architectural forum

September 1953

Forum forecast: 1954

Another big year for building (p.138)

New thinking on office buildings

Why are some owners omitting the ground floor?
What has mechanical engineering done to the economics of deep office space?
How are architects changing the face of their buildings with new window treatments? (p.107)

Architecture abroad

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Building engineering

New developments in lift-slabs and curtain walls;
new ways to expedite large-scale operations (p.164)

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After the International Style—then what? A prediction by Robert Woods Kennedy (p.130)

Small buildings

Underground bank, modern town hall, remodeled bar (p.158)
and country office building (below and p.124)
You will find Suntile equally valuable in schools, hospitals, industrial plants, commercial or residential structures. Suntile colors are "fitted-to-function" by Faber Birren, nationally known color authority. Bright, stimulating Suntile colors aid light reflection—more neutral shades diminish glare, reduce eyestrain, fatigue. And Suntile also offers your clients all the time-tested advantages of real clay tile—permanence, fire safety, ease of cleaning, low maintenance costs. Ask your Authorized Suntile Dealer for a free copy of "Suntile Color Recommendations," or write Dept. AF-9, Architect James A. Britton reports:

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VOLUME 99, NUMBER 3

NEWS

EVENTS

LETTERS

NEW THINKING ON OFFICE BUILDINGS

Today's three outstanding examples feature important trends in the use of ground-floor space, the treatment of windows and the provision of deep office space:

1. Republic National Bank Building in Dallas by Harrison & Abramovitz and Gill & Harrell, architects.

2. Melrose Office Building in Houston by Lloyd & Morgan, architects.


RESEARCH ADMINISTRATION BUILDING

Architect Philip C. Johnson integrates precise architecture and mechanical engineering in a small country office building near Ridgefield, Conn.

WHAT IS TO FOLLOW THE INTERNATIONAL STYLE?

The second article in a series on architecture—by Robert Woods Kennedy.

GLASS BANK

Manufacturers Trust Co. puts its services in a transparent shell, its vault in a Fifth Ave. show window—Skidmore, Owings & Merrill, architects.

FORUM FORECAST: 1954

Analysis of the factors that control construction activity points to another good year for the industry—by Economist Miles Colem.

LE CORBUSIER'S NEW CITY

A preview of Chandigarh, India.

HOSPITAL CHAIN

Second of three articles on the United Mine Workers' program of coordinated hospitals, featuring the outstanding details of five buildings by Sherlock, Smith & Adams, architects.

TOWN HALL

Small municipal building for Brighton, Col., by James M. Hunter, architect.

UNDERGROUND BANK


REMODELED BAR

Roland's Cocktail Lounge in San Francisco by Mario L. Gaidano, architect.

BUILDING ENGINEERING


REVIEWs

NEW PRODUCTS

TECHNICAL PUBLICATIONS

COVER: Office building near Ridgefield, Conn. Photo: Robert Dunbar

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ARCHITECTURAL FORUM • SEPTEMBER 1953
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ARCHITECTURAL FORUM • SEPTEMBER 1953
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It's the most versatile, adaptable roof deck you can specify. In addition, Gold Bond Poured-in-Place Gypsum Roof Deck is 66% lighter than concrete, reduces dead load and supporting structure costs. It has high load-bearing capacity, durability and requires a minimum of maintenance. Write our Architectural Service Department for detailed drawings and load tables.
WORLD'S SMALLEST

COMPLETE KITCHEN!

ONLY 27 1/2 INCHES WIDE!

Perfect For
MOTELS HOTELS
APARTMENTS
OFFICES FACTORIES
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SMALL KITCHENS
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General Chef complete kitchen units fit in 5.4 square feet.
The ideal solution wherever space and dollars are important.

SINK One-piece porcelain top of heavy gauge steel. Faucets and all hardware triple-chrome plated. Units also available without sink.

BURNERS Units come with 3 gas burners (easily adjusted for bottled, natural or manufactured [L.P.] gas), or 3 electric burners (220 V.) or 2 (110 V.).


FREEZER Holds 9 ice cube trays, or 12 standard frozen food packages.

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5 YEAR GUARANTEE
Every General Chef Unit is guaranteed in writing to give trouble-free service for 5 years!

WRITE for complete information and specifications if you are building, remodeling, designing — you will be interested in the space and money you can save with General Chef units. Several models are available. Fully guaranteed. WRITE TODAY for complete information and specifications on all General Chef units. We will also send you name and address of distributor nearest you.

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GENERAL CHEF, Dept. B, 4536 E. Dunham Street, Los Angeles 23, Calif.

Please send me complete information and specifications on General Chef units, and name of nearest distributor.

NAME:

STREET & NUMBER:

CITY:

ZONE:

STATE:

ARCHITECTURAL FORUM • SEPTEMBER 1953
Since 1912

The THORO System

Presents

3 New Products

To comply with requests of our customers, dealers and distributors, we have completed years of research and tests on three new products to add water-repellent materials and coatings to The THORO System, for protection to any type surface.

Red Star THOROLOK

Blue Star THOROLOK

THOROCLEAR

Clear, water-repellent material for porous brick, stone, concrete, stucco, asbestos siding and shingles. Interior plaster and mosaic - surfaces, which texture and color are to be retained.

"How To Do It"

Write for pictorially described literature

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Red Star THOROLOK

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Write for pictorially described literature

SPEAR Lighting

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...for contemporary decoration and design

Spear Lighting can supply the most extensive line of Modern Incandescent Lighting Fixtures... created in keeping with the principles of superior quality and design... fulfilling the lighting needs of contemporary decoration.

Since 1925, Spear has been engaged exclusively in the design and manufacture of Lighting Fixtures abreast the modern trend.

SEE OUR COMPLETE DISPLAY AT
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LIGHTING FIXTURE MFG. CO.

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Bold New Feature on New York's Skyline

Lever House

built stronger . . . to last longer

with

AMERICAN WELDED WIRE FABRIC

This ultra-modern, 24 story tower, on New York's Park Avenue, houses the many and varied enterprises of Lever Brothers Company. It has been called "a meaningful contribution to the development of modern architecture." Embodying many innovations in plan and construction, the building is designed to remain modern indefinitely. That is why the concrete floor slabs laid over the cellular steel sub-floor are reinforced with a total of 120,000 square feet of American Welded Wire Fabric.

In addition to greater strength and longer life, you get other important advantages with American Welded Wire Fabric. For the same amount of strength, you actually use less steel (up to 28%) than with other reinforcing materials, an important saving in the costs of material, in trucking and unloading at the job. In addition, American Welded Wire Fabric prevents unsightly cracks and gives a permanently attractive installation.

Because it is factory-fabricated and delivered in convenient size rolls, American Welded Wire Fabric can be unrolled continuously over metal decking or cellular type construction rapidly and easily by minimum crews. That means important savings in labor costs.

Its proven superiority—not only in floors, but also in roofs, ceilings, walls, foundations, sidewalks and city streets—has made American Welded Wire Fabric the largest selling concrete reinforcement in the world.

When you have some special reinforcing problem, our specialists will be glad to consult with you. Many standard designs, styles and sizes of American Welded Fabric—which will meet most of your needs—are available from conveniently located jobbers' and dealers' stocks. Just drop a line to our nearest sales office and we shall be glad to send you full information in the latest American Welded Wire Fabric Catalog.

EVERY TYPE OF REINFORCED CONCRETE CONSTRUCTION NEEDS

U.S. AMERICAN WELDED WIRE FABRIC

UNITED STATES STEEL
Details of the unusual wall and floor construction showing how exterior facading is fastened and ceiling suspended. Aluminum facing consists of 6 x 12-foot stamped aluminum sheet 3/4-inch thick.

*Architects—Harrison & Abramovitz*

*Associate Architects—Mitchell & Ritchey, Altenhof & Bow*  
*Architects in Charge of Tenant Layouts and Furnishings—Paul K. Scholl*

*General Contractors—George A. Fuller Company*
AN INVITATION TO VISIT A LABORATORY TO THE BUILDING INDUSTRY...THE ALCOA BUILDING

As an architect, designer or contractor, you've probably had a keen desire to see and thoroughly inspect aluminum in a variety of interesting applications in one completed project. Perhaps you have thought of specifying aluminum for curtain wall panels with windows built into them, or ceilings of aluminum which would supply year-round controlled temperatures, or all-aluminum electrical distribution or water service systems.

The new Alcoa Building has been built to include all these practical applications of this metal of all trades and many more. Years of research plus the ingenious designs of the architects and engineers have created this unique and efficient headquarters building for Alcoa.

During September, Alcoa extends a sincere invitation to those of you with an interest in new and unusual applications of aluminum to come to visit the Alcoa Building, a laboratory to the building industry, opening this month. Aluminum Company of America, 1887-J Alcoa Bldg., Pittsburgh 19, Pa.

Before World War II the aluminum industry sold 18 million pounds annually to building field—only 6% of its 300-million-pound total production. Before Korea it was selling 200 million pounds—20% of 1.4-billion-pound output. Best market research indicates rise to 700 million pounds annual consumption by building trades—35% of 2-billion-pound industry capacity.

Aluminum windows will be closed and locked except for cleaning, effected from the interior by pivoting window on vertical axis. In cross section, windows contain sections ¼-inch-thick plate glass, ¼-inch air space and ¾-inch-thick heat-absorbent plate glass on the weather side.

