crowded area will do the trick-they wish to avoid decentralization of the business section. Government buildings claimed to be needed are: the Navy Department (for which there is no permanent building); an annex for the State Department; another Treasury Department annex; an addition to the Federal Reserve Board; completion of the War Department Building; a new General Accounting Office.

Metropolitan Life Insurance Company plans to erect a postwar 1200-family residential community in the Harlem section of New York City, to be known as Riverton.

The 12-acre site along the Harlem River is now occupied by old factory structures and old-law tenements which are to be "transformed into a community with a suburban atmosphere . . . designed as a Harlem counterpart to the proposed Stuyvesant Town on the lower East Side." (Nobody had his tongue in his cheek, according to reliable information.) The buildings will cover about 25% of the site, the rest to be landscaped gardens, tree-bordered walks, and playgrounds. Designed to accommodate 3400 persons, the project's average basic rental per room is to be \$12.50. It is said that Riverton and Stuyvesant Town represent the first use of private capital for the rebuilding of obsolete city areas under the New York Redevelopment Companies Law.

Plans were filed in August with the Department of Housing and Buildings in N. Y. City for 51 new buildings, the estimated cost of which is \$50,846,350.

26 of the plans involved postwar residential buildings; 22 commercial structures; 2 schools; 1 theater project. Plans for the new multiple dwellings filed during August call for construction of 2992 more apartments in the borough. Preliminary plans for 10 new Manhattan apartment buildings to cost over \$3 million were filed recently. 9 of them were submitted for various owners by Horace Ginsbern, architect, who stated plans were filed at this time to take advantage of the present zoning law provisions.

University of California plans a 10-year \$27,500,000 construction program for postwar improvements on 8 campuses.

Funds are to be made available by the State Legislature as the work progresses. Distribution: Berkeley—improvements, \$7,350,000; San Francisco —Medical School, \$3,925,000; Davies new School of Veterinary Medicine, \$500,000; Los Angeles—improvements, \$8 million; other allocations are stated to be \$225,000 for Scripps Institute of Oceanography, LaJolla; \$975,000 for Lick Observatory, Mount Hamilton; \$1,500,000 for new Santa Barbara Mesa campus. The total cost of the program is said to be \$20 million more than Sacramento appropriated for immediate postwar construction.

Nazis are reported to have burned 1 out of every 4 collective farm houses in 197 liberated districts of the Ukraine.

According to incomplete data, they destroyed more than 3200 Ukrainian schools, many museums, clubs, and theaters. More than 4 million volumes were taken from the Kiev libraries; valuable collections and laboratory equipment were taken from the institutes of the Academy of Science and shipped out of the country.

Local Soviets and People's Commissariats are being urged to put an end to their antipathy toward mechanization and to promote mechanization of small construction jobs; to make use of some structural raw materials (such as gypsum, field stone, limestone) which are plentiful in the locale, rather than using raw materials shipped from a long distance. It is reported that lumber materials are to be substituted with gypsum which is considered durable and suitable for most structural parts.

Specialists are being sent with the Allied forces in France to point out to C.O.'s certain buildings, monuments, and works of art which are to be respected and preserved where possible.

Captain Daniel Lafarge, U. S. Army, one of these men, reports that, as soon as fighting ceases in each area, specialists and their emergency squads will examine and attempt to save what they can of the damaged works. Often carved stones, parts of carved beams, etc., have been quickly used to fill shell holes or picked up as souvenirs. During the Battle of Caen, most of the 14th Century houses in the town were destroyed completely, though two of its famous churches suffered little damage. The interior of the Hotel de Corville (built in 1538) was burned but walls and sculptures are reported undamaged.

American "building interests" predict that European builders will call on other countries for postwar reconstruction.

The opinion is that, when the call comes, it will be directed to the United States, Canada, Mexico, and South America, since these countries have escaped structural war casualties and can well afford to release their building skill to expedite the building urgency facing all sections of Europe. It was also stated that builders who may answer the call would be well paid for their work. It is said that common building labor in Europe will be plentiful, but that key men are scarce and will have to be imported; that the reconstruction of Europe's homes and buildings will tax the ability of an army of builders drawn from every section of the world-the greatest aggregation of carpenters, bricklayers, plumbers, roofers, plasterers, and other building mechanics ever assembled.

3269 dwelling sites in New York State have been approved by FHA planners.

Of this total, 2300 sites are in N. Y. City, 942 in Buffalo, and 27 in Albany. On each site, construction plans have been made ready by operative builders and the necessary financing has been guaranteed by private institutions. According to FHA State Director Thomas E. Grace, this means that home building in the postwar period can get off to a prompt start throughout the State.

Miniature industrial construction plants with carved, movable figures of machines and men (accurately scaled) are now standard equipment for planning and layout engineers of Westinghouse Electric & Manufacturing Company.

After the war, permanent metal figures will replace those in wood and 20 or more of each will be placed in a "bank" from which engineers may draw in planning new facilities required. The company says: "Previously, two-dimensional drawings provided engineers with their preconstruction view of a plant, but even engineers and factory planners could not translate mechanical drawings into completely efficient factory units every time. Production was sometimes delayed while adjustments were being made . . . Given the preview of the factory's workings, engineers can change the design of the miniature plant to better meet its specific needs."

LaGrange Park, Illinois, a Chicago suburban village, has presented a postwar plan through its Planning Committee.

A first step in its re-design is recovery of tax delinquent lots, followed by rezoning, adoption of a new building code, and other measures to conserve property values. The plan is receiving considerable interest from other planning groups as a demonstration of much-needed "grass-roots" initiative by home-owners.

(Continued on page 124)

Products Progress

Steel Column Substitute

News

A substitute for structural steel columns has been developed in Northwestern University's Technological Institute. It is reported to be stronger and cheaper than steel, as light as aluminum, and is made chiefly of concrete. Inside a spiral steel wire a metal lining is placed which is then filled with concrete compressed by a steel plunger. Body is given by cutting water content to about one gallon to a sack of cement. The steel wire, expanded by the compressed concrete, adds to the column's strength. Tests on a small model, 80% concrete and 20% steel, are said to show the column would support loads much heavier than would a steel column of the same size. It is predicted that the new substitute would conserve iron ore reserves, would reduce building costs, and would be especially useful in European reconstruction. The cost of its production is reported to be 67% less than steel.

Sound Conditioning Plasters

Sound conditioning for every room by means of new types of plaster is introduced by the Gypsum Association, 211 West Wacker Drive, Chicago, Illinois, who explain that sound conditioning is the control of sound waves to reduce undesirable noises. The newly developed gypsum acoustical plaster is said to be

New Decimal Point Locator-Slide Rule

A new decimal point locator and slide rule, said to determine mechanically the decimal point in involved expressions with results up to 19 places, is announced by Pickett & Eckel, 53 West Jackson Boulevard, Chicago 4, Illinois. A scale arrangement gives 30-inch accuracy for cube root, 20-inch scale accuracy for square root, cube root, and logarithm, and also determines the decimal point location for square root and very porous, the air passages "blotting up" the sound; it is fireproof; in most cases its use on ceilings alone is sufficient. It is applied very much like ordinary gypsum plaster to scientifically determined thickness.

Commercial Fluorescent Fixture

A new fluorescent unit said to incorporate all the elements of correct engineering is announced by Spero Electric Corporation, 18220 Lanken Avenue, Cleveland, Ohio. The light from four 40W tubes is shielded by evenly spaced egg-crate louvers to minimize glare; reflecting surfaces are arranged to eliminate "trapped light" resulting in high intensity with low surface brightness. The unit is made for stem or flush mounting.

Thermoplastic Insulation

"Glencaseal" is an elastic, flexible, rubber-like synthetic compound (derived from acetylene) used as insulation and wire and cable cover. It becomes soft and plastic when heated for processing, is firm when cooled to normal working temperatures. It is said to be highly resistant to oils, greases, solvents, acids, alkalies, flame, moisture, ozone, sunlight, weathering; to be remarkably stable electrically; to possess excellent dielectric strength; to be exceptionally slow-aging. Recommended uses: building wire, low-voltage power cable, series lighting cable, portable cords, instrument wire, chemical plant wiring, telephone and telegraph distributing frame wire, and others. "Glencaseal" is claimed to make it possible for architects and builders to dispense with protective coverings and permit use of thinner insulating walls than heretofore. Manufactured by General Cable Corporation, 420 Lexington Ave., New York 17, N.Y.

cube root. It is 11" long, 2" wide, ¹/₈" thick, constructed of Sorex tag paper stock lithographed, varnished, bonded, and comes complete in box with coatpocket carrying case and manual (price \$3.50). The illustrated instruction manual, written by M. L. Hartung, Associate Professor of the Teaching of Mathematics, University of Chicago, gives beginners' instructions, rules for operating the Decimal Point Locator, and presents the mathematical Theory of Mechanical Decimal Point Location.

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Waterproof Underground Pipe Conduits

A modified design, "Therm-O-Tile," for dry insulation of underground pipe conduit is announced by H. W. Porter & Company, 825 Freylinghuysen Ave., Newark, N. J. The standard design is hermetically sealed by surrounding the entire conduit with a membrane waterproofing and then placing the whole on top of a wide sub-base beneath the standard spread-footing foundation; this membrane is usually 15 lbs. of asphalt-saturated felts laid in hot asphalt and finished with a top mopping of hot asphalt. If there is condensation of moisture out of the air within the conduit, it is claimed the internal drain channel (standard design) will drain it all out. The modified design is recommended for unusual moisture conditions such as partial or full submergence.

Speed Welding



A new method of increasing the speed of welding mild steel is announced by the Lincoln Electric Company, Cleveland 1, Ohio. The technique is said to cut costs as much as 59%. Information on it which may help architects in inspecting welded joints is covered in a 48-page booklet on "Fleet-Welding" which lists subjects as follows: effect of penetration on welding costs; cost reduction of "Fleet-welding"; factors affecting production speed and general information for use of procedure tables; information with corrective suggestions on the procedures used for butt welds. fillet and lap welds. Several pages are given to procedures used in welding 18-gauge to 1-gauge sheet metal. In addition to the 29 photographs and drawings, the manual carries procedure tables which list plate thicknesses, electrode sizes, currents, melt-off rates, arc speeds, number of passes, feet-of joint welded per hour, and pounds of electrode per foot of weld.



BRIXMENT Mortar Helps Prevent Efflorescence

• EFFLORESCENCE is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading*.

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall.

Brixment itself *does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the waterproofing in Brixment mortar usually *prevents them from coming to the surface*.

Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment than with any other mortar.





LOUISVILLE CEMENT COMPANY, Incorporated General Offices: Louisville 2, Kentucky Cement Manufacturers Since 1830

"Cap" one brick with Brixment mortar, and one brick with mortar made with 50-50 cement and lime. After mortars have hardened, place both brick in a pan of shallow water.

Keep about an inch of water in the pan. Even if soluble salts are present in the brick or sand, you will soon be convinced that Brixment mortar helps prevent efflorescence.



For modern floors and walls

easy to maintain, colorful, permanent, resilient.

pared for your use. May we send you your copy?

convincingly proven as the outstanding floor for

A handbook on linoleum specifications has been pre-

your postwar buildings.

THERE IS A NEW TREND IN STORE DESIGN

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Survey & Standburg and a section of the

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"The design contemplates merchandise typical of the needs of a small community. To make the interior as inviting as possible to passers-by, display window backs and divisions between departments are limited to structural glass, and both display window and entrance vestibule are strongly illuminated from glass ceiling panels.

Contraction of the

The first floor is devoted to the merchandising of men's wear, sports, electrical equipment, etc., together with such items of women's wear as may be attractive to shoppers en route to other departments. The entire second floor is devoted to the outfitting of women.

Structural features, in addition to plate glass, include Herculite Doors, Carrara Structural Glass exterior, mirrors and glass front stock cases and counters."

duri It film

SILVERMAN & LEVY'S conception of a General Store

In this design, as in the store designs of leading architects throughout the country, Pittsburgh Glass plays a prominent part. These glass products are particularly suited to help in the creation of striking, sales-winning store fronts and interiors. They are versatile. Consistently high in quality. And serviced through a nationwide system of Pittsburgh branches and dealers

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which assures ready availability anywhere.

Hundreds of thousands of merchants are being

urged to consult architects by Pittsburgh Plate Glass Company. Advertisments running regularly in 21 leading retail magazines suggest planning now for postwar building and alterations, with the help of archit

DEEL	Silvernan i. Liteyr unsedin # a Brand Star.	architects.	
Two perspectives, plan, and several details of this design on a 21" x 25" sheet. The fifth of a series of store designs by some of America's leading ar- chitects. Mail the coupon now.		Pittsburgh Plate Glass Company 2291-4 Grant Building, Pittsburgh 19, Pa. Please send me, without obligation, your sheet showing more complete drawings of the General Store by Silver Mane Occupation	71
URGH GLASS FO	R STORE ERO	CityStateState "MITSBURGH" stands for Quality Glass and Paint NTS_AND	
		FRIORS	



28 PENCIL POINTS, OCTOBER, 1944

A NEIGHBORHOOD STOR



GENERAL ELECTRIC brings you one more in its series of postwar lighting perspectives by outstanding architects and designers. To help stimulate further thinking on lighting for stores, G-E presents some unusual ideas by designer G. McStay Jackson, Chicago.

Here's the opportunity Mr. Jackson sees

"Lighting can provide effective postwar help for the neighborhood store. Because light can make the store stand out from its surroundings, can invite folks in to buy, can help display merchandise more appealingly.

"For example, if you could pull back the walls of a modernized food shop, this picture shows what you might see. A streamlined arrangement of shelves and counters, *all pleasingly illuminated with cool, comfortable fluorescent light*, has revitalized the store interior.

"A striking all-glass store front, set back at one side, together with a welllighted revolving display, has added extra attraction power for people who pass.

"At the same time, to save money on modernization, the high ceiling has been left in its existing state. The stamped metal pattern, painted in a dark, neutral tone, is not illuminated. Shadows have been minimized by keying the rest of the interior, including the floor, to lighter colors.

"The result is a store that invites new customers and old . . . that builds business with light."

A helpful new booklet, "Light revitalizes a neighborhood store" gives additional details on Mr. Jackson's ideas on effective lighting for tomorrow's modernization. For your copy, write Div. 166-PP 10, General Electric Co., Nela Park, Cleveland 12, Ohio.

THE CONSTANT AIM OF G-E LAMP RESEARCH IS TO MAKE G-ELAMPS Stay Brighter Longer

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ONE NURSE DOES THE WORK OF TWO

with CONNECTACALL to help her

TYPICAL of the important contributions good communications can make toward hospital efficiency is Connectacall, which enables a nurse to supervise the welfare of her patients more efficiently... with less effort. It enables her to "look in" on any room without leaving her station, ... to talk to patients readily, and send orderlies or aides on less important errands.

Postwar communicating and signalling systems by Connecticut Telephone & Electric Division will incorporate every desirable, proved step forward. We have reason to believe they will be available very soon after major military communications equipment needs have been taken care of.

If you have postwar construction or modernization projects in the planning stage, it will pay now, as always, to look to "Connecticut".



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Engineering in Wood

The same techniques that have made prefabricated timber such a satisfactory building material for giant Navy blimp docks have been applied equally well to railway, marine and aviation housing; to factories, bridges, warehouses, commercial and municipal buildings of various types and sizes.

It is difficult to name an industry that cannot benefit from the economy, strength, construction speed, permanence of wood.

This is particularly true when Timber Structures *Engineering in Wood* policy is harnessed to a given building problem. Engineering in Wood is many things. Research. Design. Engineering. Prefabrication. Transportation. Erection. All are part of Timber Structures service to management, architects, engineers, contractors on buildings in which roof trusses and other heavy timber items are an integral part.

Our Engineering in Wood service is available to you. Whether construction plans are immediate or postwar, our specialized knowledge is at your disposal. Inquiries are welcomed on the use of wood and allied structural materials. Write for literature.



NAVY ITA HANGAR. Complete structural work for this and 12 similar hangars (72% of Navy's entire LTA program) prefabricated by Timber Structures, Inc. Pen drawing by toui. C. Rosenberg, internationally known etcher and renderer. A copy suitable for framing, will be mailed free to architects and engineers on professional letterhead request.

SCREENS FOR BEAUTY AND UTILITY WITH "BEX" Decorative Glass















PLATE II

This office of color, warmth and quiet is selected from a portfolio of Weatherwood interiors . . . Walls are in alternating panels of Blendtex and Hi-lite Plank. The ceiling is Hi-lite Tile or Paneltile. This is one example of Weatherwood 'Plus-ability''... the portfolio contains many more new ideas in beauty, quiet and insulation combined in one material.



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When Sir Yeshwant Rao Holkar, Maharajah of Indore, planned this home at Santa Ana, California, he could, of course, command the best in equipment. That he chose PAYNEHEAT upon the advice



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Every minute saved in transportation of parts or packages between departments in any industrial plant saves money. Stanley Magic Doors save minutes that add up to dollars every day. They speed up traffic, reduce accidents, save heat, eliminate breakage, cut door repair costs. For these reasons, architects took a professional liking to them right from the start!

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DOORS

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Curtis Silentite windows may be used to design several different kinds of bays to add variety and charm. Such windows, too, help satisfy the demand for more space.



More than ever, windows will be used in groups. Curtis stock windows—low in cost—easy to install —make such groups economical, even for the smallest homes.



Because the Silentite window line is so complete, you have more scope in planning modern window arrangements, such as this corner window. Wide variety of sash styles.







A^{RCHITECTS} all over the country are doing some *practical* thinking about windows for post-war homes. That's why you'll find Curtis windows on the boards and in the post-war plans of so many architects. There are sound and compelling reasons back of this choice. Here are some of them:

- 1. The public wants more windows—and stock windows by Curtis offer the most practical means of meeting this need, at low cost.
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- 3. Tomorrow's windows must be weather-tight—and Curtis Silentite windows, made of wood (in itself an insulating material) provide scientific weatherstripping . . . low fuel cost . . . casy operation.
- 4. Through years of research, Curtis has become a natural leader in the window and stock woodwork field. That is why architects look to Curtis for latest improvements.

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HOW TRUSCON IS HELPING

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HE TIME IS GETTING SHORT ... the end of the war is within sight . . . and American business must plan its postwar building program with increased energy and foresight!

Truscon is helping stimulate this action with a new series of advertisements in BUSINESS WEEK, whose readership is over a half-million important business executives and civic leaders.

Truscon is illustrating and describing actual jobs that are down on paper, ready to go . . . plans drawn and everything set for the actual placing of contracts and immediate starting of work.

Truscon feels that the publicizing of these jobs ... big jobs, involving large expenditures of money . . . will encourage American business and municipalities to embark on a nationwide program to fill building needs. The necessity for immediate cooperation with architects and engineers is amply emphasized. We hope that you will benefit from this campaign in many ways.



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MACHINES FOR SELLING!

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Get Those Plans Ready!

We all stand, at the moment, either in the "darkness before the dawn" or in the "lull before the storm," depending on how you look at it. V-Day (on the European front) is dreadfully near. It will be greeted with general joy, in which we expect to participate. But the American aftermath may not be as comfortable as anticipated—unless there has been more complete and effective planning for it than meets the eye.

It is gratifyingly true that groups here and there throughout the country, in both business and government, have been preparing with more or less skill and thoroughness to deal with the parts of the whole reconversion problem which lie within their respective circles of influence. Yet we are slightly appalled by the apparent absence of any over-all coordinating body to pull all the plans together and give them concerted direction. We are also dismayed at the fact that at this late hour the sum total of all the preparation for peace does not seem nearly adequate to insure reaching that much-talked-of goal of Full Employment. Perhaps that is the way democracy must work things out, and we will have to let it go at that.

Getting back to our own alley, it appears from recently released figures that the building industry is not ready yet to do its own part in the general scheme. A special Congressional Committee on Postwar Economic Policy and Planning pointed out the other day that out of almost \$11 billion worth of contemplated state and local public works projects, only about one-third have been advanced beyond the idea stage. Furthermore, two-thirds of all such projects that have been brought to the completed plan stage are confined to five states—New York, California, Michigan, Illinois, and Ohio. "The vast majority of cities under 25,000 population have made very little progress in planning for their needed postwar public works," continues the Committee's statement.

As for private projects, the Producers' Council reports that their volume is "well behind requirements." "Only a small part of the estimated \$5.3 billion of private building [needed for the first postwar year] has reached the planning stage," says the Council's latest release. It then concludes, "Failure to expedite the planning of private construction not only will lead to increased unemployment and postpone the completion of urgently needed housing and other building, but also may result in unnecessary spending of many millions of dollars on non-essential work relief."

This situation is not to be shrugged off. It is unprecedented in history and the cost of failure to meet it successfully will be staggering.

Architects have not, it is true, the power to initiate projects, either public or private, but they do have influence which they can use to persuade many clients to go ahead now with plans, even in the face of uncertainties as to materials. The time has come to put that influence more intensively to work.

The country needs at least \$15 billion worth of construction planned and ready to start when unrestricted civilian building is resumed at the final end of the war if we are to be able to cope with the most critical period of reconversion employment. There is no time to spare. It won't be long now before we will either have to master the deluge or be swamped by it.

Sentte King

Pencil Points Progressive Architecture

Integrated Design Is a Joint by Roland A. Wank



Close integration of building elements with each other is one of the many modern headaches that our architectural forefathers did not have to worry about. Building developed much like animal life from the one-cell Protozoa to the almost infinitely complex Vertebratae. Many farmhouses in the South, still in use, were born just like the onecell amoeba: when another room was needed, another was built, just like the one before it, with a door to the front, a window to the rear. The house is not integrated even by doors between rooms; and, of course, it is innocent of such complications as plumbing or wiring.

For the modern extreme, the Lessing Rosenwald residence, for example, is mainly an urbane skin over an infinitely complicated system of air conditioning, intercommunication, burglar alarms, automatic fire extinguishing systems, and so on and so forth. The new Statler in Washington made history (and hard cash, too) by finally integrating hotel furniture with room sizes and shapes, in fact, with the basic design of the building. Visitors to the Pentagon or to Radio City fortunate enough to be shown the guts of the structures are likely to be even more impressed with the mechanical equipment than with the architecture.

During the advance from farmhous to Radio City, as soon as the architec absorbed and mastered one of the new contrivances and came up for air, tech



Basic materials—concrete and steel proudly organized into a dynamic design: Ocoee Bridge, Tennessee Valley Authority

> A door in Norris Dam (TVA) Powerhouse. Hardware and ventilating louvers designed to live together and like it

Responsibility



nological development pushed him back under with a couple of new ones. Just when radiators were made to behave in their flush spandrel recesses, air conditioning made them irrelevant altogether; and after door-closers yielded to the inconspicuous Rixson hinge, frameless glass slab doors and electric eyes began to throw all known kinds of hardware into the discard.

So the architect should not be blamed too lightly for his frequent inability to keep riotous building elements under control, although the impulse to cuss

Clearly, you have a choice: to hang together (right) or to hang separately (below)



him roundly is often irresistible. The office where this is written, for example, situated in one of the most modern buildings of a medium-sized town, discloses the following lapses to the most casual glance: samples of the plumber's art in the form of cold, hot, return and drain piping, in two sets with appropriate branches, an undisciplined washbasin, and a brazenly protruding medicine cabinet; steamfitters' art, ditto, with assorted size radiators-behind, under and between the sections of which the janitorial staff long ago abandoned cleaning; venetian blinds in conflict with window operation when lowered and obstructing light when raised; convenience outlets behind hot pipes, safely beyond human reach; phone, buzzer and fixture wiring liberally distributed over floor, ceilings and walls; a floor so objectionable as to require a carpet which permanently absorbs cigar ashes; fans placed here and there with their long and worn extension cords, hazards to life, limb and property—but why go on? Your office probably looks the same!

Even in much better buildings, though, how easily are those movable partitions really moved? Does the painter still bring his bucket, the floor man his patch of linoleum, and are fixtures reconnected with surface conduit? Desks are still cluttered with lamps because ceiling lights miss the working areas;



coat racks and supply cabinets mess up the floor space for lack of closets. Doesn't the radiator still fry the luckless clerk sitting next to it, or the open window give him pneumonia and scatter his papers while his colleague farther away gasps for air?

The memory of tubs on legs with precarious shower curtains on unsteady pipe rings is still familiar. Even among recent installations, there are thousands of hot and cold taps not yet integrated into a mixing faucet, thus precluding the use of tempered running water; or tub and shower supply valves not on speaking terms, an invitation for scalding. Have you ever really appreciated the beauty and convenience of ceilinghung drying racks in kitchens of apartment houses, or the forests of radio antennae on their roofs, just above the semi-Georgian coping? And how long will we put up with the perverted (and growing) refusal of refrigerators to fit into any sequence of kitchen cabinets and equipment?

And to speak of habits as well as of design, think of the thousands of communities where tradition still requires departing tenants to rip up linoleum, tear down curtains and hardware, shades and blinds, disconnect refrigerators and stoves, carry them cross country and then get rid of them because they do not fit, while the new occupant replaces them, laboriously and expensively. How many decades does it take to discover that such fittings are part of the house, should be integrated with it in design and ownership? And when will the telephone cease to be a surplus luxury, subject to separate negotiations with the Company and installed on a catch-as-can basis?

Well, perhaps it won't be long. Because the great American public has indicated its unmistakable preference. Firstly, it wants labor-saving layout, finishes and equipment (or gadgets, if you prefer). And, secondly, it wants them integrated into a smooth and consistent whole (or streamlined, if you prefer). Perhaps not all of the gadgets or streamlining are in good taste; but the basic trend is hardly open to argument.

Not many years ago one bought a car, then according to one's desires and purse bought and mounted thereon a heater, a defrosting device, radio with antenna, cigar lighter, ashtrays, foglights, trunk, and so forth. The acces-

Materials, structure, heating units, light sources and decoration fused into the single concept of progressive, organic architecture





sories may have come from a variety of sources; and, of course, while they fitted as to physical clearances and support, the effect was not unlike some of our buildings (a recent example I saw must have had ceiling lights and ventilating outlets laid out by the two engineering trades without knowledge of each other -both in even spacings, but without common denominator). Car manufacturers soon began, though, to incorporate, conceal, or otherwise assimilate accessories into their basic article, although often leaving their purchase optional; and who can doubt their intuition of public preference? Certainly not architects who together with builders and real estate men never averaged much more than 350,000 dwelling units annually while car makers sold four and five million cars.

Builders and speculators have long and successfully placed their bets on the proposition that the public really, deeply, and persistently wants lifeeasing, labor-saving devices. Advocates of the simple life (few of whom depend on log-splitting for warmth or coal-oil lamps for light by which to write disapproval of gadgetry) may cry "trickery," but when millions of Americans persist in some preference it pays to examine it carefully, wrong as it may seem at first blush. Let's look at it this way: fifteen minutes each day aren't impressive; but in a year, they equal the waking periods of nearly six days. In threescore years and ten, the fifteen



Picture puzzle: Find the point at which structure, materials, mechanical systems or equipment stop and "architecture" begins. Aud 4 usi 2.294 I: 1.2018 Generator hall of Chickamauga (TVA) Powerhouse

minutes mount to fourteen months—a continuous sinktop or an ashless fuel that will free you of that much drudgery a day is really priceless magic that will extend that most precious of all things: life itself.

Of course, the housewife as well as the management of a commercial or public building can hire their drudgery done. But, alas, there are fewer drudges for hire every time one phones the employment agency-the laundress has gone to turn out washing machines and the man who used to shovel coal works in the stoker factory. So the latter-day architect must dote on devices that will save time for living-for the client or his employees-and on simplification and smoothness so the time saved by modern devices may not be frittered away in taking care of them or of the complexities that arise from their introduction.

Civilization is a daughter of leisure. Only, in our age, leisure must be produced by technology, because it can no longer rest on exploitation of the hand labor of many. Thus labor-saving items are part of the foundation upon which American culture is built, rather than just gadgets competing for the building dollar against more space, light, air, and the other amenities. In



The lighting and air-conditioning elements in this super-structure of a museum gallery (built several years ago) do their separate jobs to perfection. But integration?

the course of postwar progress we should—and may have to—have both; in the meantime, it might be remembered that the importance of amenities was discovered and made a public issue not by those deprived and therefore in worst need of them, but by groups already well enough relieved of drudgery to perceive cultural necessities.

But as the claim is made that the newer accruals to the list of building components (let's call them "equipment" for short) have a basic meaning for our civilization, discussion of their proper treatment begins to verge on esthetics. If it can be agreed that architectural beauty comes with expression of meaning and utility in the design of the selfsame elements that make the building useful, it should be obvious that integration of all building components and equipment into a consistent whole is a first requisite of contemporary design.

Or, if this is too abstract, let us take a fresh start from another angle. A couple of centuries ago, utility, its expression, and beauty all resided in what we now call the shell of the building—they had to, because that is all there was of the building—walls, roof, and floors. By now, the shell is not only proportionately less important compared to equipment, but has shrunk physically. It has thinned out with better structural materials, dissolved into glass, vanished from view as flat roofs.

For a time we went along carefully designing brick shells, slate roofs, proper window spacings, then carelessly cramming them with plumbing, radiators, registers. With less shell and more equipment it is now clear that all components must join in a harmony of the whole. And that means integration, whether by total absorption of an equipment item (as panel heating in a floor slab) or by its proud and conscious presentation as a design element, properly shaped, spaced, and related to others (as a combination of air conditioning and lighting outlets, or sprinklerheads, or door hardware and louvers).

Since we are now near the core of the subject, let us take time to look at some of the progress of recent years, then at some of the virgin areas awaiting further ingenuity of the designer.

Remember the dropcord with the bare bulb? Then the shade (often reminiscent of our colonial great-grandmoth-ers) and the globe? Then, with electricity shedding some of its exuberance for more mature modesty, growing integration with the structure: indirect fixtures, coves, coffers, glass panels, eventually recessed lights? Today, flush fluorescent troffers in rhythmic alternation with acoustic tile look like a perfect example of integration; tomorrow, they may yield to fluorescent-coated walls, ceilings, perhaps window curtains or plastic panes which over their entire surfaces transmute energy radiated from a few central sources into visible light.

Or take the convenience outlet. Remember it, four inches above the baseboard, in plaster, always a little insecure and slightly askew? Then more and more outlets as equipment proliferated, for power as well as communication, with dangling extensions to boot. Then the genius who took a good hard

A house on a hill in Texas, planned to make the most of local sun and wind conditions. Even for this climate, it is possible to produce a comfortable house with an unventilated flat roof





In this restful guest livingroom, the architect has skillfully integrated a dramatic mountain view, simple materials and forthright structure

look at the wooden baseboard, ripped it off and replaced it with a steel wireway? And being readied for the market today, the plastic wire-mold with integral conductors—progress from the casually scattered blemish to the structurally integrated, esthetically satisfying building component.

Or consider the floor outlet over the pipeless furnace, a good place to scrape mud from shoes and watch the skirts of the gentler sex. Then the triumphant encroachment of grilles and registers upon walls and ceilings, playing hob with baseboards, moldings, and pleasantly calm surfaces. A few years ago, with resignation that air outlets and intakes are here to stay, the development of grilles and air outlets scientifically designed to accommodate the flow of air, well styled and a joy to beholdprotruding at first but receding and integrating with ceilings, light sources, coves, year by year. And then again a trick that may supersede them allthe perforated acoustic surface with built-in heat insulation, that transforms the entire ceiling into a device for air exchange.

Houses, of course, offer the lushest field awaiting integration. Their rampant elements remained unbridled by rational treatment because Americans, energetically alive to the new during the competition of the day have taken out all their nostalgic inclinations on the places to which they return at night; and, too, the usually small-scale operation by which dwellings are designed and built lends itself poorly to the special care and collaboration through which in-

Same house as left. Small windows on the windward side, large windows on the lee, produce a Venturi-like effect—a more-than-perceptible draft even on hot, breathless days



tegration is achieved. Great changes are likely in kitchen and laundry equipment-the omission of dishwashers, garbage choppers, graduated cold storage compartments, washing machines, dryers, and ironers may look as peculiar in the future as the lack of drainboards, cabinets, stoves, and refrigerators look in un-modernized kitchens existing today. The integrated bathroom, with no corners to clean under and no cracks for unauthorized wildlife, but perhaps with sunlamps, heated towel racks, shaving outlets, laundry hampers, and medicine cabinets that are cabinets may be just around the corner.

And the radio, victrola (or their successors), television, home movies, microfilm? Will we continue as individual owners of outsize cabinets crammed full of communications equipment, that dominates space and furniture in the living room and are the despair of brawny giants on moving day?

Too, some day we may shed the lingering belief that storage space is needed only for hats and clothes, and those all the same size, whether for man, woman, or child. Of course, a large part of the total space is, by tradition, regarded as movable furniture—but why should it be? The built-in desk has already made its appearance—in the kitchen of all places—in recognition of the trend of housekeeping towards a desk job—or-

Exact performance needs of a research laboratory create a very different architectural effect than one worked out on a stylistic basis. Here, clearances, heights and sizes are all determined for the most efficient use of a series of precision elements, which become the planning module



dering, account keeping, bills, and checks. Isn't it likely that eventually all but personal possessions will be integrated into the structure itself and wouldn't that be a boon to the American citizen, the most nomadic race of the world?

Does all this sound too futuristic? Well, consider some of the bedrooms of the crack trains of the last prewar years. They possess many of the features discussed in this article plus a number of extra ones, including built-in ashtrays, nightlights, compartments for valuables and the equivalent of furniture. They are completely integrated and comfortable, visually and factually, beyond the wildest imagination of designers of a few decades ago. They are mentioned as examples, of course, not as models for the home; and it is granted that the permissible cost of a Pullman car is quite different from that of a dwelling. But the past history of industrial production abounds in conversion on onetime costly luxuries into the commonplaces of another day.

But, one might object, building is not industrial production. Indeed, it is not. So precisely how will mass production



Louvered screens for a sunny climate keep the sun in its place. The architect has sensibly coordinated this purely functional device with the basic design of the structure

apply its magic to structures, and how does the architect guide, if not direct, building toward a more integrated product? This merits some speculation even within the confines of this article, because the question deals with one of the many factors that may change the architecture of the future in fundamental ways.

Among his many other qualifications, the architect, of course, must be a prophet. So is, for that matter, any other designer of goods yet to be produced; but while the fashion artist doesn't have to look beyond the season, the architect tries to peer through the veils for years, perhaps a half or a full century ahead.

Therefore, as behooves prophets, he anticipates development that has not yet occurred, sometimes at the cash expense—although esthetic and functional gain—of the client. Contemporary design often stresses identical repetition, precision of dimensions and fits—all characteristics of machine products—although identity and close fit may have to be procured laboriously by hand in the current state of the art. For example, when smooth plywood



wainscots in large sheets superseded traditional panel work, scribing and jointing became much more difficult; the plywood is, by and large, an accurate machine product but the rest of the structure is not. Thus the appearance of effortless and ostensibly thrifty simplicity is achieved at the cost of exacting and expensive labor, because the architect's sense of fitness outruns the construction industry, as it should.

Now what does the architect encounter when he reaches out for greater integration? For an example, take the window. It has been with us practically always, and on every one of our buildings. Here are some of its parts and accessories.

The sash, with hardware that is still often separately selected and specified; glazing; the shading or light-controlling device, again with its hardware; decorative drapery, if any, with tracks, valances, etc.; insect screen, and a method to get rid of it when not in use; winter storm sash, ditto; more recently, summer heat insulation in the form of special glass, double glazing, exterior shading and so forth; often, as in schools and offices, air intakes for local conditioning, or exhaust fans as in kitchens; heating device usually in the immediate vicinity; perhaps flower boxes, shelves or other whatnots.

Now how does the architect design, and the builder construct, the combination of all the elements that make up the complete assembly (not to mention the finishing touches often supplied by the occupant)? Most of the time, and until

Nowhere do the joint interests of designer and manufacturer meet more closely than in highly specialized rooms such as an institutional kitchen. That so successful a unit can result is a tribute equally to the correlated products which the manufacturer supplies and the architect's skill in organizing them



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recently all of the time, by taking one element from the catalog of Manufacturer "A," another from "B," designing the third to be made in a plant, a fourth to be fitted on the job, and perhaps the fifth to be delivered from a department store. Small wonder that the architect does not often make very good progress toward smooth, elegant integration.