Radiant heating and cooling system is first of type in this country. It is designed to handle all winter-heating requirements and summertime cooling; including acoustical comfort.
ILLS Movable Metal Walls enable Dun & Bradstreet, Inc. to control the space in its new Home Office Building—to keep it at maximum efficiency even when changes in needs dictate radical changes in layout.

Mills Walls are permanent in every desirable respect—distinctively modern and attractive, completely insulated and soundproofed. But whenever the need occurs, they can be moved quickly, easily and at very low cost—generally in a matter of hours, overnight or during a week end, without interrupting normal business routine.

THE MILLS COMPANY
979 Wayside Road • Cleveland 10, Ohio

Dun & Bradstreet makes effective use of Mills glazed railings for semi-private offices, providing efficient distribution of natural light. Mills Walls are available in a wide variety of styles and finishes.
keep office space efficient...

at Dun & Bradstreet, Inc.

Mills Walls require no maintenance other than an occasional washing to keep them looking attractive and new.

Wiring for light, phone and air conditioning controls is easily installed in base, cornice and panel connections.

There will be no dust or debris when these semi-private offices are rearranged. Whole sections of Mills Walls may be moved intact, all parts used over and over again.

Mills exclusive all-welded panel construction provides maximum structural stability, dignified, modern, architectural design.

MILLS Movable METAL WALLS

The Mills Movable Walls Catalog is a practical 48-page workbook on Space Control. We'll gladly send you a copy upon request.
Pictured above is just a small part of the technical staff available at Aetna Steel to engineer the custom production of Aetna hollow metal products.

As every architect knows, engineering follow-through on specifications is high on the list of factors which determine the success of a job.

Aetna engineering and research is backed by fifty years’ experience in the design and manufacture of hollow metal products.

That’s why architects know they can depend on Aetna for the kind of care and regard for detail which clear the way for quick and economical installation.
The Hinge That Won't Wear Out

No matter how frequent the service, how heavy the door — here's the hinge that will last as long as the building. The radial-thrust bearings equally distribute and carry the lateral as well as vertical thrust — make it practically impossible to wear out this hinge.

All Stanley Extra Heavy Ball Bearing Hinges have Full Jeweled Bearings.

Specify Stanley Extra Heavy Ball Bearing Hinges — in wrought steel, brass, bronze, stainless steel, or aluminum — for heavy doors, exterior doors and doors subject to high frequency service.

There is a contract builder's hardware specialist in your vicinity whose knowledge and training is at your service.


The Stanley Works • New Britain, Connecticut
You can't add tomorrow's floor tomorrow

BUT YOU CAN PLAN FOR IT TODAY WITH

FENESTRA-NEPCO ELECTRIFLOOR

When you specify Electrifloor, you automatically take care of present and future electrical requirements:
1. Without extra cost, present office floor plans can be electrified today—and future layouts in the future.
2. Office layout changes can be arranged as easily as playing checkers—wherever a desk is placed on the floor, electric service is available.

Someday—soon, maybe—your client will want to change his office layout, move electrical equipment, add new power, telephone and communications outlets. That's when he'd like to be able to add a truly modern floor that will make electric service immediately accessible to every location—without costly electrical alterations and inconvenience. But he can't have that type of flexibility tomorrow unless you plan for it today—with Fenestra-Nepco Electrifloors.

Fenestra-Nepco Electrifloors are formed of cellular steel panels—by Detroit Steel Products Co.—and National Electric Header Duct, an all-steel grounded feeder raceway. Electric wiring through this combined raceway system provides availability of electric outlets in any square foot of floor area.

Electrifloor has been fully tested and approved by Underwriters' Laboratories, Inc. Make sure your plans will never be electrically obsolete—and save money on the original cost of the buildings you design as well. Write for complete details.

E X H I B I T 1

National Electric Products
PITTSBURGH, PA.

3 Plants • 7 Warehouses • 34 Sales Offices
A practical way to please your public  
... Westinghouse micarta®

Two of the yardsticks used to judge your designs are your clients’ appraisal of their utility and the public’s estimate of their beauty. This lovely Micarta installation above satisfies everyone. The Truwood walls and furniture surfaces can be kept clean and gleaming for visitors with just a wipe of a damp cloth. The warm wood grains are kept locked for life under a protective layer of clear plastic.

There are wonderful opportunities for fresh design in the versatile qualities, colors, patterns and wood grains of Westinghouse Micarta. Micarta has already proved itself in the UN Building, Rainbow Room, Hotel New Yorker, Pittsburgh's Carlton House and hundreds of other prominent installations where dealing with the public is a never-ending job.

You'll get a lot out of Micarta. Look into it today by filling out the coupon below.
GUARANTEE
Lockwood ball-bearing door closers are unconditionally guaranteed for 2 years, except when misapplied or misused.

LOCkwood Quality pays off in MATCHLESS PERFORMANCE

No other door closer can equal the smooth action and long-lasting quality of Lockwood's precision-made ball-bearing model. Compare these Lockwood features with any other closer on the market:

BALL-BEARING SUPPORT at the main bearing points ensures friction-free power... and only Lockwood has it.

LEAK-PROOF GLAND AND SPLASH CHAMBER ensures efficient year-round performance with minimum maintenance expense.

OVERSIZE ONE-PIECE SHAFT AND PINION eliminates all failures due to twisting, bending or shearing.

SUPER POWERED SPRING guarantees normal closing speed even under extreme draft conditions.

LOCKWOOD HARDWARE MFG. CO.
Fitchburg, Massachusetts
the mere
functional type of rest room
is INCOMPLETE!

It is obsolete before it is completed according to today's standards. To insure against untimely obsolescence consider wall-type plumbing fixtures installed with Sanymetal ceiling-hung toilet compartments.

Sanymetal offers several different types of toilet compartments. Sanymetal also offers and recommends Two Full Purpose Metal Base Materials which combine colorful attractiveness with long years of service life and effect important day-after-day savings in cleaning and maintenance costs. These Two Full Purpose Metal Base Materials—Sanymetal "Tenac" (Galvanized, Bonderized Steel), and Sanymetal "Porcena" (Vitreous Porcelain on Steel), the ageless and fadeless, rustproof material—are described herein.

Sanymetal Toilet Compartments are also available in cold rolled steel.

Sanymetal Toilet Compartments and Shower Stalls embody the results of over 39 years of specialized skill and experience in making over 500,000 toilet compartments in all types of buildings. Ask the Sanymetal representative in your vicinity for information about planning suitable rest room environments that will always stay new. Refer to Sanymetal Catalog 129 in Sweet's Architectural File for 1953 and Catalog 128 in Sweet's Industrial File for 1953.
A FUTURE OF FAULTLESS SERVICE

One of the more impressive units in the revitalization of New York's East Side—and a recent COYNE & DELANY installation—is this huge Nurses School and Residence, adjoining famed Bellevue Hospital. Answering a long felt need, the school nicely complements the activities of the hospital proper, just as the selection of COYNE & DELANY diaphragm type FLUSH VALVES for this new building complements the DELANY VALVES installed in the existing hospital years ago—valves still unmatched in performance.

BELLEVUE HOSPITAL
NURSES SCHOOL & RESIDENCE
New York City
CITY OF N. Y., DEPT. OF PUBLIC WORKS
FRED A. ZURMUHLEN, Comm.
ALFRED HOPKINS & ASSOC.
architects
JAROS. BAUM & BOLLES
mechanical engineers
FAR PLUMBING CO., INC.
plumbing contractor
WEBSTER PLUMBING SUPPLY, INC.
wholesale distributor
AMERICAN RADIATOR & STANDARD SANITARY
plumbing fixtures manufacturers

Under trying water conditions, an invaluable feature of all DELANY VALVES is the protected monel metal bypass shown at left. In this trouble-susceptible area in all flush valves, the use of monel precludes corrosion. Further real protection of the minute orifice against clogging by sand and debris is afforded by a fine mesh monel screen. It is sluiced clean with every flush, limiting the need for periodic dismantling and cleansing.

COYNE & DELANY CO. • 834 KENT AVE. • BROOKLYN, NEW YORK

IN CANADA: THE JAMES ROBERTSON CO., LTD.
Public housing's war of words

> Eisenhower upholds Congressional cuts after hearing New York's Robert Moses attack them
> Across the nation, public housing finds new troubles Sample: dealer group quits buying housing bonds

If anybody thought public housing would lie down and die now that Congress had chopped it to 20,000 starts a year, he reckoned without the politics of public housing. Last month, as PHA Commissioner Charles E. Slusser made his Solomon's choice about which of the 55,946 housing units under contract could be built this year (see box), a debate over the fate of public housing began. It promised to be long and bitter.

It opened on a blue-canopied platform in Manhattan's Lower East Side (see cut) where President Eisenhower, interrupting his Colorado fishing vacation on Mortgage Banker Aksel Nielsen's ranch, had come to dedicate a public housing project. The project: partly built Baruch Houses, named in honor of the late Dr. Simon Baruch, father of the financier-philanthropist Bernard M. Baruch, whose 83rd birthday the President was honoring.

If the setting seemed strange for a man who has never said forthrightly where he stands on public housing, Eisenhower's handling of it was not. With a finesse veteran politicians could envy, the President managed to pat public housing on the head in principle without actually endorsing it.