Nor should the rest of the building industry be expected to emerge with a unified product all of a sudden. Progressive manufacturers have taken many steps in that direction; but the more elements are drawn into the in-



Window, radiator, walls, and furnishings blended into an harmonious whole

Doctors and patients alike appreciate an operating room designed for cleanliness and efficiency. The parts are simply materials and equipment chosen for function, properly organized, and frankly expressed



tegrating process the more complex the product becomes, requiring special machinery and dies. Which means that it must be sold in greater quantities and in fewer variations; in other words, to a mass market. And where, the manufacturer may ask the builder and the architect, is the mass market?

It is there in a small way, of course, in two places: in the mammoth structure whether it is a hospital, an office building or an apartment house, as long as it has enough identical parts to be a mass customer on its own; and in the small, but repetitive structure, whether a dwelling, a filling station, a prefabricated warehouse, or whatnot—as long as it is designed, specified, and its parts bought at one swoop. On such works a good deal of integration is within the grasp of the architects and the building industry; by and large, these are the categories in which greatest



This long, narrow shop, with walls arranged at an angle to provide complete merchandise display to the entering customer, results from the knowing arrangement and joining of planes, cabinet work, lighting and ventilating elements, decorative plaques, floor covering, furniture and color

progress has been achieved, and in which any lack of integration can justly be taken for dereliction of the designer. But for some time to come-perhaps until we decide to rebuild Americathe real volume market is in refurbishing and in large totals of individually small contracts. Thus fluorescent fixtures for replacement of suspended globes may outsell recessed ones; the bedroom or office size cabinet air conditioner may remain a more appropriate item for mass production than units or combinations designed into the structure. The design and "styling" of such objects will perforce compromise with average conditions and surroundings; and the small project will have to take and fit them in as available.

Thus, the trend towards integration, like so many developments of this age of technology, favors bigness. In fact,

In this art gallery, ceiling decoration and general lighting system are one. It works well, it looks well, and it is an illuminating instance of how the architect can integrate the products of industry into handsome, efficient architecture



it is quite possible that the completely, organically integrated building will emerge only as the divided branches of the building industry will be integrated into big units to serve mass markets with products that leave less individual choice but are more advanced, better designed and equipped. The house prefabrication industry has already made



Reception room in a TVA power-house; the relevant feature is the dropped ceiling panel in which vent duct, cove and direct lighting, supply and return outlets are unified

some passes in that direction; and it might have gone further but for the handicap of war conditions.

Architects may wonder whether the design content per unit of mass product would be higher or lower than that of the average building of today; but in any case, the function of design would change. New kinds of discipline would be imposed upon it by the peculiarities and limitations of manufacturing equipment, by research and guesswork on trends of popular acceptance, by premeditated manipulation of the obsolescence rate. The approach is more fa-



A school social room built during the war. Structure and manufactured products, used without apology, form distinguished architecture

miliar to the industrial designer than to the architect.

So there we are. Within our lifetime the circle begun with the medieval guilds may come full turn, at least for large categories of building. The disintegration of guild skills into many independent professions and trades had a fundamental connection with the accidental, undigested character of so many structures of more recent vintage. Reintegration of structures, now occasionally accomplished by sheer sweat and grit, may come naturally through the modern equivalent of the guild. As architects we may mourn or rejoice over the drift of events; but the handwriting is on the wall.



In a theater more than in most building types, the elaborate systems needed for illusory effect and audi-ence comfort must be schemed as an integral part of the design

In Neutra's unconventional plan for a house of tomorrow, an honest effort is made both to integrate and put to efficient use recent products of invention and technology and to anticipate things yet to come. The dual job is a constant challenge: to serve society's needs, technology and industry produce, while the architect creates and organizes. The more they work hand in hand, the better

Photographs on Pages 48-53 by P. A. Dearborn, Richard Garrison, Marcel Gautherot, Gattscho-Schleisner, Hedrich-Blessing, F. S. Lincoln, Holmes I, Mettee, Jean St, Thomas, Ezra-Stoller, Roger Sturtevant, and TVA





Branch Bank, Irving Trust Company,

VOORHEES, WALKER, FOLEY & SMITH, ARCHITECTS



Granite facing borders the bronze-framed glass front.



MEZZANINE FLOOR

Seldom has the word "integration" been more clearly defined in architectural terms than in the remarkable ceiling of this bank. Composed entirely of structural, lighting, fire-control and air-conditioning elements, it is a splendid instance of the proud and efficient architecture that results from intelligent use of contemporary design tools.

In general, the bank needs were standard—a public space, tellers' cages, space for officers' desks readily accessible to the public, bookkeeping and work space, and (in the basement) a vault with private booths. These facilities have been provided in a direct way, including the use of low-height booths for tellers, and officers' space separated from the public area by only a hand rail. One notable exception to standard facilities is the paycheck banking space provided at the rear of the basement. This separate area, used only at pay periods, handles the temporary, extra-heavy load of business expeditiously without disruption of normal business on the main floor.

While the design of the bank as a whole is worthy of more than passing study, the ceiling is where our main interest lies in this issue, devoted to the subject of architectural integration. Not only does it provide 35 foot candles at desk height, but it forms a distinguished piece of design that is wholly derived from twentiethcentury technical elements. Here, frequently labeled mundane things like a sprinkler head, a light socket, a ventilating outlet, and a reflector cove are organized into a room surface that is as striking in appearance as it is efficient in function.

New York City



FIRST FLOOR



BASEMENT



The warm wood tones of the tellers' booths are repeated in canvas-backed veneer applied in selected areas as a wainscot. Other wall surfaces are painted canvas. The columns and under side of beams are painted deep bluegreen. The floor is terrazzo divided by brass strips.







United Carbon Building

Charleston, West Virginia

MARTENS AND SON, ARCHITECTS Walter F. Martens, A.I.A. Robert E. Martens, A.I.A.

Successful coordination of the parts into a unified whole is a laudable design goal at every level—whether the problem involves the scheme for a coat closet or the master plan for a city. It is in the single building, however, that the architect most often has the opportunity to demonstrate his skill as a master coordinator. All too frequently, alas, the finished building demonstrates a compromise somewhere along the line—a plan cramped to suit some stylistic prejudice, a structural system which provides less than desirable flexibility within the building, "stage-set architecture" laboriously worked out to conceal elements of lighting, air conditioning, or sound-control systems (because the architect was unsure or scorned the new elements as "non-architectural"), or some other half measure, resulting in an architectural what-have-you.

It is therefore particularly gratifying to present this fine new office building, wherein the architects have achieved a rare degree of integration between the diverse elements of plan, materials, structural system, and systems of control. It is not only a striking instance of this important design factor, illustrating the fine architecture that results from a knowledgeable approach, but it sets a high standard for the design of office buildings of this size, a great many of which are likely to be built in postwar years.

There are two chief points of view from which we shall analyze this extraordinary office building:

1. From the more obvious standpoint of its success in providing the physical space for the conduct of a company's business.

2. As an outstanding instance of progressive architecture: exceptional coordination between the basic structural and equipment elements, a unit which clearly improves the block in which it is located, establishes a new high of architectural excellence for the city itself and indicates the benefits which Charleston—or any other city of its general character—would gain were this type of rational design approach applied to the wider sphere of over-all community planning.

When the United Carbon Company, one of America's chief producers of carbon black, natural gas and oil, decided to build its own home office building, initial plans called for a 6-story structure to care for immediate needs. Further studies, indicating the advisability of providing for probable future expansion, resulted in the 12-story building described on these pages. Meantime, the floors not needed by the company are rented, bringing a good return on the additional investment.

The site is on the outer edge of Charleston's business district on a boulevard bordering the Kanawha River. Ample space was available to permit placement of the structure back from street property lines, insuring for the predictable future good light and pleasant views from every office. This generous "plus" space has been put to good use—landscaping along the sidewalks, a Photographs by Jean St. Thomas



Walter F. and Robert E. Martens. In the background is the model used in developing the building design. The younger Martens is now a Lieutenant in the Army serving in the Mediterranean Theater with an Engineer Camouflage Company



The west elevation



MARTENS AND SON, ARCHITECTS

Consulting Engineer: Elwood S. Tower Structural Engineer: R. W. Haworth



The portico columns and bronze sculptured figure (Robert Martens, sculptor) frame a view across the river valley



From a distance, the building mass adds a well-proportioned unit to the city skyline. For the future planning of the community as a whole, it establishes a standard for reference

walled parking space for tenants' cars at the rear, and a long paved court inside the west property line, which is used as an outdoor restaurant.

That the building is well composed and agreeable in detail and mass from every direction is a logical outcome of the unusual prominence of the site. To this most basic of design-integration problems—the correlation of the four walls of a building, the proportioning of materials, areas of different color, and fenestration patterns into a balanced and satisfying unit—the architects devoted extensive study. Theoretically there should be nothing remarkable about regard for this a-b-c of harmonious design; yet a walk along any city street reveals to the most casual observer how rarely it is respected.

After the required floor area and a scheme for efficient subdivision of this area into desirable office space were determined, the project was at once translated into a model made of wood, plastics, and cardboard. From this, exact placement and relationships of structural and decorative features were worked out; nighttime conditions were studied by means of light bulbs inside the model. In fact, the model, rather than the usual series of perspective drawings, was used for presenting the design to the client.

The adopted structural system is a steel skeleton, with steel pan concrete floor slabs and steel roof joists; the concrete piling was cast in place in steel shells. Basement walls are of solid concrete, with membrane waterproofing; upper walls are of 6-in. fire clay hollow tile, with brick, granite, or stone facing. Corridor walls are 4-in. hollow tile; office partitions are 2-in. insulating structural block. plastered.

The fact that the building is about three times as high as its least width necessitated introduction in the steel skeleton of three panels of vertical diagonal wind bracing, which has been inconspicuously coordinated with partition placement.

Careful consideration was given to spandrel beams and lintels, as columns had to be set back to clear the walls of the lower stories, which meant about 9 inches from face of wall to face of columns on upper stories. Wind bracing required that all columns be continuous and have stiff connections with the beams. This was accomplished by placing spandrel beams on the outer face of columns, with plate or angle clips to take wind stresses. The torque developed in the spandrel beams by the overhanging wall was taken by the floor construction. The latter consists of 6-inch joists and 3-inch slabs with permanent metal pans with attached lath. One inch of



A continuous window strip tops the rear elevation at the 11th floor $% \mathcal{A}^{(n)}$

Rear entrance from tenants' parking area; black alberene stone surfaces the lower floors on this elevation





The portico walls, columns, and ceiling are finished with the polished black granite used for the building base on the three principal sides. Bronze trim and gold-color face brick emphasize the company colors



MARTENS AND SON, ARCHITECTS

Planting strips border the two sidewalk elevations





cement finish was applied to receive the rubber tile floor surfacing.

The slab depth is another noteworthy instance of structural and mechanical coordination, for the electrical distribution system for each typical floor consists of a grid of underfloor raceways underlying the office-bay areas. The raceway ducts are contained partly in the one-inch finish course of the floor and partly in the structural slab. Carefully spaced to avoid location near points of maximum stress in the slab, the raceways were thus installed without heavy and expensive fills on the floor or loss of efficiency in the duct system.

In the main, the design approach is highly functional with a negligible amount of superficial ornamentation, and a sound regard for materials used in their natural form, texture, and color. The relationship between elevator shaft, stair tower, and fire escape is at once planned for optimum efficiency and organized in design to form a unified vertical shaft in excellent proportion to the rest of the building and an important element in the over-all organization of the building mass. The most striking instance of thoroughgoing integration is the notable air-conditioning system described in detail cn Page 68.

There has been some compromise with functional design expression in the device at window levels of surfacing the exterior columns with dark-colored brick to give the effect of continuous horizontal window bands—an archi-

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PLAN AT 3-23/4" 4-11/2" - 3-23/4 STAIR LANDING 01234 FT EXPANSION BOLT

BRICK

DETAIL AT .A.

GLASS



WALL AT LANDING 0246 B 10 IN

Detail of stairs

On the west elevation, the stair tower and diagonal lines of the fire escape unite to form a bold vertical element, highlighted at night through the building-height glass-block panel

tectural result that logically derives only from cantiever construction. To most critics, however, this obvious attention to surface illusion is of minor importance compared with the rare degree of logic which typifies the design and the fact that the building works and works well.

Placement of the entrance portico at the corner, open o both street fronts, is a sensible scheme for a corner ocation, and the use of a rounded line, carried the full neight of the structure, eliminates any sharp dividing ine between the two equally important frontages, at he same time increasing the building's apparent width. The portico also provides desirable shelter in inclement veather.

Iere again, the structural system apparently interferes omewhat with the desired end result. Actually the ffices that occur at this corner, while amply lighted and fficient in use, are not bordered by a solid row of winows, as they appear to be, but have two interrupting olumns quite closely spaced. At the ground-floor level, his framing situation is most apparent. The theory eems to have been to open up the corner for entrance t any point; yet the two portico columns intercept the rea directly at the corner. While easy access is not in act jeopardized, as openings at either side are generous



Office space at the rear of the 11th floor. Windows are equipped with stainless steel venetian blinds. Each typical corridor door (above right) is equipped with a fluted glass panel and a steel ventilating panel with adjustable shutters. The black drinking fountain helps carry out the black and gold color scheme

in dimension, it is instructive perhaps to point out the inevitable architectural connection between elements of structure and plan. Faced with this problem, the architects made capital of it and developed the facing of the two columns in such a way as to form a broken niche for the mounting of a symbolic sculptured figure.

The company colors of black and gold have been judiciously used throughout the design. On the exterior, these are carried out in the black base, black-painted steel sash, combined with golden-toned brick and bronze trim, lettering, and sculpture. Adjacent sidewalks and parking area concrete are treated with company-produced integral black coloring, which eliminates glare.

Inside the building, the entrance lobby is faced with polished black marble; elevator doors, mail box, directory board, and concession stand are either all bronze or designed with substantial bronze elements. Numerals above the elevator doors are of back-lighted transparent plastic; floor surfaces on the first story are terrazzo.

In upper floors, rubber tile flooring and base in black and gold is used; in offices, window stools are black terrazzo, while wall surfaces are a golden-ivory plaster. Each typical floor contains 14 office bays, subdividable where tenants require smaller spaces. Evenly spaced wide window mullions were purposely provided to allow frequent partition placement without awkward intersection—yet another instance of careful coordination of plan, structure, and equipment. Windows, glazed with ¼-in. polished plate glass, are 5 feet high and 3 feet above the floor line, providing proper height for efficient integration of the air-conditioning units beneath the stools. Except on the executive office floor, the windows are all equipped with stainless steel venetian blinds.

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TYPICAL FLOOR









Reception room entrance to the 12th floor executive offices

UNITED CARBON BUILDING

XECUTIVE OFFICES

Occupying the entire twelfth floor of the building are he company's executive offices. In addition to a recepion room, the head executive's office, and three smaller ffices, a dining room, bar, and kitchen are provided or the entertainment of customers. Throughout the uite, furniture and decorative materials and objects rere specially designed and fabricated. The furniture



One place where integration flies out the window: a paneled, folding screen is used to conceal file cases in one of the secondary offices





The chief executive's office includes a bay window and a terrace overlooking the river and country beyond

MARTENS AND SON, ARCHITECTS

Conference table at one end of the president's office



of the offices is by Robert E. Martens; window hangings were designed and woven by Mrs. Eliel Saarinen; the wall hanging in the reception room is by Marianne Strengell Dusenbury. Even incidental pottery and other ceramic objects were created for these offices by the Ceramic Department of the Cranbrook Academy of Art.

All walls in these twelfth-floor offices are surfaced with fabric-backed, quarter-sawn teakwood veneer. The floors are carpeted.

In the chief executive office, a semicircular bay window curves out onto a roof deck, which extends across the entire front of the building. At one end of this office, a conference table is arranged alongside doors leading out to the deck.

Lighting derives from concealed fluorescent tubes; elsewhere in the building, fluorescent units are used in custom-designed fixtures. Total cost of the structure including equipment, furnishings, carpets, venetian blinds, pavement, landscaping, etc., was \$665,000.



Inner corner of the chief executive's office; the walls are surfaced with teakwood veneer

Coat rack for an office



The bar adjoining the executive dining room





Gas-fired boilers



Zone-controlled water-pumping system

Refrigeration unit



MARTENS AND SON, ARCHITECTS

AIR CONDITIONING SYSTEM

While the entire United Carbon Building constitutes an eloquent argument for the benefits to be gained from design integration, nowhere is the argument more convincingly stated than in the exceptional air-conditioning installation. Not only is it an extraordinarily flexible, year-round system, but it is so coordinated with other architectural elements that it is impossible to find a point where engineering or mechanical equipment or finished design are clearly defined. All are inseparably fused into the single concept of architecture—progressive architecture of a high order.

Two things particularly distinguish the air conditioning installation in this building:

1. Unlike the usual, large-building system, which delivers conditioned air through ducts to rooms from a central plant, the system in the United Carbon Building brings to unit conditioners in each room only water, controlled in temperature by zones corresponding to the four building exposures, and clean air.

2. The temperature of the conditioned air is locally controlled by each room occupant by means of a dial set attached to each unit conditioner.

The under-window unit consists of a mixing stack in which outside air, which has been filtered and humidified (or dehumidified), is brought from the central source and mixed with air drawn from the room. The temperature of the water delivered to the units is controlled by outdoor pilot thermostats on each building exposure. These thermostats balance the difference between dry bulb temperature and solar radiation, guaranteeing that water temperature will have sufficient heating or cooling capacity to fulfill any requirements.

For each cubic foot of outside air discharged, four cubic feet of room air are drawn into the unit; with this large quantity of induced air, it is possible to tend to practically all cooling and heating with this one air stream, the outside air serving only to fulfill the ventilating requirements and maintain proper humidity conditions.

Room temperature is controlled by varying the rate of water flow through the cooling coil in each under-window unit; this is done by a control valve accessible to the room occupant through a small metal door. Since the system is for both heating and cooling, it is necessary to reverse the valve operation when changing from one cycle to another.

The air-distribution system, located in the basement, is similar to that used on most conventional central stations, except that it is smaller, due to the fact that only that quantity of outside air required for ventilation is handled by the central apparatus. Two highspeed fans supply the entire building. Air connection from riser to conditioner is through flexible metal hose to allow for riser expansion. Welded to the hose is a 3-in. diameter seamless steel tube inserted in the airconnection tee of each unit; in bays with two or more conditioner units, the connection is made to the opposite side of the tee and carried on to the adjacent unit in the bay.