Surgery, not compromises. Preceding the President as a dedication speaker, New York Construction Coordinator Robert Moses criticized Congressional cuts in public housing. They indicated, he said, "a deplorable resurgence of hard-boiled reactionaries to whom acreage is more important than people." Moses begged for "clean-cut, surgical removal of all of our old slums," announced his opposition to "phony compromises, however labeled, which look to patching up a few buildings here and there, whether such schemes originate with cute landlords and realtors or with tired reformers reduced to a counsel of despair."

Replied President Eisenhower, in an off-the-cuff talk: "There was some criticism, I think, a minute ago about the exact size of the appropriation made this year by the federal government for housing. I don't go along with that too much for this reason: there are many vicissitudes in the pulling and hauling and arguments of free government. . . . You can't. . . show that great bodies of citizens are living in hovels, unfit habitations, and not getting help—help expressed not only from private purses, as Mr. Baruch has done, but through official channels of appropriations." At another point, the President observed that the construction before him was more than "just bricks and stones of a new house." It was, he said, "the soul of a nation . . . that says its citizens each has a right to a certain standard of living." That was all Dwight Eisenhower had to say about public housing.

WHO CAN BUILD HOW MANY PUBLIC HOUSING UNITS

In parceling out its ration of 20,000 units to be started in fiscal 1953-54, the Public Housing Administration had to choose among projects totaling 55,946 units which PHA men had hastily signed up before Congress got around to forbidding new agreements. Commissioner Charles E. Slusser spread the ration among 22 states, the District of Columbia and Puerto Rico, managed to include 47 cities and villages. Slusser said the chief yardstick for selection was how much money local and federal governments had invested so far. NAREB, eyeing the four tiny projects in rural hamlets, suggested the allocation had a lot more to do with votes. The complete list, by projects and city totals:

**Alabama.** Hartselle, 12. California. Los Angeles, 146, 446, 146, 142, 252 for a total of 1,438; Richmond, 501; San Francisco, 916, 164, 164 for a total of 1,122; H.A. of San Bernardino Co. for Colton, 31.

**Colorado.** Denver, 300. Connecticut, Ansonia, 125; New Haven, 366. Florida, Miami, 250. Georgia, Athens, 139, 156 for a total of 286; Atlanta, 510.

**Illinois.** Chicago, 566, 475, 195, 595 for a total of 1,827; H.A. of Calhoun Co. for Brussels 4, for Racine *22, for Hammond * 6, for Kankakee 12; H.A. of Macoupin Co., for Gillespie 39; H.A. of Madison Co. for Alton 100; H.A. of Perry Co. for Princeton 29; H.A. of Randolph Co. for Hanover, 54; H.A. of Will Co. for Bourbonnais, 25; H.A. of Will Co. for Champaign, 26; H.A. of Will Co. for Danville, 91; H.A. of Will Co. for Rockford, 19; H.A. of Will Co. for St. Charles, 125.

**Kentucky.** Lexington, 125; Louisville, 408, 944 for a total of 1,352.

**Maryland.** Baltimore, 204, 500 for a total of 1,206.

**Michigan.** Detroit, 270, 8, 126, 148 for a total of 554; Saginaw, 256, 660, St. Louis, 712, 700 for a total of 1,892; New Jersey, Newark, 778; New York, Buffalo, 461; New York, 435, 213, 102 for a total of 1,696; Syracuse, 332; North Carolina, Goldsboro, 115; Rocky Mount, 115; Winston-Salem, 244; Ohio, Cleveland, 295; Columbus, 204; Oregon, H.A. of Douglas Co. for Reedsport * 14. Pennsylvania, Monroe, 136; Cornwellville, 100; Philadelphia, 203, 137 for a total of 320; Tennessee, Ewing, 54, Texas, Beaumont, 130; Galveston, 194; Knox City * 52; Texarkana, 125; Virginia, Norfolk, 200, 124 for a total of 424; Portsmouth, 235; District of Columbia, 126; Puerto Rico, San Juan, 1,150.

* Rural nonfarm housing.

**NEWS**

EISENHOWER DEDICATES BARUCH HOMES

Labor & Democrats. The President's temperate, if somewhat inarticulate, words drew two important responses within the next three weeks—both highly articulate, if somewhat intemperate. Cried AFL Secretary-Treasurer William F. Schnitzler in a Labor Day week-end broadcast: "You should be alerted at this point about a new kind of campaign that has begun developing since Congress killed the public housing program. In city after city, we've begun to hear demands that slums be eliminated. . . . But many of those who are now echoing this challenge are merely setting up a smoke screen. They are crying 'slum clearance' but not planning housing for those displaced from the slums. . . . The only answer is public housing. . . . Don't let your community carry on a slum clearance program that does not also include public housing."

The significance of Schnitzler's outburst would not escape private construction leaders: in damning private enterprise's plans for rehabilitating aged but sound housing, Schnitzler was playing footsie with professional public housing leaders who rightly fear that if rehabilitation works on a wide scale, their empires will be in jeopardy. Why should labor care? Public housing is 100% union-built by AFL craftsmen. Most
of the private housing industry is still open shop (although the trend is the other way).

Harry Truman joined the attack in his Labor Day talk at Detroit. Said the former
President: "...There are other signs that the government is no longer so concerned
of Labor Statistics that the end of the year's
victuals added new assur-
World War II crested this summer, judging by government and pri-
lic housing program, which was helping
to clear America's slams, has been con-
demoned to death. ... You may yet be able
to get some of the public housing program
restored if you fight for it."

At Chicago a week later, Truman short-
ened up his grip on the facts and bunted;
"They [Republicans] say they are for better
housing, but they kill off public housing and
raise the interest rate so it is harder to build
private housing."

Next day, Presidential
Press Secretary James C. Hagerty pooh-pooed
Truman's whole talk in Shakespeare's words: "Sound and fury...signi-
fying nothing."

Is the commission pro or anti? In the end, the future of public housing will be up
to the next Congress. But public housers
were not happy this month over the com-
position of the 22-man advisory committee
President Eisenhower named to recommend
what COP housing policies (including pub-
lic housing) should be. On the committee
were four realtors, ten mortgage lenders
(including Eisenhower's fishing friend,
Aksel Nielsen), two builders. On their
records, none held any love for public hous-
ing. These were three pro-public houses:
Cleveland's Ernie Bohn, the AFL's Richard
J. Gray, president of the Construction
Trades Dept., and CIO Housing Chairman
James Thimmes.

(continued on p. 51)

BUILDING STATISTICS: building boom hits new high; costs and materials prices easing

Construction shattered all sorts of records and reached its post-
World War II crest this summer, judging by government and pri-
ivate statistical reports and surveys.

At $3.3 billion, August construction expenditures set another all-
time monthly peak (see table). The big outlays added new assur-
ance to a revised forecast by the Commerce Dept. and Bureau
of Labor Statistics that the year's expenditures would reach
$34.6 billion—6% more than last year's record $32.6 billion. (The
official estimate last month also confirmed FORUM's exclusive report
that building volume was going up, published in July.) Indicating
that they saw the crest passing, BLS and Commerce officials esti-
mated outlays for the first half of this year were 8.2% greater
than the first six months of 1952, but forecast second half spending
would be only 3.6% higher, "a smaller rise for the last six months
than is usual." Next year's construction volume? For details of a
FORUM forecast—slightly less than this year but a greater volume
than 1952—see page 138.

Two encouraging signs for both builders and clients appeared: 1)
materials prices, after steadily rising since last December, fell in August and will probably drop more (see chart); 2) although
Boeckh building cost indexes for nonresidential structures con-
tinued to rise through July, two other leading trade barometers
recorded declines in construction costs since then (see chart).

Citing growing cost-consciousness and competition throughout
the industry, Myron L. Matthews of the Dow Service reiterated a
prediction he made last fall: by next July average construction
costs will be 5 to 10% below costs in Nov. '52, with the most
perceptible drop probably appearing next January or March.

NEW CONSTRUCTION ACTIVITY
(expenditures in millions of dollars) August 1st eight months

<table>
<thead>
<tr>
<th>Type</th>
<th>'52</th>
<th>'53 % change</th>
<th>'52</th>
<th>'53 % change</th>
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<tr>
<td>PRIVATE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential (nonfarm)</td>
<td>1,047</td>
<td>+3.7</td>
<td>7,033</td>
<td>+9.3</td>
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<td>New dwelling units</td>
<td>930</td>
<td>+4.2</td>
<td>6,240</td>
<td>+6.8</td>
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<td>Additions &amp; alterations</td>
<td>99</td>
<td>+12.1</td>
<td>685</td>
<td>+4.6</td>
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<td>Nonhousekeeping</td>
<td>18</td>
<td>+8.9</td>
<td>113</td>
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<td>Industrial</td>
<td>183</td>
<td>-2.2</td>
<td>1,550</td>
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<td>Commercial</td>
<td>98</td>
<td>-7.5</td>
<td>705</td>
<td>-51.0</td>
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<tr>
<td>Other nonresidential</td>
<td>140</td>
<td>-7.9</td>
<td>1,007</td>
<td>-4.0</td>
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<td>Religious</td>
<td>36</td>
<td>+19.4</td>
<td>247</td>
<td>+4.0</td>
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<tr>
<td>Educational</td>
<td>31</td>
<td>+22.6</td>
<td>220</td>
<td>+24.0</td>
</tr>
<tr>
<td>Hospital</td>
<td>35</td>
<td>+22.9</td>
<td>269</td>
<td>+21.0</td>
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<tr>
<td>Public utilities</td>
<td>379</td>
<td>-12.7</td>
<td>2,566</td>
<td>-19.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2,030</td>
<td>+7.6</td>
<td>14,047</td>
<td>+27.9</td>
</tr>
</tbody>
</table>

| PUBLIC | | | | |
| Residential | 56 | -25.0 | 451 | -16.2 |
| Industrial | 176 | -2.3 | 1,028 | -20.6 |
| Educational | 140 | -5.7 | 1,073 | -3.4 |
| Hospital | 43 | -37.2 | 318 | -19.8 |
| Military | 134 | -6.0 | 894 | -3.5 |
| **TOTAL** | 1,088 | +4.5 | 6,295 | -16.3 |
| **GRAND TOTAL** | 3,118 | +6.5 | 20,976 | +22.6 |

*Minor components not shown, so total exceeds sum of parts. Data from Dept. of Commerce and Labor.