The water circulating systems are divided into zones for the four building exposures. Controls are so arranged that each zone becomes an isolated circulating system when hot water is being supplied to that zone.

For cooling, a centrifugal type compressor is used to chill the 350 gallons of water in circulation; the condensing type turbine is supplied with steam from a gasfired boiler, which is used for the normal winter heating requirements.





Concessions Counter, United Carbon Building; Martens and Son, Architects



... Selected Details



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The architect seated at his conference table at one end of the front office

A frequent design-integration problem that confronts the contemporary architect is the need to plan a modern unit within rental space in a well located but highly stylized existing building. Two extreme approaches suggest themselves: total disregard of the sentimental frame, or total subservience to it. That neither extreme is necessarily the answer is well demonstrated in the design shown here.

While the offices themselves are entirely fresh in design and form a striking and functional setting for the architect's professional activities, they are so integrated with the major elements of a Spanish-styled courtyard that the carefully considered basic organization of the latter is in no way disrupted. Certainly there is nothing "Spanish" about the new work, and large single panes of glass replace the many-paned windows and doors of the original; yet in scale, proportion, even dimensioning, the units already established in the courtyard design have been rigorously respected.

As a foil to the open-front scheme, the paired doors are treated as solid panels



The Architect's Office

These offices are located in the forecourt of the Pasadena Community Playhouse, one of that City's notable structures painstakingly worked out in California Spanish style. Despite the stylistic entourage, there was much to recommend it as the location for the professional practice of a progressive young architect. Daily theater crowds bring to the doors of tenants a remarkable cross section of the citizenry. In adopting an open-front scheme, the architect has taken full advantage of the extraordinary display opportunity.

The partition placed at an angle serves as a backdrop against which to mount drawings or photographs; a moveable, hinged lattice screen provides a flexible element for varying the organization of the display area. Over the entire front portion, a lowered ceiling, made up of a grid of 1 x 4 redwood boards, has been introduced. Space above this ceiling brings ventilation to the drafting room from transoms in the exterior wall. Artificial light in the drafting room produces optimum working conditions at all times.



Pasadena, California

WHITNEY R. SMITH, A.I.A., ARCHITECT





The partition wall is of redwood boards, with joints covered with battens

Maynard L. Parker Photo





At the entrance, a ribbed glass partition (detail, below, right) shields the main lounge

Service Women's Lounge

Pennsylvania Railroad Broad Street Station, Philadelphia, Pa.



10-51/2"

HINGEI

LESTER C. TICHY, A.I.A., ARCHITECT

One of the most baffling problems of design synthesis is a situation wherein it becomes necessary to provide facilities within an existing framework that in no way anticipated the new needs.

A wartime example is provision of lounges and related facilities for members of the armed forces. In many instances, new structures have been specifically designed and built for the purpose. In most, however, they have been contrived within any available space. One of the least promising locations architecturally—yet one of the most needed and logical from the point of view of function—is in a big-city railroad station. Almost everything that exists is out of scale with the desired club-like, restful atmosphere. The project shown here is an unusually successful solution of just such a poser.



The dormitories accommodate 25 at a time. The powder room has provisions for shoeshining and light laundering and ironing of clothes

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Typical radiator enclosure and under-window built-ins





Transformation of the area was accomplished with the simplest of available materials. A lowered plaster ceiling over the rear portion of the lounge brings the room into appropriate scale and coordinates an ugly structural beam with the design scheme. Continuation of this plane into a wall of corrugated asbestos board slanting back to the base line (photo above) provides a background for display of cut-out plywood replicas of service insignia. The light wall areas of the room are gray and off-white; bookshelf woodwork is deep gray, while light gray is used on the lowered ceiling and sloping wall panel. The furniture is upholstered in red and brown tones. Powder room and details Pages 77-78.



An 8-foot-high plastered stud partition (left of photo) both separates the lounge from the passage to other rooms and allows cross ventilation to the dormitories. On this wall, painted Oxford gray, is a stylized map of the world, cut from plywood. The background is painted an intense light blue-green: the land areas are white, with incidental lettering and decoration in red and plue. The flooring is made to of alternate strips of leep bottle-green and gray inoleum.



The glass-top desk was designed by the architect

LESTER C. TICHY, A.I.A., ARCHITECT



In the mirrored powder room, the linoleum floor repeats the green-and-gray stripes used in the lounge. The figured wallpaper is patterned in two tones of green with a whimsical Pegasus picked out in red against a star and cloud design. Details on the facing page show the generous provision of well-lighted mirrors. In addition, a wall-height mirror surfaces one whole wall of the room (at left of photo below). Writing desk details are on Page 78.







... Selected Details



Writing Desks, Service Women's Lounge; . . . Lester C. Tichy, A. I. A., Architect



ELEVATION



END ELEV

DETAILS OF WRITING DESKS ... SCALE 3/=1-0"


General view, Chabot Terrace

Public and Commercial Structures

Chabot Terrace (FPHA), Vallejo, California

ARCHITECTS ASSOCIATED:





The Management-Maintenance Building and Major Commercial (right) constitute a civic center.

Chabot Terrace

In simple terms, design integration is the logical and harmonious relation between the various, often riotous, component elements that make up the thing designed. And this applies, whether the thing is a small object or a regional plan.

On this and the next few pages, we present a notable example of successful application of the principle to one of the larger-scale problems—the design and interrelation of several commercial and public structures needed to serve a 3,000-family war-housing project. The principle has been respected throughout—in the individual structure, in its relation to all other buildings, in the street system, and in the planning of the project as a whole. Undoubtedly the most important factor in its success is the reference point against which the architects judged every step of their work: "the needs and pride of human beings—a place for people, adults and children—a happy place in which to live."

MANAGEMENT-MAINTENANCE BUILDING

To tell the story behind the over-all development of Chabot Terrace, we can do no better than to quote Mr. Wurster, one of the associated architects: "Originally it was designated as several projects, to be built on various sites. Possibly this came from the thought of interspersing it with existing portions of the town so that it would not be so conspicuously one thing—thinking of bombing, etc. But when you realize how small Vallejo was before all this war demand, it soon becomes apparent that the tail would wag the dog, with no gain. Then, too, when dealing with water supply, sewage, etc. —and all the need of enlarged facilities—it seemed wise to gain the economy and time efficiency of one operation. Added to this was the feeling that if it were put on one piece of land we could control the 'emergency strips'

Three interior views, Management-Maintenance Building



between groups of construction for fire and bombing protection, for play spaces, and for road layout. Mr. Kump and I felt that it was a superb opportunity to do a thoughtful unified job, and we bent every energy to this end."

Construction of all of these buildings—management and maintenance building, major and minor commercial structures, and fire house—was, like most of the rest of the project, of demountable panel type. Only the school buildings were of standard construction, schemed with a view to salvaging materials rather than for actual demountability.

As may be seen in the photographs and in a study of the project plot plan, the management and maintenance building is arranged as a major civic-center point, in conjunction with the large commercial structure. In the planting scheme, Thomas D. Church, Landscape Architect, further carried out the architects' efforts toward design integration.

The management-maintenance building combines all of the usual accounting, rental, and business offices, organized for efficient use at one end, with a sizable store room, work shop, loading platform and yard arranged as an extended wing of the structure. Framing is of 6" x 6" posts, with as few intermediate supports as possible. A clerestory lights interior work space.

The exterior wall panels, connected around vertical spline members, occur outside of the structural frame. Joints between panels are covered with 2" x 3" battens. Exterior surface of panels is tongue and groove boards; interior finish is plywood. The interior views show the roof construction and doubling of members where adjoining panels meet. These and other structural details of the building are similar to those used on the commercial structures, shown on Pages 82-83.



The project's temporary character plus physical difficulties led to a street plan arranged for car parking, developed by Civil Engineer Hutchison. The architects comment: "The ingenious street-corner scheme slows too-fast traffic, forms a recess for the parked cars, and makes a minimum distance for the pedestrian in the street when crossing."









2

FLOOR PLAN

Chabot Terrace

COMMERCIAL STRUCTURES

The Major Commercial Building, a block and a half long, is designed as a unit with the Project offices (below, left)







A covered promenade surrounds the large commercial building

When the Vallejo Housing Authority and the architects undertook to provide for publicly operated commercial enterprises, they embarked on an unprecedented venture: no Federal, State, or local law or policy existed to serve as a guide. At last report, the solution provided in the block-and-a-half-long store structure (shown here) and four all-alike minor food stores (detailed over page) has been satisfactory to businessmen and tenants alike.

The need was great; Vallejo's existing facilities were heavily overburdened; the four miles of travel between the project and downtown were wasteful of gasoline, time, and patience. A Director of Business Operations was appointed to coordinate the details; Vallejo merchants were given first chance to submit proposals; only when they refused were outside lessees sought.

The result: a super market dispensing food stuffs, a drug store, a liquor store, a general merchandise-novelty store, barber shop, laundry and cleaning establishment, smoke shop, two beauty parlors and a shoe-repair shop. One portion of the structure is used as a large restaurant.

The building is a single large unit, with movable interior partition panels, for maximum flexibility in number and size of shops.

Location of this major commercial structure, toward one end of the project, depended, as the architects explain, upon the fact that "all employment was at the southwest of the project, so all traffic would normally go in this general direction. Also this is toward Vallejo which further emphasized the directional needs of the plan."

The four minor commercial structures are located at convenient points throughout the 560-acre project; a bus line with a 5-cent fare connects the various centers. In each of the minor stores, a portion was allotted for maintenance use in case this type of dividing up should prove more efficient than centralization of all equipment in the large management-maintenance structure. Structure proudly defined



Window wall panels are designed for maximum light and display







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5 x 3 % POST WALL BOARD WALL PANEL 12'-0" WALL PANEL 2×3 BATTEN 11/4"×3%

ELEV. OF PANEL PANEL JOINT DETAILS OF DEMOUNTABLE WALL PANELS

+ 3-11%





The small store buildings were planned also to accommod Red Cross emergency centers or public meetings

RAR R2 R4L R5 R5 R1 RI R5 R5 R5 RGRI . R5 R7 RI . R9 R8 R3

2×6 FILLER

> PLAN OF ROOF 0 10 20 FT

PANEL NUMBERS INDICATE VARIETY OF PANELS USED.



Assembly of demountable panels provides varied types of architecture

Near the center of the huge project (see plot plan) is the fire house, joined by a covered passage to a small structure housing police and emergency units. Like the other Chabot buildings presented in this issue, construction is of the demountable panel type.

The Chabot Terrace schools were published in the September 1943 PENCIL POINTS. The only non-demountable buildings of the group, they are also the one point at which the architects' plans for a completely equipped and integrated community were frustrated. As Mr. Wurster reports: "The original idea was that the social life of the project was to center around the three schools, and each was to have an auditorium. This was to be particularly true of the High School, in which a Clinic for the entire project was included. It is with regret and a feeling that it should not have happened that they omitted the High School entirely, as well as the auditoriums of the two grade schools."



Police unit at left; firehouse beyond



Chabot Terrace

85



V CAST

5.4

Every Citizen in

New Castle, Indiana, has put into practice certain principles for which PENCIL POINTS has consistently argued: the principles which underlie democratic planning. Furthermore, the New Castle Planning Commission is composed of reasonable, human men, not theoreticians, and they went about their job in a human way. They early realized that they must first educate themselves, and decided that they had to have all their citizens' help;

Excerpts from "NEW CASTLE PLANS," a booklet by Scott Chambers, published by the New Castle Chamber of Commerce.

ONCE UPON A TIME ...

Soon after our great grandfathers floated down the Ohio River, Ashael Woodward stopped along the east bank of Blue River. About him was a luxuriant growth, supported by an ideal rainfall and soil rich with plant food. Behind him was a fertile plain, before him a rich bottom land, and to the right and left for miles one of the most beautiful wooded river valleys in America.

In the spring crops were planted, and the harvest that fall was good. The trees were turning, the valley was more beautiful than ever, and God seemed close to the banks of Blue River. Here was food for his flesh and soul, and Ashael Woodward became the first citizen of New Castle.

10 YEARS LATER ...

New Castle had passed from a wilderness to a trading post to a town, and for threequarters of a century it remained a town. Everybody knew everybody else, and on warm days people visited from the front porch with friends who passed. There was room at the Court House rack for every farmer's rig, the streets were wide, and in every block there was generous shade.

New Castle was primarly a trading center serving the needs of a rapidly-developing agricultural area, and a large part of the townspeople were engaged in merchandising or crafts: custom craftsmen serving the needs of their neighbors, and the stamp of their character and the soul of their honor were in their work.

The honor of their work and the lusty cries of their games and parties were a culture in a new land where dwelt laughter and freedom and art and letters—things of the spirit and things of the flesh side by side.

In 1907 the Maxwell automobile factory located in New Castle, and other industries followed. The town has grown since then and has been continuously prosperous, but there was no plan and no preparation for that growth.

Streets laid out for wagons and rigs became filled with autos and trucks, the activity of an industrial city settled down over the frame of a small town, and it worked just like gasoline in a horse—violently. *There arose a congestion in housing* and traffic. The streets became narrow, the business district crowded, and homes afflicted with the noise, dirt, and danger of fast vehicles.

It was more than a change in the physical town, however, for all of this had an effect on the people who lived here. They became restless and wanted to be amused, and a large part of the population went to the doctor with some sort of a nervous ailment. Their thinking and sense of values changed.

They became more interested in what they could get and less in what they could give; more in what they had and less in what they were—and in 1940 there were fewer music and art teachers in the public schools than there were in 1904.

Here was food for the flesh, but starvation for the soul.

NEW CASTLE TODAY ...

is an industrial city with more workers per capita population than any other town in Indiana. At the same time, it remains the trading center for an intensely-developed, fertile farming section.

It has now a high degree of home owner-

New Castle helps his city plan

that they needed the best consultants available; and that those consultants must be architects because, as they have publicly stated, the best city planning is a threedimensional job and because they wanted their plan to be social as well as physical, based on the homely daily needs and habits of their people. As consultants they chose the firm of Saarinen and Swanson.

by Scott Chambers President. New Castle City Plan Commission

"I suppose that your planning is somewhat vague and nebulous?"

That's the remark a newspaper man from Indianapolis made as we sat down in a New Castle restaurant the other day to have a bite of lunch and give him some dope for a story.

Well, it was just like sticking me with a pin.

No sir, I told him. Our plans are not vague and they aren't nebulous. Intangible, maybe, but we know what we want, and we think we know how to get it.

"How did all this get started?" he wanted to know.

Well, it really sprouted in the grass roots.

You will have to admit that the New Castle Chamber of Commerce is unique. It inclines to the Town Hall method of operation rather than to the loud-speaker technique of self-appointed leaders and boosters.

When Clifford F. Payne, the merchant-president of the Chamber, looked around for a program, he found that in New Castle and Henry County there were more than 300 separate clubs, societies, lodges, congregations, unions, service clubs, veterans' groups, political and sewing circles, chapters of this and that.

Instead of running the Chamber of Commerce as one more in a long and vague list of activities, the president and his associates thought of setting up the organization in a kind of partnership with all the others, offering them help in getting good things done, enlisting them to reach out with their contacts and their influence in behalf of worthy programs.

The Chamber of Commerce hit upon the idea of a "civic clinic." For a week in the spring of 1942 it held daily public meetings at which neighbors talked about their ideas of what the town needed. The ideas were assembled on hundreds of cards, and they included:

Better housing conditions. More adequate parks. A community center. A cleaning, both physical and moral. Better parking facilities downtown. A building code. A zoning ordinance. A new hotel. A civic or high school auditorium. More through streets. An airport.

Two-thirds of what they wanted looked like a job for a Plan Commission, so a committee was set up to tell the community about the virtue of orderly planning. Speakers were engaged for organizations, and com-

ship, 250 acres of parks, two golf courses, and civic development that exceeds that of most towns its size. Having taken stock of its assets, New Castle is preparing to face its problems squarely, and to direct future growth along lines that will give its people both the opportunity of an industrial city and the charm and ease of life in a small town.

The City Plan Commission of New Castle proposes:

To relieve its residential districts of the noise and dirt and danger of fast traffic, and make of them neighborhoods in which beople can live in peace and safety and satsfaction;

To substitute for a business district where ong lines of traffic jam the streets and edestrians jump for their lives, a place where parking facilities are adequate to the emands of the automobile age and shopers can move in comfort and safety as they to from store to store;

to banish those blighted sections where disase and crime are bred, and give their enants a place to live that will permit good ealth and induce good citizenship;

to get away forever from the wasteful, attravagant, futile building of public works is the idea strikes somebody at the moment and a certain piece of ground is available; instead to have a program of public works thich is a part of the general plan for pommunity development. There will be no nore leaf-raking in New Castle. There ill be no more public improvements put here there is a spot available at the moent, like a sink in the living room. Every ublic project will be located where it will erve the community for years to come, and will be an improvement the city needs.

pyright 1944, by the New Castle, Indiana, Chamber of mmerce.





Above, two illustrations by Everett Davis from "New Castle Plans"; at left, "There was room at the Court House rack for every farmer's rig..." Right, "There arose a congestion in housing and traffic..."

New Castle, county seat of Henry County, Indiana, is the trading center of its area, with some 14 large industries which normally employ over 6000 men and women. It has plentiful transportation facilities by highway, railroad, and air. It possesses 7 schools, 23 churches, 4 financial institutions, library, 2 hospitals, 2 fire stations, and numerous social and recreational facilities. Present population: slightly less than 20,000.



LINE-UP FOR PLANNING:

Linemen of New Castle's ball team are members of the New Castle Plan Commission (left to right), Leonard Gold, UAW-CIO; H. D. Oberdorfer, head of New Castle Products, Inc.; Frank Bland, city councilman and AFL contractor; Scott Chambers, newspaper editor; E. G. McQuinn, real estate owner and manufacturer; Arthur W. Wright, county engineer; Ernest Guyer, city engineer; Ernest Guyer, city engineer. Quarterback: Mayor Sidney E. Baker; halfbacks, Clifford F. Payne and Floyd Hutchison, president and secretary of the Chamber of Commerce. Fullback: Henry Chesick, chairman of the Citizenship Participation Committee.

plete reports of these talks were carried in the press, so that they reached the whole community.