CONSTRUCTION EXPENDITURES in August set another all-time monthly high of $3.3 billion—$2.2 billion for privately owned projects, $1.1 billion
for public works. For the first eight months of the year, outlays were
7.9% greater than in the same period last year.

MATERIALS PRICES charted by the Bureau of Labor Statistics touched 121.3 in July—highest point ever reached on the BLS 1947-49 index base.
It marked a steady 5.9% rise from December. In August, BLS's index sagged to 120.8. Declining prices for lumber, insulating wire and copper
products accounted for most of the drop. Still more price cuts early this
month pointed to a further decline when average September prices are
computed. Items: copper and brass products were cheaper, steel supplies
were easier and Douglas fir plywood basic 1/4" stock fell from $40 to $20
per M sq. ft.

BUILDING COSTS compiled by E. H. Boeckh & Associates rose 0.9% from
June to July. The index for commercial and factory structures went from
255.9 to 255.2. The index for apartments, hotels and office buildings jumped
from June to July. Engineering News-Record's construction and building
(revised) remained unchanged from July to August after falling 1.4%
from June to July. Engineering News-Record's construction and building
cost indexes reached all-time highs in August, but this month dropped
0.3% and 0.2%, respectively.
Is retailing’s rush to the suburbs past its crest?

† Analyst Roy Wenzlick notes ‘adverse factors’ and Land Planner Wehrly sees ‘leveling off’ ahead

† More local leaders ponder saving mass transit systems and one expert urges outright subsidies

Never before had the nation experienced such a wave of shopping center construction in the suburbs. So great was the boom that the Commerce Dept. recently held it largely responsible for the sharp rise in commercial construction so far this year. But amid the building rush, some first signs and portents appeared last month that the trend of business and merchandising to follow customers to the fringes of town may have passed its peak.

Said Realty Analyst Roy Wenzlick: “We believe that the ‘explosive’ trend of urban land use development has just about reached its zenith. Adverse factors will begin to outweigh advantages of a further scattering of our cities. Already the cost and quality of ordinary municipal services and travel time to work are limiting the size of urban areas.”

Said Executive Director Max Wehrly of the Urban Land Institute: “We are reaching a point in many areas where outlying centers are beginning to prey upon each other. For instance, a study in the San Francisco Bay Area discloses that about 100 organized shopping centers are either planned, building, or in operation. That’s a lot of centers in any city, even one with an estimated 1960 population of 3.5 million [1950 population: 2.2 million]. The danger signal is up. While...there is still need for more of certain types, I believe you will see a marked leveling off in shopping center building in the next few years.”

Expansions downtown. Some department-store operators already were acting and others were talking in agreement with Wenzlick and Wehrly:

† Dallas’ Nieman Marcus was completing a $67½ million addition to its downtown store instead of going farther into the suburban field, where it has a $1½ million store.

† In San Antonio, Joske’s had roughly doubled the size of its downtown store in the past two years, adding, among other things, a nine-acre parking lot.

† Warned President James Douglas of Seattle’s Northgate shopping center: for a department store to expand into the suburbs is no longer the completely rosy, sure-fire situation it once was. Said he: “The suburban shopping center idea is being overdone in several major metropolitan areas already. On top of that is the increased cost of construction and higher interest rates on loans. With these new factors, a department-store operator must figure closely or he will end on the financial rocks.” Douglas admitted that parking woes downtown were still nudging stores toward the wider spaces of suburbia, but he pointed out: “An unusually large advertising budget is required to change the pattern of traffic to a new location that formerly was an eat field. Without it, the suburban shopping center isn’t going to draw the large volume required.”

Freeways—or transit? Were the businessmen betting on renewed strength for downtown shopping as right as the prophets suggested? If so, their bet bore a strong implication that they saw some hope for easing the triple troubles that sped the rise of suburban shopping: traffic jams, parking and decaying rapid transit systems. Here, hopeful evidence was piling up that more and more community leaders were beginning to see that survival of cities was inextricably linked to salvaging mass transit systems.

Gov. Earl Warren, in a talk to 750 business and farm leaders, declared California’s transportation problems will not be solved just by more highway construction. He called for developing “rapid transit systems of the metropolitan areas.” Mayor Norris Poulson of Los Angeles announced: “I well realize that some form of rapid transit, whether it be monorail, subways or something else, is an essential [to solve Los Angeles’ traffic problems].”

Executive Director Walter H. Blucher of the American Association of Planning Officials put it even more bluntly. In a Los Angeles speech, he said: “I am willing to stake my reputation that the building of expressways or freeways will not solve the traffic and transportation problems of any community. It is a proven fact that the super-speedways actually increase the downtown traffic problem.” Advised Blucher: cities should face up to the fact that they must subsidize mass transit “simply as a means of self-preservation.”

In Cleveland, which has had almost no redevelopment of its downtown business section, the idea of rescue by mass transit was being translated into action. On the November ballot will be a $35 million bond issue for a subway loop around the city’s core to hook up with a $29 million surface rapid transit system now abuilding. Backers of the bond issue claimed

New York transformation: old bones to get new flesh

One block north of New York’s Lever House, workers started a Cinderella operation to convert a 40-year-old Park Ave. luxury apartment building (l) into a modern, metal-glass-front, air-conditioned office building (r). According to Emery Roth & Sons, architects for rejuvenating the 18-story structure, foundation and steel usually run about 20% of a new building’s cost. They estimate that reusing the old frame and floors will save roughly $500,000, or about 16%—plus about five months construction time.

Another advantage bulked even larger: present zoning laws would reduce floor area by requiring setbacks on the upper 75% of a “new” building of this height; but the project qualified as a “conversion” so the setbacks were avoided.

In the transformation a new building core will be built in what was court space behind the building. Elimination of old elevator shafts and stairwells will provide clear, all-daylight 200’x35’ floors, except for columns. The site was leased from the William Waldorf Astor estate by the owner-builder syndicate: Freeman & Gerla; Oestreich Realty Co.; Francis J. Kleban.

ARCHITECTURAL FORUM • SEPTEMBER 1953
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Feuding unions plague building; jurisdictional rows produce costly N.Y., Kansas City strikes

When Labor Secretary Martin P. Durkin quit and resumed his presidency of the AFL Plumbers and Pipefitters International, commentators had a field day expounding on the Eisenhowcr administration's tribulations in trying to get along with labor.

The building industry was having its troubles trying to get along with labor, too. There was a big difference, however: construction's troubles stemmed principally from labor's inner rows and conflicts and inability to get along with itself.

Threat lifted. For three weeks the industry wondered what wounds it might suffer in the expected jurisdictional feuding after the carpenters withdrew from the AFL. Principal complaint of the carpenters: while the AFL was making no-raiding agreements with the CIO it was ignoring "disruptive conditions" within the federation itself.

Fortunately, the carpenters rejoined this month. For the industry, the most heartening and significant condition of the reconciliation was that the parent AFL agreed it "should adopt some policy definitely designed to prevent raids within our own [AFL] organization."

Union peace plan. This summer the AFL's building and construction trades department took somber note of the "very serious state of affairs" arising from jurisdictional disputes. Its annual report to the AFL executive committee took an extraordinary form. It omitted all customary details about the department's activities, was devoted entirely to a proposal that the AFL establish an effective system with an impartial czar or "adjudicator" to settle jurisdictional disputes. Its annual report to the AFL national convention in St. Louis.

Ebasco fiasco. Construction could cite too many current cases where it was the hapless victim of jurisdictional and intra-union warring. Notable was the trouble at the Joppa, Ill., power plant being erected to serve the Atomic Energy Commission's new installation near Paducah, Ky. In 31 months the Joppa job had been halted 37 times by work stoppages that put construction seven months behind schedule, boosted cost estimates from $135 to $180 million.

The disruption, disorganization and delays — caused mainly by wildcat strikes and jurisdictional disputes — finally wore out the patience of Electric Energy, Inc., the syndicate of private power firms who will operate Joppa. Last month, they ended their contract with New York's famous Ebasco Services, Inc., the nation's largest power plant builder. Ebasco announced it was relinquishing the job because of "local conditions which have prevailed from the start."