"Then the town was pretty well pledged to back it up even before Mayor Baker appointed the Plan Commission?"

That's right.

"You said you knew what you wanted."

Yes, we want what Ashael Woodward had.

"Who's he?"

He's the first fellow that ever lived here. Came down along the east bank of Blue River, and built his cabin here about a century and a quarter ago. Behind that cabin was a fertile plain, and from his front door Ashael Woodward could look up and down one of the most beautiful river valleys in America. He had a home that was safe, and peaceful and satisfying, and that's what we want for the people here today.

"You were going to tell me about the people and what they think about this planning."

Well, it isn't something they just think about; it's something they're helping to do. Everybody who can throw any light on the city's problems is being enlisted to help.

We went to the library officials, and said to them, "Now look here. Nobody on this City Plan Commission ever had anything to do with a library; instead of us telling you what kind of a library you ought to have in 25 and 50 years, why don't you tell us what the town will need then in the way of library facilities." Today we have a report from the library board which is being given careful attention by the commission and our consultants.

The active executives of the tuberculosis association, the welfare board, and the city schools have been asked to study the town's health and delinquency problems.

The commission is in constant touch with school officials regarding their needs, and the hospital is making a study similar to that prepared by the library.

The commission knew that the business district was unsightly and needed some special attention, so we talked to the merchants' committee of the Chamber of Commerce. If such a cleaning was good for the town, it was better for them, we told the merchants, and asked them to draft a program and submit it to the Plan Commission. As a result the commission now has from them a program calling for the elimination of every overhanging street sign, along with posts



and wires that clutter the business district, and the provision of ample parking facilities.

These reports are gone over by the Plan Commission and then referred to the consultants for study, and it might interest you to know that the merchants' plan for cleaning up the business district has been adopted exactly as they presented it.

You see, we've really got a community that is working together to make the town as comfortable as your favorite slippers.

"That's all right for the merchants and the hospital board and some others, but what about the rank and file of your citizens?"

As a matter of fact, we recognized the need to report to the people at large on the progress of the planning. The newspapers have carried many news articles to keep the public informed as the planning progressed, and then we came to the place where we thought a comprehensive picture of the planning ought to be given to the public.

A booklet was prepared setting forth the problem as the Plan Commission understood it, our approach to its solution and the objectives and purposes which guide our work, and this was published by the Chamber of Commerce.

"What about tangible results?"

We have at least three definite accomplishments.

You know, of course, that the first thing this commission did was to get the best consultants we could find. We were convinced at the outset that the plan for New Castle would be just as good as the consultants we got, so we secured Saarinen and Swanson, of Birmingham, Mich. Every step of the way is a revelation of the importance of good technical assistance. I don't believe any city can do a planning job that amounts to anything without it.

But you wanted to know about tangible results.

A general development plan has been completed to serve as a guide and key for all intermediate and specific developments.

We have submitted a proposal to the Indiana Highway Department for the reorganization of highways in and around New Castle, and this has been accepted by them.

A few nights ago several hundred citizens assembled in the Y.M.C.A. small gymnasium for a bit of comnunity business.

There was a brief explanation by two or three speak-

ers of a proposal made by the Plan Commission that the town spend \$60,000 to buy ground and improve it for parking automobiles in and near the business district. Then Henry Chesick, chairman of the Citizenship Participation Committee, asked for volunteers to carry the petitions to property owners in various districts of the city.

A couple of school teachers asked for petitions. Several leaders of labor organizations, professional men, merchants, club women, property owners, salesmen, and housewives were soon in the procession.

On the ground to be purchased there will be space to park between 1,000 and 1,200 cars.

"I've seen a lot of Plan Commissions come and go, and I'm wondering if selfish interests here or there won't undermine you. You know—somebody that wants a road past their filling station or a park across the street from them."

Every Plan Commission has to face this, but I'm persuaded that there is less trouble because of selfishness than because of ignorance. Not ignorant people, but the failure of intelligent people to be informed about the planning.

For the remaining few who are willing to put their own selfish interests ahead of the welfare of the community, we are ready.

Actively engaged in the planning are labor, the Chamber of Commerce, the boards of our various institutions, the press, and of course the city administration which created the commission. That's somewhat of a ball team, and frankly we're ready to play any challengers.

People have been used to shooting at Plan Commissions as though there were a year-around open season on them, but we expect to stand our ground, and those who want to play rough must not cry when they themselves get hurt.

"Now let's see if I've got this straight.

"You wanted a good plan so you got good consultants.

"You realize that even a good plan wouldn't do your town any good stuck away in a pigeon hole, so you organized the planning on a community-wide basis.

"You set up human values as your objectives. You don't want wider streets or more parks or greater wealth for their own sake, but a place for your people to live which shall be safe and peaceful and satisfying. "Is that it?"

That's it.



From the drive, the particular features are the wall planes, narrow windows and the dramatic projection of the carport

Country House Perryville, R. I.

ROCKWELL K. DUMOULIN, A.I.A., ARCHITECT





Photos by P. A. Dearborn

Looking from hall toward living room. On the right is the curved wall of the store room

In judging a house design, the criterion of integration of all elements is less clear-cut as a rule than in other types of structures; for there is frequently a strong personal equation, surrounding client, architect, or both, that tends to compromise logic. In the case of the house shown here, however, there appears to have been an unusually happy meeting of minds. The owners wanted a good house designed for their particular needs rather than one that would impress the neighbors or echo an old tradition, and the architect was both sympathetic to this sensible approach and competent to carry through a fresh, creative design without apology or qualification.

From the point of view of coordination two features of the design seem of special importance. The house grows out of three-dimensional considerations, rather than from plan alone. The living room, with its window wall, merited greater ceiling height and emphasis than other rooms; the structural device of a clerestory above lower roofs is a logical design expression. In turn, this allowed introduction of cross ventilation and light into the middle of the house and interior placement of one of the bath rooms.

A change in level places the kitchen and dining space above the rest of the floor. Three 8-inch risers join the hall and kitchen; four 6-inch steps lead up from the living room to the dining space. The latter is further separated from the living room by only a low partition, designed to serve many purposes.

The other feature that at once is apparent is the close coordination between the various rooms and specially designed storage spaces. In both of the boys' bedrooms





View across the dining room bench to the partition made up of buffet closets, record player, and other special-purpose built-in facilities. The bench is the top portion of a low partition between dining and living space; the lower portion on the living room side provides space for a sofa back with a built-in shelf above

The living room windows face south and east. See Page 94 for structural details.





Exterior walls are of scored plywood. The roof overhang is designed to cope with the sun at different seasons



Front to back: carport roof, hall windows, other roof areas, and clerestory

a recess is provided alongside the closets for flush installation of drawers; in the master bedroom, there are no only a built-in dressing table and drawers, but a series of closets—some equipped with sliding trays—that were planned on the basis of actual possessions to be stored rather than by rule of thumb.

Direct framing of the big window into the fireplace exploits the distinctive qualities of each material, and the provision of space and a drip pan to take care of condensation on the window glass is yet another instance of esthetics and function inseparably joined (see detail Page 94).

The full-length door and window are the exterior wall of the dining space





ROCKWELL K. DUMOULIN, A.I.A., ARCHITECT

Interior walls are either plaster or plywood; closets and built-ins reduce the need for moveable furniture







General storage is amply provided in the closet-lined bedroom hall and a room specifically designed for the purpose (see plan)



. .

Selected Details ...

INSULATION, Low Temperature Block, Continued

USES—Cold rooms are used for the cold storage of meat, fruit, vegetables, candy, dairy products, ice, furs, beer, etc., and for the processing of foods, ice cream, beer and other products. Locker plants, air conditioned ducts and apparatus require a low temperature type of insulation. One feature of the better class homes of the future will undoubtedly be a walk-in cold storage room with a fast freezer compartment. **GENERAL PRINCIPLES**—Three forces attempt to drive moisture from the warm to cold side of a barrier: (1) Wind or air current pressures, (2) atmospheric pressures due to difference in the density of air at the different temperatures, (3) vapor pressure due to the difference in the absolute humidity at the different temperatures.

It should be apparent that a cold room with one or more walls exposed to extremely low outside temperatures in the wintertime might have heat, air and vapor differentials tending to create a flow from the inside of the cold room to the exterior, instead of the other way around as would occur in the summer.

The basic principle of low temperature installations which utilize organic or fibrous insulation is the protection of the insulating material from the damaging effects of moisture permeation on the material itself and on its performance. At the

some time the joints between any type of rigid blocks must be sealed against the infiltration of air and moisture which would make it uneconomical to maintain the interior temperature and would create a deposit of frost on coils, pipes or plates. In addition to a satisfactory thermal coefficient, low temperature insulation may be examined for strength, freedom from odors, workability with tools, bond strength with asphalt, in-

combustibility, moisture resistance, susceptibility to rot, likeli-

hood of attack from vermin.

THICKNESS OF INSULATION REQUIRED — The correct temperatures of cold rooms for different purposes will vary between quite wide limits. Most manufacturers' catalogs and various government specifications carry suggested minimum thicknesses of insulation based only on such cold room temperatures, irrespective of average outside temperatures during the period of peak refrigerating load. This is ridiculous because the total heat leakage through the walls, floor and ceiling is a function of the temperature difference—not the interior temperature only. The heat leakage establishes the original cost of the refrigeration plant and maintenance.

The dewpoint temperature of the exterior surface of cold rooms might be a factor in insulation thickness where spaces adjoining the cold room were at high humidity.

The thermal coefficients given in the table were furnished by the separate manufacturers, from each one's own independent (aboratory work. It should be noted that the temperatures of which the coefficients were determined were not necessarily the same for all the different products given.

A complete analysis of required thickness of insulation would involve the cost of electric current and interest on the plant investment balanced against the interest on the cost of added inches of insulating material so that the most favorable economic balance is obtained.

The graph given on this BPF for insulation thickness will be found, under average conditions, to economically maintain the interior design temperature of the cold room. If the supporting construction contributes to the overall coefficient, its value would be credited in the selection of the insulation thickness. SOURCES OF SUPPLY—The omission of any manufacturer from the table is emphatically not to be construed as an indication that such omission is because his product in any way lacks merit.

REFERENCES-A.I.A. File No. 37 for Insulation.

Federal Specification for Fiberboard, Insulating, Superintendent of Documents, Washington, D. C.

Fiber Insulating Board, CS-42-35, Superintendent of Documents, Washington, D. C.

Compressed Corkboard, HH-C-561a (LIL-F-321), Superintendent of Documents, Washington, D. C.

Specification for Refrigerating Equipment, No. 16Ye, Navy Department, Bureau of Yards and Docks, Washington, D. C. Refrigeration Data Book, 2 volumes, editor David L. Fiske, American Society of Refrigerating Engineers, New York.

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Cork Insulation Co. 155 E. 44th St., N. Y. C.	Corinco Corkboard	×			×			×	×		M				0.27	
Fir-Tex Ins. Bd. Co. Portland, Oregon	Fir-Tex Z Blocks	×		×	м			H	×	×				1.00	0.28	-
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Mundet Cork Corp. 65 S. 11th St., Bklyn.	Mundet Corkboard	××	M	×	×		×	×	×	H	H	1		-65	0.27	
United Cork Co. Kearny, N J.	Blocked Baked Corkboard	н		H	H			H	×	×	H_				0.27	
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INSULATION, Low Temperature Block

variously referred to as sheets, boards and blocks. Neither the ness, and of length greatly exceeding the width. Therefore, in DESCRIPTION-The rigid low temperature insulations are word "sheet" nor "board" seems to describe accurately the material in the dimensions in which it is manufactured. A "board" is defined as a piece of rigid material of little thickthis BPF the material is referred to as "block."

CORK block is manufactured from ground cork which is molded and baked. The baking melts the natural resinous gums surrounding the cells, binding them together.



FIBER block is made of partially refined vegetable fibers obtained principally from crop plant wastes or wood. The blocks are fabricated from the pulp, suitable sizing material being incorporated in the product to render it water resistant. The drying temperature is such as to destroy rot-producing fungi

GLASS block consists of true glass which has been cellulated in manufacture so that a section reveals a structure of tiny (5 million per cubic foot) sealed air chambers which are completely impervious to moisture.

with suitable binders to form a rigid material. Mineral wool is a generic term covering a number of similar products differen-MINERAL WOOL block consists of compressed loose wool tiated chiefly by the raw materials from which they are made. and being composed of very fine interlaced mineral fibets having the appearance of loose wool or cotton. STRUCTURAL SHELL-Walls, floors and ceilings should be preferably of solid construction. Monolithic concrete or solid orick with flush joints are recommended.

surface to receive the block. When dry it should receive an All masonry walls, except excellent monolithic concrete surfloated to a true surface to fill the voids and to provide a true aces, should receive a coat of 1:2 Portland cement plaster' approved asphalt primer. -

Construction with air spaces such as occur in hollow masonry or sheathed frame should be avoided but if used, the spaces should be left open to provide free air circulation. Sheathing Self-sustaining partitions and interior walls can be constructed should be treated T&G hemlock, pine, spruce or fir.

by utilizing temporary studs for alignment.

installation crews. Other manufacturers supply their materials **NSTALLATION**—Some manufacturers maintain their own to independent contract installers.

It is generally recommended that walls, floors and ceilings nowever, is not nailable but the bond of the glass surface with the asphalt provides satisfactory adhesion. The bottom layer of for surfaces where 3 layers or more are required to obtain the thickness called for by heat loss calculation). Both transverse The 2nd (and any succeeding) layer of blocks is nailed or skewered to the preceding layer and on wood construction the be constructed of 2 layers, both applied with hot asphalt (except lst layer is nailed to the wood backing. The glass type of block and longitudinal joints are staggered to prevent infiltration.

against masonry with Portland cement grout instead of hot The use of cold asphalt or the application of the 1st layer asphalt is not recommended in the best practice

"Manufacturers" literature on insulation refers to this plaster coat as "back-plaster" which, of course, it is not.

FALSE TEE CEILING

WOOD CEILING

BUILDING PRODUCT FACTS by Don Graf PENCIL POINTS . OCTOBER 1944 . Serial No. 7 FLOOR FINISH-Wearing surface of floors can be wood on treated sleepers in the final course of insulation, or Portland cement, or mastic.

WALL AND CEILING FINISHES -- Glass type block is finished with asphalt emulsion. Other insulations may be fincracking. Various types of special paint for cold storage work ished with fibered or unfibered asphalt emulsion, mastic, or two 14" coats of Portland cement plaster jointed to localize may then be applied to any of the foregoing finish materials. COST-The cost of block insulation in place is subject to of the job, local labor costs, transportation charges, and various can be taken from 15¢ to 25¢ per board foot but this figure other factors. The price range given here does not include the average price for low temperature insulating block in place must be regarded only as an approximation and should by no wide variation depending upon the type of insulation, the size erection of the structural shell or the installation of finish. An means be taken as a basis for estimates to an owner.

These data represent accepted pra sarily mean that such products are currently available for civilian use.

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The power and delicacy of this drawing were achieved with Typhonite Eldorado, degrees 2B, 5B, 6B, HB and 2H. The artist has pictured the lifting of a main cofferdam into place in an oil tanker in one of America's great shipyards.

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BUILDING

HEALTH

Winning universal favor among architects is the use of Herculite Doors at the entrances of many public buildings. These crystal-clear, impressively handsome doors have great strength, sturdiness and exceptional good looks. In the application pictured, two sets of Herculite Doors and side panels create an attractive vestibule. Architect: Robert Heller.

A combination of colorful Carrara Structural Glass and Pittsburgh Structural Mirrors is hard to beat when an entrance lobby, lounge or reception room needs something "special" in the way of beauty. Color combinations are almost limitless,

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OFFICE

No gloom or depression of spirit will attack frequenters of a Health and Recreational Center as generously windowed as this distinguished building in Texas. Similarly, large areas of Pittsburgh Plate Glass and Pennvernon Window Glass can contribute enormously to the appearance, brightness and functional "rightness" of public buildings of many kinds. Birdsall P. Briscoe and Maurice J. Sullivan, Associated Architects.

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The other day we were talking to an architect about the A. I. A. program to eliminate the "or equal" clause from specifications.

"Mr. Dickinson," we said, "we know the evils of the 'or equal' specification but do you believe that the 'base bid and alternate' type is best?"

"I certainly do," he replied. "We architects must keep both cost and quality under control if we are to serve our clients correctly. This can best be done through the use of a 'base bid and alternate' type of specification.

"What about the 'flat' specification?" we inquired.

"A 'flat' specification," he explained, "names only that material or product which the architect or his client believes will provide the results or service which they desire. Such a specification assures that the desired product will be obtained but it does not protect against extravagant costs. On important items we sometimes wish to compare the prices of two or more makes in order that we may select the best value; or several makes may be acceptable and we wish to purchase the one which is lowest in price thereby saving the difference. Only by use of the 'base bid and alternate' type of specification can we obtain this information regarding prices and yet retain the right to select the desired material or product."

"Some architects write a 'descriptive' type of specification," we offered.

"Yes they do," he agreed. "They attempt to specify in detail exactly what is desired without naming any make. I have usually found this to be impractical. Even though it were possible to ade-

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prefer the base bid and type of specifications

quately cover all the tangible factors involved such as size, weight and appearance, there are too many intangible factors which affect the results of service to be obtained. These include the responsibility of the manufacturer and the organization which he maintains for cooperating with the architect and the user during the construction and entire life of the building. The descriptive specification also has many of the disadvantages of the 'or equal' type, inasmuch as the contractor may use a quotation on an inferior product and then of necessity attempt to force approval of this inferior product after the contract has been awarded. This leads to controversies and often delays construction of the building. "No," he concluded, "there is no specification like the 'base bid and alternate' type. I name a definite make of material or product; ask for alternates where desired; and provide that if the

contractors wish to submit proposals on other makes, they may do so. They must, however, file their bids based upon the makes originally named and are required to state in the bid the addition or deduction to be made in case alternates are selected. I further specify that no substitutions will be allowed after contracts are signed. This 'base bid and alternate' specification provides for fair competition, insures reasonable costs and places the determination of both quality and price in the hands of my client and myself."



an Nelson Direct Drive



an Typ

Herman Nelson Unit Ventilators

Reviews

Books

Periodicals

Bibliographies

Books

JUST WHAT IS CONTEMPORARY Architecture?