San Francisco's Bechtel Co. tried to get work restarted after a month's shutdown, banking on a jurisdictional disputes settlement plan and a no-strike pledge extracted from 19 union locals in the area by Secretary-Treasurer Joseph Keenan of the AFL building trades department. It was futile. Within two weeks ironworkers' local 595 struck because Bechtel refused to hire six other internationals to ignore local 595 jurisdictional disputes — finally wore out the patience of Electric Energy, Inc., the syndicate of private power firms who will operate Joppa. Last month, they ended their contract with New York's famous Ebasco Services, Inc., the nation's largest power plant builder. Ebasco announced it was relinquishing the job because of "local conditions which have prevailed from the start."

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Throughout July and August more than 100,000 New York building workers were idled and progress was halted on $600 million of construction projects by a strike of 1,200 AFL sand, concrete and building supply teamsters. Lumber and excavation truck drivers accepted increases of 30% and 40% an hour, plus fringe benefits, but in an intra-union power struggle the negotiators for the other drivers held out insistently for 75% more an hour plus fringe increases. Teamster President Beck finally appointed a three-man team to supersede the local's officers if necessary threatened charter revocation if the local failed to settle or arbitrate.

In similar fashion, Kansas City construction was crippled for ten weeks this summer by a teamsters' strike with jurisdictional undertones. This was settled July 20 after it had brought a House labor racketeering subcommittee to the scene and national AFL leaders put the strike-through tactical local building trades council under a trustee-ship (AF, July '53, News). Graff, gritty, 77-year-old chairman of the Hoffa City of his investigations and was cored in handling committee funds. But his Kansas City hearings bore fruit. This month a Jackson County grand jury indicted Orville L. Ring, president and business agent of the Kansas City teamsters' local, on seven counts of embez­zling union funds, falsifying union records, felonious collection and obtaining money from two building contractors "through fear" and threats to halt their work.

In another indictment, the jury charged local officials of the National Electrical Contractors' Assoc. and Local 124 of the AFL Electrical Workers union with acting in restraint of trade under the state's anti-trust law. A similar charge against the two groups under federal law was dismissed in 1949.

ODM to get tougher about dispersion in tax write-offs

Even before Russia announced it has the hydrogen bomb, US officials were quietly overhauling the nation's protective strategy: renewed emphasis was being placed on dispersion of target areas.

Through the fast tax write-off program, the Office of Defense Mobilization was putting more pressure on factories to build at least ten miles from the edge of target zones. From January through June, ODM received 198 applications involving $1 million or more for five-year amortization instead of the normal 20 (it does not bother about dispersion on smaller plants). It found that 162 of them (85%) met the ten-mile dispersion standard. It granted exceptions to 30 others. Its policy on exceptions, however, was growing tougher.

In deference to security if not its initiative, ODM has done little bragging about results under its May 5 directive permitting 100% fast tax write-off for bomb-resistant construction in exposed areas. The score: three applications approved, 12 pending. (On the $27.8 billion of facilities allowed fast tax write-off since Korea, the average portion of the costs approved for speedy depreciation was only 61%.)
AT KAISER-FRAZER, G-E 480/277-volt electrical system serves both fluorescent lighting and machine load through five load-center substations. Electrical system was installed by Koontz-Wagner, electrical contractors, South Bend.

How “packaged power” speeded expansion of two plants

Pre-engineered components meant fast, easy power system design for Kaiser-Frazer and Willys Motors

Demand for increased production, plus a recognized need by plant management for greater protection of personnel and equipment, dictated a new power distribution system for the Dowagiac, Mich., plant of Kaiser-Frazer. Similarly, at Willys Motors' Toledo plant, there was a need for flexible, reliable power distribution equipment to carry the load of increased Jeep production. These conditions made the planning, selection, and installation of the power distribution systems one of the most important steps in expansion for these two plants.

Their typical solution: A system made up of “packaged” G-E components, tailored to plant layout and production needs. Easy-to-specify, easy-to-install G-E equipment saved months of design and installation time.

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Engineered Electrical Systems for Industrial Plants
HHFA puts brakes on slum funds
Jogged by Congress, the housing agency insists that cities push rehabilitation, enforce housing codes to qualify for Title I urban redevelopment loans and grants

Congress put a sleeper in the Independent Offices Appropriation Act in July that: 1) clamped a tight rein last month on federal aid for urban redevelopment, but 2) gave a powerful boost to realtor and homebuilder drives to rehabilitate blighted but not hopeless parts of US cities.

In one pointed sentence, Congress suggested federal funds be withheld from Title I projects until city recipients prove to HHFA that they are conscientiously enforcing local housing and building codes and are pushing rehabilitation programs. Taking the hint, HHF Administrator Cole demanded last month from each of the 70 US communities seeking Title I loans or grants:

► A signed statement by the mayor or city manager outlining the scope of code enforcement efforts—expenditures and personnel, number of violations filed annually, and their disposition.
► A resolution by the city's governing body "reiterating findings and conclusions... on the structural condition of the property and the practicability of rehabilitation at a reasonable cost."

Democratic policy junked. For cities everywhere, the implications of the new HHFA rules were sweeping. Democratic administrations had acted on the theory of helping cities just because they showed decay. They had conveniently overlooked a similar, if not quite so blunt Congressional directive in the very first sentence in the original Title 1 statute enacted in 1949: "...the administrator shall ... give consideration to the extent to which appropriate local public bodies have undertaken positive programs... for preventing the spread or recurrence, in such community, of slums and blighted areas through... codes and regulations relating to land use and adequate standards of health, sanitation, and safety for dwelling accommodations."

Republicans, handed a law with only a negligibly different mandate on slum prevention, intended to help only cities that showed some spine about helping themselves. Moreover, the outlook was for vigorous, instead of flaccid administration by HHFA. Newsmen asked Administrator Cole if the threatened forfeiture of federal aid meant he favored a crackdown on landlords who let housing rot. Said he: "It certainly does."

FHA help planned. In talks this month to the National Institute of Municipal Law Officers and the Producers Council, however, Cole emphasized that "the federal government cannot turn its back on such problems as slums, urban blight...[but] we will seek to expand local efforts, not to set local governments adrift."

"The government has a necessary role in helping private industry and local government to restore rundown property values and in enforcement of codes," said the administrator. Recommendations for updating federal housing laws to help accomplish this, he added, "will undoubtedly include more liberal forms of mortgage insurance on existing structures and cooperative endeavors by FHA with local communities."

Blow for New York. Hardest-hit city under the new rule could be New York. No. 1 recipient of federal redevelopment handouts—seven contracts already signed for grants to total $32 million. Construction Coordinator Robert Moses, in charge of the city's Title I jobs, was promoting projects involving applications for $25 million more. They now looked like dead ducks: although New York slums have been spreading at an alarming rate, Moses in one of his public disputes with State Housing Commissioner Herman T. Stiehman, only this spring opposed and derided efforts to launch rehabilitation drives. Moses wants slum "surgery," widespread demolition, rather than repairs (see p. 37). So far, New York had no rehabilitation program worth the name. It could not comply with the new HHFA rules unless it started one.

► Said a statement on the city's housing problems issued Aug. 31 by seven civic leaders: "New York does not have an integrated housing pro-

A beehive office and domed convention hall for Boston

BOSTON got a preview this month of the $75 million private enterprise Boston Center redevelopment being planned by a syndicate headed by Roger L. Stevens (AF, Feb. '53). Mayor John H. Hynes unveiled a model disclosing that modern design will prevail to the last detail for the 30-acre business, shopping and hotel center and a convention hall the city proposes to erect (foreground) which, with Saarinen's MIT auditorium, will give greater Boston two shallow-dome auditoriums.

Structures to be built by the private interests include a 750-room motel-hotel (1), a 40-story office building with 670,000 sq. ft. of floor space (center), and beyond those (in background) three additional office buildings (7, 12 and 13 stories), a four-story department store and a three-story shopping center. Still undecided, said one of the project aides, was what material to use for the office building's remarkable beehive or vegetable-grater exterior.


Financing for the private area buildings has not been arranged yet, but that is "relatively unimportant... I have never failed to obtain financing for my projects," said Stevens. Construction should start in 12 to 15 months, he said.

In Philadelphia's Penn Center redevelopment (AF, Feb. '53, et seq.) the first building, a 30-story office structure, will be financed by Prudential Insurance Co., announced Realtor Robert W. Dowling of New York, realty consultant for the project. The building will be built by New York's Uris Bros. The cost will be about $10 million, rather than the previously estimated $15 million, said Dowling.
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New architect licensing law in Colorado faces test

The troubles of Colorado's State Board of Examiners of Architects were not over yet. Last March, the state's 44-year-old architect licensing law was ruled unconstitutional because it did not establish specific "standards and requirements" for licensees and because it improperly delegated this legislative responsibility to the state's Board of Examiners of Architects (AF, Jan. '53 et seq.).

The legislature hastily adopted a new law the day before it adjourned for two years. But the new measure was so vague it immediately invited new court tests.

This month the legal challenge arrived. Louis Rico of Colorado Springs sued to compel the examiners to issue him a license. Charged his 26-point complaint: the revised law still does not set standards for determining the qualifications of architects to be licensed without taking the board's usual four-day examination (as Rico seeks to do); it still unlawfully delegates legislative power to an administrative board.

Between the acts. Rico, 34, was born in Colorado Springs. He was graduated from high school there at the top of his class in June '38, and says he immediately became an apprentice in the office of Colorado Springs Architect Earl A. Dietz. Except for Army service from 1942 to 1945 (he became captain of an Engineers' company in Italy) he worked under Dietz through June '51, then went into business for himself as a designer.

After the old law was declared unconstitutional, while there was no law proscribing who was or was not an architect, he began to practice as an "architect" and accept contracts for public buildings. After the revised law was enacted he applied for a license under the provisions authorizing licenses without examinations for persons already practicing architecture. The board rejected his application.

Since the law was revised the state examiners have licensed several of the persons who had filed suits against them for registration last winter, notably James H. Johnson, formerly of Illinois and New York, who was refused a reciprocity license, and Denver Engineer Nat Sachter, whose suit brought the original unconstitutionality decision.

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PEOPLE: Architect Eric Mendelsohn dies; James Marshall given AGC executive post; Cal Snyder quits NAREB job

Eric Mendelsohn, 66, died in Mt. Zion Hospital at San Francisco on Sept. 15 after a brief illness. He was the first to go among that brilliant group of half a dozen internationally famed architects who started the 20th Century on its modern architecture.

A quick, gay, witty man, short of build, Mendelsohn was ever ready to joke about his "blindness." (One eye lost in youth was replaced by glass, but rumor to the contrary, he could see very well with his other.) Mendelsohn was a tough defendant of the architect's prerogatives and consequently sometimes aggravated building committees. His toughness was vital—he was a survivor of catastrophic times.

He saw action with the German Army in World War I on both the western and the Russian fronts; had to flee Hitler's racial persecutions in Germany in 1933; he became a wanderer of the 20th Century, settling first in England, later in Palestine; he came in 1941 to the US, becoming a US citizen in 1947, far from the East Prussian village where he was born.

At his death, Mendelsohn was upon the threshold of renewed recognition. The dynamic building forms, often freely curved and organic, which he had started drawing in the trenches in 1914, were proving to be precursors for a new era now made possible by later developments in building techniques, especially in reinforced concrete. In short, Mendelsohn skipped the trend of the past two decades when advanced architecture dealt with skeleton frames, with rigid forms ever more rational, regular, more refined in detail.

As a youth he gave his admiration to a Belgian master, Henry van de Velde, to the Paris 1889 Gallery of Machines, to Hamburg's 1906 railroad station, to American grain elevators, all of which he admired for their fluid outline. To him they expressed a new ideal he called "elastic continuity," not possible before this century; he admired also the emotionalism of van de Velde as contrasted with the cool rationality of Gropius. A few days before his death he remarked that the "circle of his life" began with the sculpturally molded and dynamic Einstein Tower at Potsdam (1921) and closed again with the dynamic circular building he projected for the electronics lab of the University of California.

His best-known buildings in between included pace-setting cinemas, department stores and factories throughout Germany and central Europe; the Hadassah-Rothschild University Hospital in Jerusalem, the residence of the late Dr. Chaim Weizmann, first president of Israel; in the US his ill-fated Maimonides Hospital (AF, Feb. '51) and an imposing sequence of synagogues. Of these St. Louis and Cleveland were completed; Baltimore, St. Paul, Grand Rapids, and Dallas on the way (AF, Apr. '53).

At Mendelsohn's request the eulogy at his funeral was delivered by William Wilson Wurster, dean of the University of California school of architecture. Said Wurster: "In a day when narrow proprietary

Huge hotel, office and shopping center planned in Washington

Financing was still elusive, but a Washington syndicate announced it expected to start construction early next year on a $70 to $80 million contemporary hotel, office, shopping center and garage development on an 11.5 acre tract overlooking the Potomac River near the Lincoln Memorial. Plans by Architects Harrison & Abramowitz call for a 1,003 room hotel, 225,000 to 300,000 sq. ft. of offices (hotel and one office building estimated to cost about $30 million together shown above). George Preston Marshall, laundryman and owner of the Washington Redskins obtained an option on the site (price $3.8 million) and organized the syndicate, which also includes John W. Harris Associates of New York, who erected the Washington Statler, and former Statler chairman John L. Hennessy.
The new Prudential Building will soon rise 600 feet above the shore of Lake Michigan, and become a distinguished addition to Chicago’s skyline. This mid-America headquarters of the Prudential Insurance Company will contain more space than any other office building in America’s second largest city.

As a building, it will take its place among our country’s finest structures and is a perfect example of the features a well-informed investor is willing to put into the space he plans to use and rent. For instance, to prevent future obsolescence and to meet the increasing requirements of modern electronic office equipment, architects Naess & Murphy have prepared the new Prudential Building to handle the highest electrical load of any office building yet built. To do this job easily, and to permit layout changes and additions at minimum cost, Robertson Q-Floor construction is being used. This strong, light-weight, steel, cellular structural floor is the only construction material available which provides easy electrical access over every 6-inch area of the entire exposed floor. For more good reasons why fine new buildings all over America have turned to Robertson Q-Floor construction, see the opposite page.

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dogmas threaten to stifle and dehumanize the modern movement in architecture, even before it has come to its maturity, Mendelsohn stood for freedom, imagination and creative individual leadership.”

Calvin K. Snyder, since 1946 the chief Washington lobbyist for the nation’s 50,000 organized realtors, quit last month to become, on Sept. 15, secretary of the Chamber of Commerce in Denver. In his seven years as secretary of the Realtors’ Washington Committee, Cal Snyder had waged his principal battles against rent control (now moribund) and public housing (now on the ropes). His best method: building fires in local communities to influence Congressmen through their constituents. Snyder worked quietly. He shunned table pounding, bombastic press releases.

It was not because his long political battles seemed ending that Snyder left NAREB’s legislative arm. It was, said men in a position to know, because he felt unsure he was in line to replace NAREB Executive Vice President Herbert U. Nelson, 66, who is supposed to retire when a successor is found. Pennsylvania-born Snyder, now 44, spent 12 years as an Elmira, N. Y., newsmen, rising from reporter to wire editor to ad manager.

The Associated General Contractors of America shuffled some top titles at its Washington headquarters last month. The objective: to ease the work load of Managing Director H. E. (Doc) Foreman, 56, who has a heart ailment. Assistant Managing Director James D. Marshall, 65, was boosted to executive director. AGC said Marshall would carry the main administrative load while Foreman devotes more time to “policy.” William E. Dunn was named labor relations manager and will take over most of this work formerly handled by Marshall, although Marshall will still supervise labor policy and represent AGC on construction labor committees. Edward T. Kelly was named labor service advisor, James M. Sprause manager of the heavy construction-railroad division.

Marshall was manager of the Minnesota AGC chapter from 1925 to 1934, when he joined the national staff. As a construction labor specialist he was a founder of the
National Joint Board for the Settlement of Jurisdictional Disputes. During World War II, he was an employer member of the construction industry Wage Adjustment Board. During the Korean war, he was a member of the Construction Industry Stabilization Commission.

How much could construction offset a recession, if one comes? One of the first acts of Dr. Arthur F. Burns, Eisenhower’s top economic adviser, was to call in two experts to give him some answers and to blueprint machinery for the government to step up construction if there is a business downturn. They were Robinson Newcomb, who has been a federal construction economist since the Hoover regime, and Prof. R. J. Saulnier of Columbia University, a specialist in housing and finance. Their report was being kept under wraps. But indications were that they could foresee ways to step up federal public works and military public works by about $1 billion each in a year’s time. The big shortage discovered was of plans. Congress has authorized about $16 billion of federal construction for future years, but only $2.6 billion of it is blueprinted, with another $4.4 billion on drawing boards. Some authorities estimate another $3.6 billion of state and local projects are planned and ready—for a total of $10.6 billion. The need for public works has been estimated as high as $100 billion. By getting more of it planned now, Ikemen hoped to avoid the experience of early New Deal days when plans were so lacking it took Harold Ickes 18 months to get 100,000 men to work on building.

Sometimes architectural and city planning services can interfere with each other in the same organization. At least, so thought New York’s famed Harrison, Ballard & Allen. This month, still friendly as ever, they were splitting into two firms. Under Frederick Allen’s sole ownership Harrison, Ballard & Allen, Inc. will offer only city planning services. Heading a new company under his own name, William F. R. Ballard will handle architectural work exclusively. (Allan S. Harrison retired from the original organization two years ago, shortly after it completed its comprehensive but still unadopted plan for rezoning New York City, AF, Sept. ’50.)

Last year, arrangements for a group of AIA architects to inspect architectural and reconstruction progress in Germany as guests of the West German government went awry in a politico-protocol snafu. Instead, the group, led by German-speaking Arthur Fehr of Austin, Tex. made a four-week flying trip last month. Others in the

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OTTINGER ANTOVILLE

plywood producer (gross 1952 sales: $116 million), announced he was relinquishing the post of president while remaining chairman and chief executive officer. His successor as president: S. W. “Tony” Antoville, 52, who took a summer job with the infant (seven-man) company in 1921 as a peddler at $20 a week. Antoville observed the temporary worker’s ambition and enthusiasm, at the end of the summer talked him out of returning to law school. Antoville became sales vice president in 1943. Originally US Plywood was only a sales organization. In the 30s, it began manufacturing. Next major plan: invading the wholesale lumber field because its constant mill expansions are producing an increasing volume of excess lumber that cannot be used for plywood.