Built in USA: 1932-1944, by Elizabeth Mock. Foreword by Philip L. Goodwin. Museum of Modern Art, New York, 1944. 128 pp., 206 photographs and drawings, \$3.00.

Published in connection with the Museum of Modern Art's architectural exhibition of the same name (part of its fifteenth anniversary show, "Art in Progress"), this modestly sized book shows, the Museum says, "... the setting in which some Americans now live, in which all Americans could live."

In his short preface Mr. Goodwin first traces the history of the Modern Museum's Architectural Department, then rehearses the methods by which examples of architecture were selected for the exhibition, and relates the Department's function to that of the Museum as a whole. Part of this is a record of fact, but when he gets to methods of selection Mr. Goodwin raises again questions which many have asked: Why was this building selected, that not? Why were certain types of buildings omitted? Why are certain architects not represented? Summed up, he answers all of these by referring to the admittedly high standards which were set for acceptance of architectural works. This is fair enough; yet might not an explanation of these standards help? Even though brief, a statement of the bases for judgment might clear some of the esoteric mist from the contemporary architectural landscape. Like other devotees of the contemporary in architecture (even including, at times, the editors of PENCIL POINTS and the Architectural Forum's master-straddlers) the Museum of Modern Art has often been guilty of talking to itself, or at least of using such language that many Americans must find its pronouncements unintelligible.

The point here is not buried in any disagreement with the Museum's selections. These were almost uniformly excellent, although we, too, have wondered if the Museum had not been dazzled by certain names. But if one believes, as the Museum apparently does, that the level of our architectural design can be raised only when the new has popular approval, why bemuse the populace?

Something of the same criticism might

be leveled at Elizabeth Mock's appraisal of our architectural advance in twelve years. Compared to the total bulk of the book, her critique is short. It is also potent. It is also, in spots, couched in jargon. For example, in speaking of the freedom of contemporary design, she trips heavily over that familiar obstacle, love of the super-cute: "Certainly no general dissolution of the right angle has taken place . . ." Just between us fellows, that's pretty good, but imagine the extent and kind of its influence upon a rugged individualist of an architect in Des Moines.

Yet this fault is small in comparison with the true worth of the critique as a whole, and has been dealt with first only to get done with it. Despite the somewhat detached manner in which it is written, Mrs. Mock's piece is one of the few truly perceptive discussions of the origins, extent, meaning, and hopes of contemporary architectural design. She succeeds in bringing together, in such a way that their influence upon one another is readily understandable, some very diverse elements: Frank Lloyd Wright, the Bauhaus, and Le Corbusier; Sears Roebuck and Company and city planning; structural materials, Hopi villages, and George Fred Keck's solar houses. The juxtaposition is not that close, of course; but one finishes reading the essay with a slight feeling of bewilderment-and a very proper awe-at the number of facets, or components, or driving forces, which compose this thing we so glibly call architecture. It is good to have them so logically related to one another.

Pictorially, the book is also noteworthy. Only those who, like magazine editors, have been confronted during this war by the problem of getting more and better stuff on fewer, poorer, and smaller pages, can fully appreciate the technical difficulties involved. The selection of photographs is excellent in that the essential character of each project carries through to the reader. Above all else, that surely is the prime function of such a volume.

FRANK G. LOPEZ

Reviews

by Rita Davidson and William Smull

CONTEMPORARY CREDO

Three Lectures on Architecture. Originally delivered as lectures at the University of California in April 1942, by Eric Mendelsohn. Preface by William C. Hays. University of California Press (Berkeley and Los Angeles), 1944. 48 pp. 50 illustrations.

From a thousand founts come words spoken and printed—purportedly defining the timeless principles necessary to guide the architectural profession into a new world of functional and beautiful buildings expressive of a democratic society. In Eric Mendelsohn's three lectures (Architecture in a World Crisis; Architecture Today; and Architecture in a Rebuilt World) delivered at the University of California can be found the credo of one modern architect.

Mr. Mendelsohn's analysis attempts to place architecture in a cultural position comparable to, though somewhat greater than, those of other arts and letters. His relating of the progress in any one field to that in another usually is valid. However, the discussions of modern fine arts and of modern psychology suffer both from his "arm-chair" type of criticism and the almost complete ideological chaos in those fields.

There can be little doubt where Eric Mendelsohn stands on eclecticism, and he produces all the arguments known against the copybook spirit. Though we have heard and read it before, his engaging style and excellent command of language make these lectures a welcome summing-up of the anti-eclectic point of view—a veritable *coup de grace*. His arguments are particularly convincing because he himself has produced first-class architecture illustrative of the essential rightness of his principles.

Every architect and intellectually conscious person should enjoy these lectures and profit from having the book on his shelf. The slightly smaller-than-postage-stamp-size illustrations which dot the pages might be criticized although they are exceptionally clear and save the cost of full-page spreads.

PRIVATE PLANNING IN ENGLAND

Adapting War-Time Sites to Post-War Uses. Booklet showing the proposed treatment of sites chosen for industrial purposes and a method of survey for the selection of suitable sites, by Slough Estates Limited, London, England, 1944. 31 pp. 19 color maps specially prepared by the Association for Planning and Regional Reconstruction.

The Slough Estates Limited is selling a product-planning. This neatly arranged booklet is an advertising release directed, apparently, at English "Planning and Development Companies, Authorities, or Corporations who may be considering the development of wartime sites, both industrially and agricultur-ally." This organization, which operated similarly after World War I, has chosen a simple "sample" method of selling its services today. A particular site, a war-born industrial center and its environs, is described, and three possible schemes of development are suggested. In using color maps specially prepared by the Association of Planning and Regional Reconstruction (APRR), industrial, agricultural, and integrated (balanced industry and agriculture) developments are presented concisely and convincingly. A great role is assigned to the state in these planning schemata with private development operated through large groups. Several maps which indicate the types of in-

(Continued on page 104)



The skill and technique of the architect... master craftsman in boldly fashioning a new and better World... will contribute much to the enjoyment of the fruits of Peace.

Upon the architect rests the responsibility for building our cities of tomorrow . . . to modernize our offices, factories, schools and

institutions...our municipal, county,

state and federal buildings . . . our homes in keeping with the trend to better living. Men and metal and production facilities have been at War . . . but they will return . . . and when they return, GF will again build Aluminum Chairs, Desks, Tables, Filing Cabinets and other items of equipment built to traditional GF standards.



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FIAT ANNOUNCES

a posticar standardization of shower cabinet sizes

To establish a standard for architects and plumbers to use in future construction, Fiat is presenting the following *sizes to the trade now for the purpose of expediting postwar planning. Fiat showers will be classified into four groups according to structural design (details to be announced later) based on the general price range of prewar models.

GROUP NO. 1 Skipper type, low cost shower	32 x 32 x 76
	32 x 32 x 80
GROUP NO. 2	36 x 36 x 80
Cadet type, medium priced shower	(36 x 36 x 80 (corner)
	32 x 32 x 80
GROUP NO. 3	36 x 36 x 80
Marine Ensign type, for "above average" installations	(40 x 40 x 80 (corner)
	32 x 32 x 80
	36 x 36 x 80
GROUP NO. 4	40 x 36 x 80
Admiral type,	36 x 40 x 80
00 IUX6 CI035	40 x 40 x 80 (corner)

*Measurements conform to the American Institute of Architects 4" unit module system.



AVAILABLE FOR DELIVERY NOW No. 85-the best shower made under wartime material restrictions. Full size, 36 x 36 x 78—Deep type receptor — Heavy 1/4" MASONITE

No. 80-Volunteer, has remarkable strength and is easily erected. Size, 32 x 32 x 76 and 30 x 30 x 76.

Fiat's postwar line of showers will be modernized to take full advantage of advanced design and recent material developments. Included will be standard types of receptors for tile, slate and glass walls and a complete line of glass doors with the exclusive Fiat adjustable jam feature. All shower cabinet models will retain the distinctive Fiat characteristics - leakproof. beauty and trouble-free construction that have made Fiat showers the standard of value with the trade for over twenty-five years.

MANUFACTURING COMPANY

• 32 S. San Gabriel Blvd., Pasadena 8, Cal-

1205 Roscoe St., Chicago 13, III.

Reviews

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formation required to make such plans are reprinted from a larger technical study on "A Rapid Method of District Survey" by APRR.

With few words and illustrations, the Slough Estates indicates the advantages to the individual of organized, controlled development and a realization that private enterprise must fit itself into the publicly planned postwar world. It all adds up to excellent sales publicity for the company and incidentally provides interesting evidence of the major role Englishmen of all stations feel planning must play.

A HOUSING PROGRAM FOR AN ECONOMY OF ABUNDANCE

Good Shelter for Everyone, pamphlet issued by CIO Committee on Housing in collaboration with CIO Post-War Planning Committee, October 1943. 10 cents per copy.

Memorandum on Post War Urban Housing, pamphlet issued by United Auto-mobile Workers-Congress of Industrial Organizations, 1944. 25 cents per copy.

Politics in Housing, by R. J. Thomas, pamphlet published by International Union, UAW-CIO, 1944. 10 cents per copy.

Homes for Workers in Planned Com-munities Through Collective Action, pamphlet issued by United Automobile, Aircraft and Agricultural Implement Workers of America, 1943.

It is the firm opinion of Catherine Bauer (Modern Housing) "... that there never will be any realistic housing movement in this country until the workers and consumers themselves take a hand in the solution of this problem." In Europe the trade union movement has been instrumental in achieving housing reform. However, American labor organizations until very recently circumscribed their interests around purely economic reasoning and were not vocal in demanding decent shelter. Consequently, dwellings for workers have been inadequate and, as the CIO admits, "the lack of such demand here is the principal reason for the failure to accomplish anything worth while in this country."

However, labor interest in the housing problem has been synchronized with the emergence of the Congress of Industrial Organizations as a political force through its organ, the Political Action Committee. The union utterances reviewed below have been addressed primarily to such earmarked audiences as the CIO membership, labor as a consumer body, and those United Automobile Workers (UAW-CIO)* who

* International Union, United Automobile, Aircraft and Agricultural Implement Workers of America.

21-45 Borden Ave., Long Island City 1, N. Y.

METAL

FIAT

⁽Continued on page 106)



Where DUST is a HAZARD

Above: Dust-tight Power Panelboard with 225 and 600 Amp Frame Circuit Breakers.

exposed arcs may set off disastrous explosions. Guard against this danger by installing

A) DUST-TIGHT Light and Power PANELBOARDS

Below:
Dust-tight Lighting Panelboard and Cabinet for wall or exposed column mounting.



They are approved by Underwriters' Laboratories, Inc., for "Class II, Groups F and G, Hazardous Locations." This includes coal mines, coal processing plants, shell-loading plants, grain mills, and other places where dust is a dangerous factor.

These panelboards have a solid steel front plate, gasketed all around, and secured with screws to an extra wide box flange. They are further rendered dust-tight with welded hubs for conduit outlets, welded box corners, and handle bushings riveted directly to the steel cover plate. External mounting brackets are provided, to maintain the dust-tight construction.

The circuits are externally operated by a

Write for Bulletin 67

which contains descriptions, sizes, capacities, wiring diagrams, prices and suggested specifications . . . Frank Adam Electric Company, Box 357, St. Louis 3, Mo.

mechanism of new @ design. The handles operate through dust-tight bushings, and engage the regular handles of the circuit breakers inside the cabinet. ON and OFF positions are indicated on the front of the cabinet.

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Dust-tight Panelboards are of the circuit breaker type. Capacities of Power Panels: 15 to 600 amperes, 250 volts AC or DC, and 600 volts AC. Lighting Panels, standard or narrow column type, equipped with @ Type AC Thermag or @ Dublbrak Circuit Breakers (or other types of ranch-circuit circuit breakers). Available with 4 to 42 circuits, 50 amperes or less, for 3 wire, single phase, or 4 wire, 3 phase mains, with lugs only, or main breaker.

> The same form of construction but with rubber (or equivalent) type of gasket is available for VAPOR PROOF installation.

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Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION Representing the AIRLINES of the United States



(Continued from page 104)

are potential homebuilders. Of all unions in the CIO the automobile workers et al have been most vigorous in this campaign and most prolific in supplementary writings. R. J. Thomas, president of the UAW and chairman of the National CIO Committee on Housing, has been responsible for the appearance of four statements on housing policy.

According to the CIO Housing Committee's pamphlet, Good Shelter for *Everyone*, there is an annual need for 1,500,000 homes for the next ten to twenty years if adequate housing is to be secured for all. Of this number private enterprise is equipped to build twothirds, leaving only 500,000 units to be provided in the form of public housing. Private builders are urged to make every effort to tackle their one million unit quota alone. However, recognizing the possibility of the construction industry's inability to reach this total (since in 1925, the industry's peak year, only 900,000 homes were produced), public and cooperative housing are called upon to make up any deficit.

Strikingly enough, the CIO calls for policies designed to stimulate the use of modern techniques, prefabrication, and mass production of materials, thereby dispelling the traditional notion that all labor will attempt to deter technological advance. To realize this aim and to remedy the housing shortage the following proposals are offered: the establishment of a National Planning Office, the reconstitution of the National Housing Agency as a permanent federal agency, the enlarge-ment of the functions of local housing authorities, governmental assistance to private capital seeking entrance into the housing market and labor representation on all housing and planning bodies. The latter is indicative of the bid which labor is making for a place in the housing movement as the representative of a large segment of Ameri-can consumers. These "housing planks" will serve to achieve maximum productivity in the construction industry and will relate the housing problem to the over-all needs of each community and the national economy. They are being supported by CIO labor, which will give political endorsement to candidates who are committed to advance these aims.

Recognition of the relation of housing to regional and local planning is accorded in the succinct *Memorandum on Post War Urban Housing*. The brochure deals with housing from the consumers' viewpoint in terms of interest to the layman, who is encouraged to participate in the discussions of the

Your Design for a small post-war home may win this \$2500.00 Contest \$2500.00 Contest



The United States Plywood Corporation in cooperation with Arts & Architecture, invites your entry to the second annual

contest for the design of a small post-war home.

The competition . . . open to all architects, engineers, designers, draftsmen and students . . . started officially September 20, 1944 and runs for three months until December 20, midnight. Entries will be accepted up to that time at the office of Arts & Architecture, and are eligible if postmarked no later.

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Winning designs will be exhibited in principal cities all over the United States. Full credit will be given the designer.

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Reviews

(Continued from page 108)

various proposals to rebuild our cities An eight-point program is offered as a remedy for the ever-spreading social and economic fissures threatening the metropolitan areas. These urban ills resulted from rapid unplanned growth and, subsequently, unorganized decentralization to the suburbs. One of the major re-adjustments sought is a better relationship between the taxes collected and the increasing cost of city services.

The creation of Metropolitan Regional Planning Agencies with comprehensive powers for the establishment and administration of a master plan is urged. Interrelated with this are programs for slum clearance, blight prevention, extensive home building for middle and low income groups, subsidized housing, protection of public equity in land, orderly disposition of war housing, and design control.

The last is proposed in the belief that the visual forms taken by building construction help stimulate man to higher goals. Likewise, good design makes a substantial contribution to civic stability, thereby tending to preserve property values. This control can be achieved, they say, by (1) the establishment of machinery to control publicly the maintenance of a high standard of visual design for all building construction; (2) the coordination of the basic theory of design control with various interpretations so that a pleasing flexible neighborhood character will result; (3) the discouragement of the slavish imitation of traditional forms which regiments buildings into a fixed neighborhood pattern; (4) the encouragement of an imaginative use of modern techniques in planning and construction to meet the needs of our time; and (5) the accomplishment of the foregoing through the expansion of existing public agencies or through the creation of new agencies with adequate authority to achieve the desired ends. The Memorandum's program can be realized only by a simultaneous attack on all eight points and in the light of these principles: a social point of view, a large-scale coordinated approach to all factors that have been stumbling blocks to corrective action, conservation of natural resources and elimination of wasteful practices, and the maintenance of full employment. These desiderata were underlined by Mr. Thomas in a speech before the first National Convention of the Public Housing Conference in March 1944 which talk subsequently appeared a a leaflet entitled Politics in Housing He contended that the forces of prog ress and reaction were pitted in the political fight and urged that the hous

Walls and Ceilings that Won't "Talk Back" ...

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More and more ... "sound-conditioning" is becoming a part of the original building design. This means interiors that won't "talk back" because they absorb sound—and that generally means Sabinite*"M".

For Sabinite "M" is the modern way that distinguishes present-day design from outmoded methods or "patched on" procedure.

Sabinite "M" becomes "part and parcel" of standard building practice because it requires

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no special construction, men or methods—a plaster finish applied over standard bases, by any good plaster craftsman. It harmonizes with the beauty of

It harmonizes with the beauty of design without making itself conspicuous. It has high light-reflectivity and lends an air of quiet dignity—may be had in prepared colors or decorated to suit.

Sabinite "M" decorates, protects from fire, and quiets sound in one operation a three-way service at a cost extremely low.

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PENCIL POINTS, OCTOBER, 1944 109



ACOUSTICAL PLASTER FINISH

WILL YOUR CLIENTS EXPECT "MIRACLES" IN THEIR POST-WAR HOMES?

Here's how you can actually give them "a new quality of living"

WILL THERE BE a mad scramble for homes in the postwar period? Will people rush out to buy anything that comes off a drawing board. Surveys conducted by the National Association of Home Builders, and others, say "NO!" These surveys indicate people will demand new comfort, new convenience in post-war homes—and that they won't accept any that don't provide them.

You can make sure the homes you design will meet this post-war demand by installing Servel's New All-Year Gas Air Conditioner. This entirely new type of air conditioning equipment brings undreamed-of comfort and health indoors all year round. One simple unit cools and dehumidifies the home in summer, heats and humidifies in winter, provides draft-free circulation of cleaned, filtered air the year round—all at the touch of a finger.

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TEST installations definitely prove that homes equipped with the Servel All-Year Gas Air Conditioner are much more acceptable than those with adequate heating only. Financial underwriters recognize this—and the additional fact that obsolescence is bound to be less—by indicating not only a willingness to extend larger loans on buildings so equipped, but an actual preference for such buildings as risks. And even though the Condi-

tioner does cost more than adequate heating alone, proper co-ordination at the time of planning can effect economies that largely offset the extra cost.

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PLASTIC PLUMBING

MOVABLE PARTITIONS

The Servel All-Year Gas Air Conditioner will be available for your post-war homes as soon as materials and productive capacity are released from war work. For additional details, get in touch with your local Gas Company. Or write direct to Servel, Inc., 4410 Morton St., Evansville 20, Ind.

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SERVEL *All-Year* GAS AIR CONDITIONER Made by Servel, Inc., maker of the Servel Gas Refrigerator



(Continued from page 108)

ing program be spared from becoming political capital. One of his chief proposals was substantial public aid for private entrepreneurs by a reduction in mortgage interest rates, longer periods for amortization, and assistance in the acquisition and assembly of suitable land.

In an effort to by-pass the speculative pperator and obtain decent housing in planned communities at a price workers an afford, the UAW entered the lomain of cooperative housing with a program for Homes for Workers in Planned Communities Through Col-ective Action (1943). The union recgnized that thousands of UAW memers will be buying homes immediately fter the war. If they do not buy them ollectively through their union they vill buy them individually from speclative operators at whatever terms re available to them. The formation f Housing Committees in each local is ncouraged to circumvent the specuator. Potential home builders will work vith these committees and will pool heir resources to purchase sites and mploy architects to create a planned ommunity. In addition to the actual ost savings available because of mass ction, a greatly improved product is spected.

Vell thought out as the plan is, there ave been two major omissions. It ould seem to be an implied obligation r a union interested in housing to lucate its membership to the financial azards of home ownership. Workers ould be forewarned that their liability ill extend for one or two decades and at the amount committed should be timated in terms of long-range earng power, and not on the basis of esent war savings. The discussion s no provision for safeguarding the mer's equity in the event of default. us, although the odious type of deloper would be avoided, the owner ould still be subject to the financial titution which holds his mortgage d to the personal vicissitudes involved erein.

more prudent course, possibly, would ve been the advocating of planned ge-scale cooperative communities of xed housing—flats and duplex apartents—for workers. There would be need for these apartments to be signed as traditional multi-story ellings. They could be two-story ached units including such amenities a porch and a back yard. Shelter of s type would satisfy the quest for ne comforts, individuality, and prity, while affording centralized ser-

(Continued on page 112)

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> Other Post Tracing Mediums include a wide variety of bond papers and pre-aged vellums.



Reviews

(Continued from page 111)

vicing and removing individual financial responsibility.

Labor has tossed its hat into the ring! The reforms it seeks can be achieved through the employment of the best features of private enterprise.

SCHOOL ANNUAL

The American School and University. A yearbook devoted to the design, construction, equipment, utilization, and maintenance of educational buildings and grounds. American School Publishing Company. New York, 1944. Sixteenth Annual Edition, 441 pp.

The little red schoolhouse is being followed into limbo by the big clumsy factory structure which succeeded it. Modern principles of design, modern apparatus and materials have responded to the demands of current educational methods to bring functional school buildings closer to reality. Possibly because the American School and University Yearbook is designed to serve almost as a catalogue of school supply companies, utilization of architectural advances is strongly encouraged in its thirty-odd articles; yet credit should be given for the emphasis on utilitarian architecture.

The articles are grouped in five sections, each with appropriate advertisements. "Planning and Designing a School Plant" constitutes the first; the discussions here set the keynote for the rest of the book, an appreciation of the role of the school in the education of young citizens. The problems faced in introducing contemporary design into school building programs are presented and the role of school building codes is emphasized.

John E. Nichols' article has an interesting suggestion for democratic codes adjustable to changing conditions. His proposed law would be mainly "informative"-stating the principles desirable for guiding the architect and lay people who plan the school. It would emphasize the optimum standards and only incidentally provide for minimum requirements. By removing the emphasis from the minima, Mr. Nichols hopes to end their role as the maxima; by presenting principles, he plans to give guidance to the administrators in granting exceptions where the spirit is correct but the detail does not conform with previous ideas. Such a code deserves study as a possible solution for a contemporary general building code.

The second section, "Special Features of the School Plant," points up the great role which schools will play in the community and the improved facilities they will provide for public contact with educational programs.

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T'S NOT ENOUGH for the post-war office merely to attain new heights of attractiveness. It must go further than that.

It must also provide new highs in quiet, in comfort, in all-round efficiency. And, because of the ever-changing nature of business, it must be flexible—capable of quick and easy rearrangement without spoiling its attractiveness or efficiency.

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In cold climates, the use of large glass areas has sometimes presented a problem of excessive heat loss. No longer need it be a problem — for those areas can be glazed with Thermopane — the new Libbey-Owens-Ford multiple-pane insulating unit.

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> > Form-Ty Engineering Guide on Request.





Reviews

(Continued from page 112)

New schools will not long remain useful without maintenance which is above the standards of the past. The next section, devoted to "Maintenance and Operation of the School Plant," indicates the great progress which is being made in these fields. The principles of scientific maintenance used in most large plants are being applied to schools where, after all, the investment is at least as great and the usage as hard.

With advance in educational methods during recent years has came a greater capital outlay in apparatus designed to teach technical subjects. The fourth section, "Instructional Materials," covers not only shop and scientific apparatus but library design, textbooks, and the use of radio.

Without "Management" (the fifth section) the modern school would deteriorate quickly. As a large-scale enterprise, modern business methods of collecting and keeping records are essential. So, too, is knowledge of the financial structure of the educational system in order that planning will include all factors affecting education.

Future schools should be the result of intelligent planning with its solution of the intricate problems involved in contemporary educational buildings. A new appreciation of the problems of circulation and progressive education requirements, as well as of the new materials and facilities, will make the postwar school a place which attracts and inspires youths and adults alike.

RESEARCH PRODUCES STARTLING RESULTS

The Housing Market in New York City A Study for the Institute of Public Administration, by Herbert Swan. Reinhold Publishing Corporation, New York, 1944. 204 pp., 41 tables, 16 charts, \$2.00.

Economic man is up to his tricks again. The old catchwords — "fair market price," "automatic mechanism," "open market," "under conditions of stable population and full employment . . ." have been revamped and skillfully directed by Herbert Swan against the unbalance of the New York City housing market. His analysis of the local rea estate doldrums and his solutions may be summed up as follows:

Inasmuch as the "housing market is.. the mechanism developed to secure the most effective use of land and building in our local economy (and) when thi mechanism breaks down, chaos and dis integration overtake the housing structure," the clue to the problem is in the articulation between a fluid demand for

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(Continued from page 118)

and an inflexible supply of, dwellings. Two factors have prevented an equating of supply and demand in the past: market rigidity accentuated by government controls and a lack of factual information about the housing structure.

Controls imposed by the government rent laws, mortgage moratoria, restrictions on sales, tax exemption for new construction—have served only to augment the evils they were designed to remedy and have worked against sale at a "fair market price." With a minimum of restrictions the market could liquidate its investments as desired and so keep the housing market open. Failing this, a new system of property tenure may be inevitable, as recently illustrated by the rise of public housing projects and insurance company developments.

Dearth of information has made for a haphazard and unstable market. "Dissemination of salient factors affecting real estate would tend to minimize fluctuations and thereby place real estate upon a more stable basis." Life tables similar to those used by insurance schemes for human beings should be prepared to chart building obsolescence. Such actuarial information would guard against premature deterioration and would make possible the forecasting of future need for replacements. Data are needed as well about family income, sales, conversions, mortgages, foreclosures, vital statistics, and other factors which affect the shelter mart.

In addition to market revitalization by diminution of controls and expansion of available information, full employment at decent wages is imperative if good housing is to be maintained. This will insure that "housing standards will automatically advance to as high levels as the local economy can support." Lastly, the above must be developed within the framework of a master plan, particularly via neighborhood corporations exercising definite legal powers over their areas.

Such is the program Mr. Swan outlines to pull New York's housing out of its depression. Fortunately, not all of his dissections follow the pattern of the "invisible hand" school of economics. Neoclassicism would repudiate the following brand of thinking, which certainly does not imply automatic adjustment: "Why cannot new mechanisms be devised in collaboration between the construction industry and municipal officials with a view to establishing effective controls over buildings and neighborhoods . . . ?" ". . . If stable development is to be achieved, the construction industry must function within the framework of the master plan." It is to the author's credit that despite his orthodox economic leanings his proposals generally are not constrained within the limits set by his traditional supply-and-demand analysis.

At the point where leave is taken of Alfred Marshall and Adam Smith, the discussion has realistic meaning. The proposal for greater research and development of statistics pertaining to housing is noteworthy, provided undue weight is not given it as a solution. Despite earlier disapproval of restraints, recognition (in the latter half of the study) that there should be controls and activity within a planned boundary indicates awareness of the urban redevelopment problem in twentieth century economic terms. However, the plea for a return to home ownership in New York City seems more wistful than possible, for, were Swan to follow his own method of reasoning, the decline in home ownership could be justified statistically in terms of current family size, mores, income and occupational structure.

The study is extremely valuable as a sizeable collection of factual information on housing, particularly as pointed up in the numerous tables and charts. The jargon is predominately that of the economist but the subject matter makes sound reference material. A good precedent has been set for placing future market analyses of residential real estate on a firm quantitative base.

(Continued on page 122)



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(Continued from page 120)

AFTER TEN YEARS-

Planning for the Small American City, by Russell Van Nest Black in collaboration with Mary Hedges Black. Public Administration Service No. 87 (formerly No. 32) Chicago, Illinois, 1944. 86 pp. \$1.00

The second revision of Russell Van Nest

Black's primer in planning for small cities departs only slightly from the original. In a few instances current illustrations have been used in lieu of plates now obsolete. The chapter on the legal background of city planning has been revamped completely and the discussion has been related to changes which the war has brought. The book continues to be as sound and practical a guide for urban planning in areas of 50,000 or less as when published originally, more than a decade ago. Walter Blucher of the American Society of Planning Officials has written the new foreword.



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122 PENCIL POINTS, OCTOBER, 1944

Periodicals and Planning Pamphlets

by Margaret Greenough King

AIR TRANSPORT. March 1944

Because of lack of quick accessibility to Cleveland's present airport, the Cleveland Aircraft Products Company proposes an elevated airport on the lake front. Elevators would take airplanes from lower level hangars to the runways on the upper level. Only the Administration building would be on the upper (runway) level.

Two predictions that New York is to be an international air center, because of its location on the "great circle route," have been voiced at recent N. Y. Board of Trade and Chamber of Commerce meetings.

JOURNAL, ROYAL ARCHITECTURAL INSTI-TUTE OF CANADA. April 1944

"Labor Saving Cities of the Future," by H. V. Lanchester, English architect, is a fairly superficial review of the various plans for the reconstruction of London. A British committee, set up in 1941 to explore the possibilities of prefabrication, has published its first report. A summary is in this issue. Work done in the schools of architecture shows that this country is developing some promising architects. A sample room at the University of Toronto is commendable. Deserving attention in this issue is an article by Eric W. Hanson, Romanticism and Protestant Church Architecture—an invigorating criticism of traditional church "styles."

June 1944

This issue in its entirety is devoted to the Master Plan of Toronto. All that can be said by any not familiar with the city itself is that the approach is certainly sound, the Board being composed of architects, engineers, and planners, and including younger men and women in addition to well known figures. The preliminary survey, complete with maps and pertinent data, is well presented.

MICHIGAN AIRPORT CONSTRUCTION AND EMPLOYMENT PROGRAM. Michigan Board of Aeronautics. January 1944

Judging by the title and conclusions of this booklet the program is mainly a make-work project. Thirty-two million man hours are to be consumed at the cost of approximately twenty-five millions to the state, to produce about three hundred airports. Site locations cost of site, construction costs and labor man hours are given.

MICHIGAN AIRPORTS. Michigan Board o Aeronautics. February 1944

This, the logical development of the above publication, is meant more for the public at large and contains som useful information on sizes of airports and layouts on various types of sites There is a discussion of the value of the small airport to recreation centers.

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(Continued from page 23)

Results of experiments in demolition, salvage, and re-erection costs and methods of Pineacres temporary war housing at Niagara Falls may determine the fate of more than 200,000 such projects in this country, says FPHA.

They also stated that most of the experiments involved razing of buildings that never had a tenant, and re-erection of houses on new sites, complete to the last detail, without any thought of their ever being occupied. One experiment involves converting a 16-family house into 4 "rural" units—each with 3 bedrooms, living room, bath, and kitchen. Results of this particular experiment are said to determine the cost of providing farm homes for veterans who may take advantage of land-and-homepurchase benefits under the "GI Bill of Rights."

On resumption of civilian construction:

The Sub-Committee on L-41 of the Construction Industry Advisory Group (which has been conferring with WPB officials on the relaxation and eventual rescission of construction order L-41) told WPB that several months' time could be saved if the industry could be assured that necessary building equipment and materials could be produced and allowed to flow through industrial channels as rapidly as war needs permit; that, since pipe lines of building equipment are almost empty, it will be necessary to start filling them as early as possible to encourage the start of construction; that owners of transition construction would expect standard and not ersatz material; that the industry and construction users should be chiefly relied upon to decide which work should be started first and local WPB priorities assistance made available quickly.

As a substantial guarantee of its cooperation, WPB has recently granted priorities for conversion work in communities where NHA decrees existence of an extreme housing shortage. However, WPB emphasized that limitations on residential building still apply through L-41. FHA approval is mandatory for this "housing shortage" type of construction; applicants will use form WPB-2896.1. Use of certain materials and high-grade dimensional lumber will still be limited, but millwork and hardwood flooring are not restricted. Contractors are reported to be not too optimistic of early results from the new ruling because of the lumber shortage.

An estimated 500 million board feet of specified lumber stocks for sale to homeowners, farmers, and other non-priority consumers has been released by WPB. The release order provides that a distributor may sell the specified lumber

(Continued on page 126)



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(Continued from page 124)

without priority or special authorization until December 31. Total amount of these sales must be held to one-third of the distributor's September 1, 1944, lumber inventory. Stocks thus partially released are of all kinds except No. 2, 3, and 4 grades common in Idaho, ponderosa, and sugar pine. The order also permits sawmill operators and distributors in the West and Midwest to sell excess stocks of Douglas fir, larch, and red cedar to farmers. The released stocks are lower grades of lumber which have been accumulating and are not adaptable to war use.

Material for more domestic-type oil heaters and electric water heaters has been allocated by WPB. Manufacture of 30,000 oil burners and increase of water heater program from 12,500 to 30,000 units during the 1944 Fourth Quarter have been authorized because of critical civilian need.

Arts and Architecture's second annual architectural competition is sponsored by the United States Plywood Corporation.

The design problem is a small house for the average American family: a single unit or part of a planned community. The co-sponsors state, however, that the competition aims to uncover designs for houses that can be built "within our experience in technique and materials," and suggests a \$5000 to \$6000 house (pre-war) for the designs.

Prizes: First, \$1250; Second, \$500; Third, \$250; 5 Honorable Mentions, \$100 each. The competition is open to all architects (including A.I.A. members), engineers, designers, draftsmen, and students; more than one submission may be made either individually or as a group. Sumner Spaulding, F.A.I.A., is professional advisor; the competition closes at midnight, December 20, 1944. Complete information can be obtained by writing to Mr. Spaulding, Care of *Arts and Architecture*, 3305 Wilshire Boulevard, Los Angeles 5, California.

ARCHITECTURAL MEN IN THE NEWS

FRANCIS KEALLY, A.I.A., has been appointed Architectural Consultant to the National Membership Division of the American Hotel Association, 221 West 57th Street, New York City.

HARRY M. PRINCE, A.I.A., former New York City Deputy Commissioner of Housing, has been added to the staff of research consultants and technical advisors to the State of New York Legislative Committee to Recodify the Multiple Dwelling Law.

Rudolph S. Adler, Phil Shutze, and J. Warren Armistead, Jr., announce the formation of a partnership, SHUTZE, ARMISTEAD & ADLER, architects, at 1330 Candler Building, Atlanta, Georgia.

(Continued on page 128)



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(Continued from page 126) Mr. Hal F. Hentz, retired partner of Hentz, Adler & Shutze, will act as consultant to the new firm.

SYLVANUS B. MARSTON, F.A.I.A., has been re-elected chairman of the Pasadena City Planning Commission.

FREDERICK J. ADAMS and LAWRENCE B. ANDERSON have been promoted from the rank of associate professor to professor on the faculty of the School of Architecture and Planning of Massachusetts Institute of Technology.

KENNETH M. ADELSTEIN, construction engineer of the Federal Works Agency, who has been assigned to the Hampton Roads Area in recent months, has been transferred to the Reconstruction Finance Corporation as Supervising Engineer at Washington.

EUGENE HENRY KLABER, F.A.I.A., and CHARLES H. WARNER, architect, have been appointed to the faculty of the School of Architecture of Columbia University.

Ernest A. Grunsfeld, Wallace F. Yerkes, and William F. Koenig announce the opening of their new offices for the general practice of architecture under the name of GRUNSFELD, YERKES, AND KOENIG, at 520 North Michigan Avenue, Chicago 11, Illinois.

BUILDING RESEARCH

25 years of research by the University of Illinois on heating, ventilating, cooling, insulating, building materials, mechanical equipment of buildings, sewage disposal, plumbing, sanitation, home management, household art, house planning and construction, and rural architecture is to be collated and made available to the public by means of newspapers, radio broadcasts, conferences, short courses, and demonstrations. Its purpose is to aid in postwar small home planning; specimen homes may also be built.

A program to give farmers the benefits of modern improvements in building techniques, materials, and design is to be initiated at New Jersey College of Agriculture and Experiment Station, Rutgers University. The program, tak-ing in all parts of the country east of the Rockies, was made possible by a grant from the John B. Pierce Foundation. As a first step, Rutgers is organizing a national council to plan and guide a comprehensive study of farm building design. Housing for farmers and farm laborers, farm animal shelter, crops and machinery storage will be included. The council will consist of outstanding representatives of dairy, poultry, livestock, and engineering fields, most of them staff members of agricultural colleges and experiment stations. Architects and agricultural engineers will be asked to develop building designs meeting these needs.



A. Ernest D'Ambly, Consulting Engineer, Philadelphia, Pa. Member A. S. H. & V. E. Studied Mechanical Engineering at Pennsylvania State College.

"I believe steam will be the preferred medium for heating larger buildings being planned for construction after the war," writes Mr. A. Ernest D'Ambly, Philadelphia Consulting Engineer. "Not only because of its low first cost and economical operation, but because steam easily meets the wide range of heating needs. With modern Controlled Steam Heating we can anticipate and satisfy any demands that the weather may make. The amount of steam produced can be automatically varied as outdoor temperatures change, or as heating requirements for different parts of a building may vary."