CONGRATULATIONS: To bridge Engineer Othmar H. Ammann, former TVA Chairman Dr. Arthur E. Morgan, former Reclamation Commissioner John C. Page and Charles M. Spofford, Hayward Professor emeritus, MIT civil engineering department, elected to honorary membership, highest award of the American Society of Civil Engineers; George Vernon Russell,
recipient of the AIA Award of Merit for designing the Republic Supply Co. division headquarters at San Leandro, Calif. (AF, Aug. '53), appointed advanced design critic at the University of Southern California school of architecture; Editorial Director Raymond P. Sloan, elected president of The Modern Hospital Publishing Co. succeeding the late Dr. Otho F. Ball.

NAMED: Arthur G. Rystrom, formerly with the Claude K. Boettcher organization in Denver, as senior vice president of Webb & Knapp, Inc. to head a western headquarters in Denver; President James M. Kennedy as board chairman and chief executive officer of Revere Copper & Brass, succeeding James J. Russell, who died Aug. 1, and Charles A. Macfie as president; Henry M. Reed, recently resigned vice president of American Radiator & Standard Sanitary Corp. as president of General Plywood Corp. succeeding Carl Robbins, resigned.

Frederick Chase resigned as executive secretary of the California Council of Architects effective Dec. 1, will start a public relations firm. Architect Bourn Hayne of San Francisco volunteered to fill the role for one year, but action on a successor and possibility of maintaining both a Los Angeles and San Francisco office was put over to the AIA state convention next month.

Personalities going and coming on the Washington scene:
Labor Secretary Martin P. Durkin resigned, will resume the presidency of the AFL Plumbing and Pipe Fitting international (page 41). Anticipating abolition of the Armed Forces Housing Agency despite a Rockefeller committee recommendation to keep it, Homebuilder Thomas P. Coogan, who ran it without compensation since it was established in Jan. '52, resigned (as forecast in Forum last month). ODM appointed former Rent Stabilizer Glenwood J. Sherrard as an assistant director to plan price, wage and rent controls for any new emergency and appointed Joseph Keenan, secretary of the AFL Building Trades Council, as an assistant to the director on labor matters.

DIED: Raymond John Daum, 64, former AGC treasurer and member of the Los Angeles Board of Building and Safety (1939-43) for which he was chairman of a committee that rewrote the city's building code, Aug. 6 in Los Angeles; Paul E. Jeffers, 64, president of the California Board of Registration for Civil and Professional Engineers, engineer for construction of Los Angeles' Biltmore Hotel, Aug. 7 in Los An-

![Kinnear Steel Rolling Doors](https://example.com/kinnear Doors)

You can see some of the many advantages Kinnear Rolling Doors bring to all types of service opening in this warehouse installation.

Coiling compactly above the lintel, Kinnear Rolling Doors never get in the way of the overhead conveyor. And since they need no wall space for either storage or operation, posts, walls, windows or other doors can be placed flush with the door jambs on both sides of the opening.

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Livonia fire alters thinking on plant protective design

The 940 million holocaust last month that wrecked General Motors' Livonia, Mich., Hydra-Matic transmission plant also upset many a comfortable concept about fire protection. The Livonia plant suffered the worst single-plant fire disaster in history. It was about as well protected as 90% of US factories. Despite steel frame construction and a sprinkler system (which covered only 15% of the plant), Livonia's tar and pitch roof collapsed after flames ignited by a welder's torch spread up through the plant.

Livonia's plant had only $28 million coverage because insurance men thought it could not suffer such a catastrophe. This month, the stunned experts had about decided where their miscalculation lay: they had not reckoned with the hazard of the tar and pitch roof, weighing 2,000 tons, over the 18-gage steel deck. When heat melted the tar, the deck sagged and total collapse followed. To make both new and existing factories safer, the Factory Insurance Association and construction engineers were drawing recommendations for changes requiring more sprinklers, curtain boards, better ventilation.

The Chicago Tribune also speculated: "If it is at all possible there will be an end to 1,200' of unbroken factory areas without fire doors."
PUBLIC HOUSING continued

Yet to assume automatically that the commission will urge public housing be ended oversimplified the problem it faces. Most commission members would probably agree that public housing 1) costs more than the US can afford to pay for as many units as are said to be needed, and 2) therefore creates a privileged class of citizens who, owing their shelter to politicians in power, are becoming kept voters. But would a Republican policy group be able to agree on an alternative program? If not, would it seem too risky politically to recommend an end to rent-subsidized apartments? On the other hand, if public housing threatens the basic health of private housing, as many industry leaders believe, could the policy group dare not urge it be halted? The question invited Gordian solutions.

Race riot in Chicago. Across the country, public housing encountered multiplying troubles. The worst of them was in Chicago.

In July, Negro Mailman Donald Howard, 25-year-old ex-GI moved with his family into all-white Trumbull Park, a 462-unit public housing project near the steel mills in South Chicago. On Aug. 10 the legal explosion that police feared. They drove down on Trumbull Park to find an ugly crew of 3,000. Teen-agers were breaking the windshields of Negro-owned autos; someone threw a brick through the window of a tavern which had served Negroes; anonymous voices were threatening to the Howards out of their home.

Ever since a race riot ran wild in suburban Cicero in July 1951, Chicago's police had been drilled for such an outbreak. Using their billies like bayonets, the cops poked a rough path through the mob, arrested 30 of the leading troublemakers, threw a cordon around the area, closed the taverns and put a 24-hour-a-day guard on the Howards. The Housing Authority also responded to the problem. It ordered Negroes admitted to the city's four remaining all-white projects. One result: on Aug. 27, a series of incendiary fires broke out near Trumbull Park and a crowd stove police who tried to restore order. To Chicago cops, it was all in a day's work. Since Jan. 1, they had quelled six other major race disturbances without anyone suffering serious injuries. Last month, they were maintaining round-the-clock details at the homes of 25 Negroes who had recently moved into former white neighborhoods.

In New York, public housing ran into signs of money trouble. The day after PHA announced another $125.2 million tax-free housing bonds would be offered Sept. 22, one of the two syndicates that have been buying them announced it was no longer interested. The group, known as the “bank dealer” syndicate and headed by Manhattan’s Chemical Bank & Trust Co., charged there had been “all too frequent” offerings of housing bonds in a tax-exempt market that promised to be cluttered with a huge supply of other issues before year’s end. Both the bank group and the “dealer” syndicate (which said it will remain in the market for tax-free housing bonds) have been under increasingly sharp criticism by private enterprises for buying them. NAREB renewed this attack last month with testimony that tax-free bonds yielding 3% would net a person in the $30,000 to $60,000 individual income bracket as much as a tax-paying bond at 13.04%.
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EVENTS

AIA regional meetings: Gulf States at Biloxi, Miss., Sept. 17-19; Great Lakes States at Detroit, Sept. 18-19; Pennsylvania Society at Lancaster, Pa., Sept. 18-19; New York State at Lake Placid, N. Y., Oct. 8-10; Northwest States at Sun Valley, Idaho, Oct. 9-11; Ohio Society at Youngstown, Ohio, Oct. 14-16; California Council at Coronado, Calif., Oct. 11-13; Central States at Des Moines, Iowa, Oct. 13-17; Middle Atlantic States at Washington, D. C., Oct. 21-23; Texas Society at Austin, Tex., Nov. 4-6; Florida Association at St. Petersburg, Fla., Nov. 19-21.

Third International Congress of Architects at Lisbon, Portugal, Sept. 20-28. All architects invited. For information and program, address: Secretario do Congresso, Rua de S. Bernardo 11, Lisbon, Portugal.

Midwest Conference of Building Officials & Inspectors at the Hotel Lowry, St. Paul, Minn., Sept. 21-23.

Good Design 1953, selections from the Chicago exhibition, Sept. 23—Nov. 29 at the Museum of Modern Art, New York, N. Y.

National Electrical Industries Show at the 69th Regiment Armory, 26th St. and Lexington Ave., New York, N. Y., Sept. 29—Oct. 2. Adequate wiring will be the theme.

American Association of Mechanical Engineers' fall meeting Oct. 5-7 Hotel Sheraton, Rochester, N. Y.


Society of Industrial Designers' annual design conference Oct. 16-18, Bedford Springs, Pa.

Pacific Coast Building Officials Conference's annual meeting Oct. 20-22 at the Huntington Hotel, Pasadena.

National Savings & Loan League's fall conference Nov. 8-11, Casablanca Hotel, Miami Beach.

National Association of Real Estate Boards' annual convention Nov. 8-14, Statler and Biltmore Hotels, Los Angeles.

International Churchman's Exposition at the Chicago Coliseum Oct. 6-9.

Refrigeration and air conditioning's eighth all-industry exposition at the Public Auditorium, Cleveland, Nov. 9-12. Hotel reservations may be made through Housing Bureau, Cleveland Convention Bureau, Terminal Tower, Cleveland.

Building Research Advisory Board's conference on uses of porous-cement as a large-scale structural material Nov. 12-13 at the National Academy of Sciences, Washington, D. C.

Mortgage Bankers Association of America's annual convention Nov. 13-15, at Miami Beach.