A. Ernest D'Ambly has specified the Webster Moderator System of Steam Heating for such installations as Abington Hospital, Abington, Pa.; St. Elizabeth's Convent, Cornwells Heights, Pa.; Hill Creek Homes, and Home of the Merciful Saviour for Crippled Children, both in Philadelphia. He also acted as engineer for the following Webster Hylo System installations: Nazareth General Hospital and St. Christopher's Hospital, Phila.

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JOBS AND MEN . . .

The war's not over—not by a long shot—but we have increasing evidence of a need for architectural men in offices throughout the country. We hear daily of new plans being filed for postwar building—limited, it is true, principally to metropolitan areas and, in comparison with the country's total need for buildings, still small in quantity. Yet we are certain that plans are going ahead in many more places than those which our facilities reach.

Evidence of design activity has come to us in the form of telephone calls and letters, sometimes in casual conversations, all asking how to find men for definite jobs. At present the demand outweighs the supply considerably. This, of course, augurs as well for those in need of jobs as the current interest in preparation for building does for their potential employers.

Where men will be found for all the jobs which, sooner or later, are bound to be open, is a question beyond our answering. We hope, by means of this Employment Service, to put the available opportunities before architectural men whose war-industry jobs may be terminated by war production cutbacks or contract cancellations, and men discharged from the services. To date, age or physical disability are apparently the only grounds for military discharge. Perhaps the time has come to start questioning the proper authorities on the advisability of eventually discharging architectural men on the basis of overwhelming need for them. The actual date for selective demobilization is, of course, not yet at hand; as it approaches, PENCIL POINTS will intensify its efforts.

Meanwhile, we present current opportunities. In addition, we have received informal inquiries indicating substantial renewed activity in such diverse centers as New York City, Detroit, and a smaller city in North Carolina. Our Employment Service is a non-profit venture. Rates (which barely cover production cost): \$3.00 per insertion; maximum length, one inch (approximately 40 words). Clearly written or typed copy must reach the Employment Editor by the 10th of the month preceding date of issue. Each item is given a box number unless otherwise specified. Replies are promptly forwarded.

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Large firm of architects-engineers in Detroit needs Architectural Drafts-MEN, STRUCTURAL ENGINEERS, MECHAN-ICAL ENGINEERS. Write education, experience, salary desired. Box 105, PEN-CIL POINTS.

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write for booklet, "Fiberglas Insulations for Industry". Owens-Corning Fiberglas Corporation, 1485 Nicholas Building, Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.

OTHER FIBERGLAS INSULATIONS

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4. OC-1300 high Temperature Block-A highly efficient and rug-ged molded block in sizes 6" x 36" and 12" x 36"-in standard thick-nesses. Will withstand surface tem-peratures up to 1800° F.

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lating fittings, valves and all irregu-lar surfaces. Highly efficient . . . withstands temperatures up to 1200° Fahrenheit.

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7. TW-F Wool-Fabricated in bats, rolls and bulk. Used for dry-ing-ovens, heaters, etc., for filling irregular spaces and for fireproofing. 8. PF Board -- Manufactured in 5 densities from 2½ to 9 lbs, per cu. ft.—standard sizes 24" x 38", 1" to 4" in thickness. For insulated panels, sound absorption and ous structural applications.

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Manufacturers' Literature

Air Conditioning

1-07. Conduit Weathermaster System, Carrier Corporation.

1-06. Refrigeration and air conditioning accessories and supplies catalog, York Corporation.

Air Express

1-08. Air Express Now and Tomorrow, Railway Express Agency.

Cement

3-09. Heavy Duty Floors with "Incor" 24-Hour Cement, Lone Star Cement Corporation.

Communication Systems

3-15. Holtzer-Cabot Communication Systems, A.I.A. File 28/11, is a 12page booklet describing hospital call systems, with illustrative data concerning nurses' call systems, "Phonacall" systems, visual and voice paging, staff register, and doctors' register systems. Also described are two types of hospital night lights—flush and exposed louver. Published by the Holtzer-Cabot Electric Company.

Concrete

Lone Star Cement Corporation:

3-10. Cutting Concrete Costs.

3-11. Cold-Weather Concreting.

3-12. Watertight Concrete.

3-13. Why People Like Concrete Homes, Portland Cement Association.

3-16. Modern Developments in Reinforced Concrete (No. 10) is a 24-page illustrated booklet prepared by the Structural Bureau of Portland Cement Association, containing 3 technical articles: "Frame Analysis Applied to Flat Slab Bridges"; "Vertical Pressure on Culverts Under Wheel Loads on Concrete Pavement Slabs"; "Continuous Concrete Girder Bridge Spans Chattahoochee," by C. N. Crocker, bridge engineer, Georgia State Highway Department. Tables on applications of coefficients to design problems, and detail drawings are given.

Conveyors

3-14. Case Histories to Aid You in Blueprinting Conversion to Peace, Lamson Corporation.

Crematories

3-17. A pamphlet, *Crematories*, *Bulletin No. 150*, published by the Morse Boulger Destructor Company, describes general design, construction, and operating procedure of crematories. The company offers its services in preparing a suitable layout for the installation of crematory units to architects, builders, and owners of buildings where cremation service is to be supplied.

Doors

4-04. Modernfold Doors for Homes, New Castle Products.

4-05. Doors by Roddis, Roddis Lumber & Veneer Company.

4-06. Roddis Wood Doors Approved for One Hour Fireproof Openings, an 8page illustrated booklet from Roddis Lumber & Veneer Company, describes doors that meet the one hour fire tests required by the City of New York under the Multiple Dwelling Law. It is claimed architects can carry out their decorative plans using wood doors and still meet requirements with this firm's flush type wood door. Other types of fireproof doors and wainscoting are listed.

4-07. Truscon Steel Hangar Doors-Vertical Lift Canopy Type, 8-page booklet from Truscon Steel Company, gives illustrations and specifications on this particular type of door. It is of structural frame design divided horizontally in two sections or leaves, the upper leaf hinged near the top to the supporting steel and the lower leaf arranged to slide up and in back of the upper leaf. In operation the lower one is raised vertically by cables to approximately one-half the opening height, at which point both leaves tilt out to form a canopy in the extreme open portion. No part of the door encroaches on the storage space within nor on the apron space outside the building. Detail drawings of construction and installation are shown.

Electrical Equipment

5-07. Electrical Guide to the Post-War Home, National Adequate Wiring Bureau.

5-06. More Capacity, Square D Company.

Floors

6-07. Floor Treatment and Maintenance Job Specifications, Hillyard Company.

Glass

7-04. Thermopane, Libbey-Owens-Ford Glass Company.

7-05. Magnalite Diffusing Glass (A.I.A. File 26 A 526), J. Merrill Richards.

Heating

8-16. Cyclotherm Steam Generator, Ames Iron Works.

8-21. Bulletin G-34A (8 pages) from Babcock & Wilcox Company gives data on integral furnace boilers applied to installations of lower capacity fired by stokers or oil burners. Features: watercooled furnace construction in which the front wall, rear or bridge wall, side walls, and roof are all water-cooled; a furnace arrangement in which the primary combustion zone is followed by an open pass (gases are mixed while at high temperatures); "Cyclone" steam separators increase circulation by eliminating steam from the down-flow of water and provide a more nearly correct water-level indication. Illustrations; drawings of typical installations, etc., Illustrations; are given.

8-17. Bison Steel Heating Boilers, Catalog No. 3, Farrar and Trefts, Inc. Fitzgibbons Boiler Company:

8-09. Fitzgibbons 400 Series Hand Fired Steel Boiler (A.I.A. File No. 30-C-1) (for small homes).

8-10. Fitzgibbons 400 Series (for small homes).

8-11. Fitzgibbons Steel Heating Boilers "D" Type (A.I.A. File No. 30-C-1) (for all heating systems).

8-12. Fitzgibbons Directaire Direct-Fired Air Conditioners for Residential Heating (A.I.A. File No. 30-C-1).

8-13. Fitzgibbons Steel Boilers and Air Conditioners (1944 edition).

8-23. Modine Horizontal Delivery Unit Heaters, Bulletin 144-A, is an 8-page illustrated bulletin from the Modine Manufacturing Company. They state their horizontal delivery unit heaters are so designed that they can be safely suspended directly above their supply lines without other support; a directfrom-pipe-line suspension also permits the units to be turned around—redirecting the air stream over a 360° range —by loosening the unions in the supply and return connections (especially convenient in meeting new heating requirements resulting from changes in plant layout). Descriptive and engineering data are given.

8-20. Modine Vertical Delivery Unit Heaters, Modine Manufacturing Company.

8-14. H. B. Smith Boilers for Factory Installations, H. B. Smith Company, Inc.

8-18. Low Pressure Sectional Cast Iron Boilers, H. B. Smith Company, Inc.

8-15. Sturtevant Heavy Duty Heaters (Catalog No. 462), B. F. Sturtevant Company.

8-19. Performance Facts, Warren Webster & Company.

8-22. Personalized Heating Control for Apartments, A.I.A. File No. 30-F-2, is an engineering discussion (58 pages) published by the Minneapolis-Honeywell Regulator Company. It presents advantages of "personalized" apartment heating to owners and operators and tenants of apartment buildings, and layouts of its practical application. Floor plans, specifications on pneumatic and electric controls, specific and engineering data are given.

Insulation

9-01. What Formica Is, Formica Insulation Company.

9-03. (Data sheets on insulation) Wood Conversion Company.

9-04. Nu-Wood Roof Insulation is an information sheet from Wood Conversion Company giving specifications on application of insulation over wood roof decks under built-up roofing; on roof decks of poured concrete or gypsum, or roof decks of unit tile or slab construction under built-up roofing; and on application over steel roof decks under built-up roofing.

Maintenance

12-03. From Foundation to Flagpole L. Sonneborn Sons, Inc.

Miscellaneous

13-04. Majestic Building Necessities, Majestic Company.

13-05. A consumer booklet, How to Plan A Home Workshop, 56 pages, is published by the Delta Manufacturing Company. Among practical subjects covered are: type, size, and location of workshop; windows, light, and ventilation; type of floor; heating, wiring, lighting, sound deadening; tool racks and storage cabinets; lumber storage. Typical shop illustrations and layouts are given.

Paint

16-13. Paint Progress, A.I.A. File No. 25, is a 12-page folder from New Jersey Zinc Company. It discusses the versatility of zinc oxide as a paint pigment for mildew resistance; the tint retention of new water-thinned paints (zinc sulfide pigments); radiator painting; luminescent coating; paint for traffic marking.

Pigments

16-11. The ABC of Luminescence, New Jersey Zinc Company.

Piping

16-12. Revere Pipe and Tube, Revere Copper and Brass, Inc.

Plastics

16-14. Plaskon, Plastic Materials for Modern Industrial Production is a 16page booklet from the Plaskon Division of Libbey-Owens-Ford Glass Company, demonstrating practical application of "Plaskon" materials to industrial and individual needs. "Plaskon" in resinous form is used for commercial bonding of wood, paper, cork, fabric, and other materials.

Plumbing Fixtures

16-03. Douglas Folders, The John Douglas Company.

Steel

19-11. Armco Hangar Buildings, American Rolling Mill Company.

Temperature Control

20-05. Thermoswitches for Complete Temperature Regulation, Fenwal, Inc.

File

20-04. Facts About Tile, Tile Manuacturers' Association, Inc.

ubing

0-06. Tube Data is a bound, loose-leaf, abulated handbook assembled and pubished by the Seamless Steel Tube Intitute, intended as a service to manuacturers and users of equipment emloying carbon-steel and alloy tubing.

ection 1 contains the history of the eamless tube, manufacturing, mill ractices and trade customs, lists of tandard steels. Section 2 deals with road classification of mechanical tubes. acludes data on properties of beams, abular and solid beams, elements of ections, factor of safety torsion, toron columns, pipe columns.

ection 3 on tubes for pressure services ds in determining whether tubing is r mechanical or pressure service. Inudes data on boiler tubes; heat exchanger and condenser tubing; still tubes; alloy pipe specifications; iron, iron carbide equilibrium diagram; alloy pressure tubes; metallurgical technical data; seamless tubing; galvanic action; pressure formulas. Section 4 contains reference tables—weight formulas, pounds per foot, inside surface sq. ft. per lineal ft., outside surface and displacement, functions of numbers, circles, temperature conversion, gage equivalents, decimal equivalents, metric conversion. Price: \$2.50.

Walls

23-18. Steel or steel-and-glass, soundproof, fireproof, movable partitions and accessories are described in a 28-page, illustrated booklet from Snead & Com-pany, Steel Mobilwalls. Types of walls combining the general characteristics of fixed masonry walls with instant mobility have panels and door units that are also interchangeable; it is claimed that changes can be made overnight without disturbing office routine. Units are locked in place by positive, selfaligning internal one-piece link plates (with "snap-on" pilaster covers); are made of furniture grade steel, roller die-processed; a wide range of light colors to match plastered wall finishes is available. Tables on noise intensities (shown in decibels) are given, also detail drawings, information on wiring, insulation, specifications, etc.

Water Softener

23-10. Permutit Spiractor Bulletin 2384, Permutit Company.

Windows

23-19. How and Where to Use More Windows is a consumer booklet (12 pages) from Curtis Companies, Inc. Featured are bay, corner, picture, grouped arrangements of windows, with illustrations and suggestions.

Wood Preservers

23-11. Abesto Wood Preservers, Abesto Manufacturing Company.

Waterproofing, Roofing, Flashing

Abesto Manufacturing Company:

23-12. Abesto Cold Application Material for Damp Proofing, Built-Up Roofs, Roof Covering.

23-13. Abesto with Viscoroid Base.

23-14. Specification "A"-New Abesto

Built-Up Roof: Specification "B"-Abesto Damp Proofing.

23-15. Specification "C"—Abesto Cold Cap Sheeting on Old Roofs; Specification "D"—Abesto Used for Re-Coat Work.

23-16. Specification "E"—Blind Nailing Using Abesto Products; Specification "F"—Flashing with Abesto Quick-Setting Plastic.

23-17. Specification "G"—Built-Up Roof Over Old Smooth Surfaced Roof With Abesto; Specification "H"—Abesto Built-Up Construction on Concrete Deck.

LITERATURE, SAMPLES WANTED

H. W. PETTY, Architect, 265 East Main St., Moorestown, N. J. (Data, samples, and catalogs for complete A.I.A. file).

FRANK WYATT WOODS, Architect, Ocean View Station, Miami Beach, Florida (Data, samples, and catalogs for complete A.I.A. file).

C. E. STADE, 214 Ridge Terrace, Park Ridge, Illinois (Data, samples, and catalogs for complete A.I.A. file).

TYSON T. FERREE, Architect, 220 Professional Building, 101 W. Green St., High Point, N. C. (Data, samples, and catalogs for complete A.I.A. file).

R. C. EASTMAN, Architect, 233 Crest, Ann Arbor, Michigan (Data, samples, and catalogs for complete A.I.A. file).

SAMUEL I. OSHIVER, Designer & Delineator, 802 Chestnut St., Philadelphia, Pa. (Data, samples, catalogs for complete A.I.A. file, literature from interior decorators, plastic and lighting data).

HAROLD RICHARD AMES, Architect, 1015 Chapin Street, Beloit, Wisconsin (Data, samples, and catalogs for complete A.I.A. file).

ANTHONY F. PESSOLANO, Registered Architect and Licensed Professional Engineer, Box "P", Navy 121, Fleet Post Office, New York, N. Y. (Data, samples, and catalogs for complete A.I.A. file).

WILLIAM A. JOHNSON, A.I.A. First National Bank Building, Everett, Washington (Data, samples, and catalogs for complete A.I.A. file).

R. C. KANTZ, Civil Engineer, Public Works Dept., U. S. Naval Air Station, Klamath Falls, Oregon (Data, samples, and catalogs for complete A.I.A. file).

Pencil Points, 550 West 42nd St., New York 18, N. Y. I should like a copy of each piece of Manufacturers' Literature listed. We request students to send their inquiries directly to the manufacturers.

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Architect: Robt. H. Ainsworth, Pasadena, Calif.

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Architectural Concrete sewage treatment plant at Anderson, Ind., designed by Russell B. Moore Engineering Co., Indianapolis. L. C. Love, Sidney, Ohio, general contractor.

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WILLIAM I. HOHAUSER is the architect of many outstanding projects among which are Kheel Tower, Riveredge Apartments, 307 Fifth Avenue Building, Franklin Towers Hotel, all in Manhattan; Clinton Theater and Granada Hotel in Brooklyn; Avon Theater in Stamford; Kensington Gardens in Buffalo and Manchester Gardens in Manchester, Connecticut, developed under F.H.A. He also was one of the architects of Red Hook, Fort Greene and Wallabout Houses, public housing in Brooklyn. Based on long experience with oil heating for both large scale housing and non-residential buildings, Mr. Hohauser gives these opinions on oil heating systems:

"In my opinion oil heating maintains its superiority for both housing developments and for theaters and hotels and commercial structures, in short, wherever cleanliness, convenience, and economy are essential.

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An Architect's Summary of the broad scope of PETRO OIL BURNING SYSTEMS

The variety of sizes and purposes among Mr. Hohauser's projects lends particular point to his comment on the wide range of Petro Systems. This range, in firing capacities, is from one gallon per hour of light oil in a small dwelling, to 145 gallons per hour of preheated "Bunker C" oil.

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Information for this advertisement furnished by H. C. Hastorf of San Francisco, a heating contractor on this mammoth government project




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The next drawing by Hugh Ferriss will be An International Airport and will appear in this space, December, 1944. DESIGNING THE ROOF FOR UTILITY AND APPEARANCE. This drawing by Hugh Ferris is based on the assumption that an air-minded generation will recognize the possi bilities of designing the now-neglected roof-area of the city for both use and appear ance. In the middle-distance of this scene, roofs of old blocks of houses are "pooled for an overall landscaping treatment in the same way that back-yards have alread been "pooled". In the foreground, a new building features roof-use. In the distance roofs are used as a landing stage for helicopters.

Concrete will be the logical material for developments such as these. Trinit White — the "whitest white" portland cement — will give them distinctive beaut combined with enduring utility.