The American Institute of Steel Construction's thirty-first annual convention Nov. 30—Dec. 4 at the Boca Raton Hotel and Club, Boca Raton, Fla.
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- color flecks are "through-the-film"—will not wear off
- finished job has textured surface
- decorator colors styled by Beatrice West—twelve color-flecked, twelve solid
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- stands abuse—resists wear, abrasion, chipping and cracking
- can be touched up without showing

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This drawing shows the details of a base flashing and scupper lining secured to the roof deck. A 16-oz. copper coping, joined to the 20-oz. base flashing with a loose clinch lock, protects the vertical mortar joints of the masonry. Free-sliding, weathertight expansion joints should be installed on the copper coping at 24-ft. intervals and wherever expansion is provided for in the structure.

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LETTERS

CURRENTS OF MODERN ARCHITECTURE

Sirs:

Great Day in the Morning! The FORUM prints two clearly thought-out pieces by two live men, and both in the same issue (AF, July '53). Congratulations!

Churchill's talk is a breath of fresh air and Saarinen's article a pleasure altogether. Sensible discussion of design theory is too rare entirely, and Saarinen's formulation sets it up nicely—wrong in several particulars, I believe, but so right in its main argument. How stimulating this is after the windy discourses of Mumford (see his talk to the AIA students, reported in The Journal of the AIA for July 9).

Does this signal a change in editorial policy? Is the FORUM to become that near-contradiction in terms, architecturally literate? I hope so.

JOHN RANDELL, architect
New York

Sirs:

Mr. Eero Saarinen's good article on "currents of modern architecture" in July FORUM, with its optimism for the future of creativity, is a source of great comfort to one as new to the business as am I. But please, Mr. Saarinen, such language! Plucking (unfairly and out of context to be sure) a phrase or a word here and there, I have sketched out the impression such language might make on the uninformed layman concerning the peers of today's architecture.

JOHN MACFADYEN
American Academy, Rome

*Three of Reader MacFadyen's sketches appear below and on p. 68.—Ed.
A social room in a bank? Yes—it's one example of how banks are becoming more and more a part of the communities they serve. This combination branch office and civic center—complete with parking facilities and air conditioning—is located five minutes from the heart of Syracuse, N.Y. It's the new Community Branch of the Onondaga County Savings Bank. The 30' x 90' main floor is designed for banking and business. The fully furnished basement room, with its own parking lot entrance, adjoining kitchen and dressing rooms, is dedicated to the activities of local church, club and civic groups. A Carrier Weathermaker Air Conditioning System helps keep both upstairs and downstairs busy and inviting. The Carrier Weathermaker provides year-round comfort. Its heating coils use steam supplied by a gas-fired boiler. The new branch enjoys the best community relations in the bank's history and officials credit this to the community center—parking lot—air conditioning combination. Whether you are designing a bank, a suburban store, a restaurant or a controlled-climate home, you will find in the full line of Carrier Weathermakers one that fits the bill exactly. Carrier people founded the air conditioning industry more than 50 years ago. All this experience is yours to command. Look for Carrier in the Classified Telephone Directory. Or write Carrier Corporation, Syracuse, New York.

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**ARCHITECTURAL FORUM • SEPTEMBER 1953**
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[Signature]
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Address __________________________
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Sirs:

Coming from a noble soul and conscience of our time, these words of Romain Rolland in his *Essays on Music* might like Isaiah reach the remnant few:

"A narrow and self-regarding sense of nationalism has never brought an art to supremacy. Quite the contrary, it would very soon result in its dying of consumption. If an art is to be strong and vital it must not seek shelter in a hothouse, like those wretched trees which are grown in tubs; it must grow in a free soil and extend its roots unhindered wherever they can drink in life. The soul must absorb all the substance of the world. It will nevertheless retain its racial characteristics; but its race will not waste away and become exhausted as it would if it fed only on itself; a new life is transfused into it, and by the addition of the alien elements which it has assimilated it will give this new life a power of universal irradiation. Urbis, orbis. The other races recognize themselves in it, and not only do they bow to its victory, they love it and enter into fellowship with it. This victory becomes the greatest victory to which an art or a nation can lay claim; a victory of humanity.

"Of such victories, which are always rare, one of the noblest examples is, in music, the classic German art of the close of the Eighteenth Century. This art has become the property, the food of all...The reason Gluck and Mozart are so dear to us is that they belong to us. Germany, France and Italy have all contributed to create their spirit and their race."

A. S. T.
Chicago

Sirs:

Congratulations on your institution of discussions from "the broader view," ably begun by Eero Saarinen. The American architectural press has too long lacked what we have enjoyed in European publications—dispassionate criticism of the thinking behind the architecture of today.

ALEXANDER S. COCHRAN, architect
Baltimore, Md.

continued on p. 74
64,000 HOURS A DAY of All-Weather Comfort with JOHNSON Automatic CONTROL

Gateway Center, crown jewel of Pittsburgh’s fabulous Golden Triangle, is acclaimed everywhere as a triumph of advanced design, engineering skill and farsighted enterprise. In its creation, perfection was the only standard.

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Johnson “Heating-Cooling” Thermostats and Johnson Valves are installed in room air conditioning units throughout Gateway Center. The thermostat, with temperature bulb mounted close behind the recirculating grille, responds quickly to average room temperature. In turn, the Johnson valve regulates the hot and cold water supply to the coil of the unit and automatically applies exactly the right heating or cooling effect.

At left above, J. S. McCorkie, chief engineer of Gateway Center, points to Johnson Humidistat and Johnson Planter Dampen Operators on this typical fan installation serving an interior zone of one building. A Johnson Humidistat measures and automatically controls the humidity of the spaces.

At right above is one of three 1,500 ton Carrier centrifugal refrigerating machines that furnish chilled water for air conditioning. A Johnson Record-O-Stat (2-pen type) measures and records temperatures of both inlet water and water leaving the chiller. The temperature of the water leaving the chiller is automatically controlled by the Record-O-Stat, which operates the suction dampers of the huge machine.
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Your copy of Circular 115 giving details on Walseal valves and fittings will be sent on request... send for it or see your nearby Walworth distributor.
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Air Conditioning Systems

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The illustration shows a typical hospital room installation of an Anemostat high velocity unit in the HPSL-100 series. These induction-type units induce into the device a volume of room air up to 100% of the primary air supply according to requirements. They are made for single or dual duct systems, have manual or automatic controls, and may be installed in walls or ceilings.

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CRITICISM VS. STATESMANSHIP

Sirs:
Forum's May editorial on this subject seemed admirable in tone and temper and philosophy, and I congratulate you on it.

LEWIS MUMFORD
Paris, France

-This is the last letter Forum will print on the subject of its May editorial.—Ed.

ARCHITECT CLIENT FORUM

Sirs:
We congratulate you on your Architect-Client Forum and your article "The Need for Better Planning and How to Get It" (AF, June '53).
This forum is a definite step in the right direction. I only hope that the story will be seriously studied by architects and building owners alike.
We consulting engineers are constantly confronted with the lack of proper planning and often with the fact that architectural plans have been developed to a stage where the mechanical and electrical installations must become a compromise rather than a part of a well-integrated program.

The greatest interests of the owner are served when more thorough advance planning can be done. We agree that both the time and money spent for this will materially accrue to the owner's benefit.

CARY B. GAMBLE, consulting engineer New Orleans

Sirs:
The best symposium I have ever read and the most useful in knowledge. Every person who is going to build any reasonable-sized building should read it before he does anything else. I am going to make a copy of this and keep it to show all my future clients, for the copy I have now will soon wear out with rereading.

RONALD ELLIS
Toronto, Ontario

Sirs:
Congratulations on the excellent "Architect-Client Forum" you sponsored in collaboration with the AIA Public Relations Committee (AF, June '53). This was truly a most representative group both from the architectural profession and the clients.
Although the discussion was reported in a most clear, concise and effective manner, no proper remedy was prescribed for the same old ailment: that the architect is to blame for faulty estimates. Instead of the architect being overoptimistic, he merely passes on to his client the overoptimism of the contractors and material dealers. In preparing an estimate the architect may price lumber from the mill man, carpentry labor from the

continued on p. 20

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THE MAGAZINE OF BUILDING
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ARCHITECTURAL FORUM • SEPTEMBER 1953
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Cyril T. Tucker, architect
Rochester, N. Y.

JUNK THE NEIGHBORHOOD SCHOOL

Sirs:

"Junk the Neighborhood School" (AF, Apr. '53) is a most interesting account of a daring project which may have a far-reaching influence on school building programs in large cities throughout the US.

You and your associates merit praise for making available to your readers the story of this architectural venture of New Orleans.

I want you to know how grateful I am.

H. G. Hunt
General superintendent of schools
Board of Education
Chicago, Ill.

Sirs: It is a very interesting approach to a very involved problem. There may be other situations in the US which would justify similar measures. However, the situation and the solution are not typical.

Ray L. Hamon, chief
School housing section
Office of Education
Department of Health, Education and Welfare
Washington, D. C.

Sirs: I was very interested in the suggestion, unique to say the least, in the article, "Junk the Neighborhood School."

It may be that the basic proposals in this article are sound and that they could be applied to the school district of New Orleans. But I doubt that they could be applied to many of our larger cities. Anyhow, the idea is worth considering, and I am grateful to Forum for presenting the suggestion to us.

Alexander J. Stoddard
Superintendent of schools
Los Angeles, Calif.

continued on p. 92
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After the stored grease is drawn off, the valve is turned to "on" position and the interceptor is back in operation for grease interception.

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This exhibition of native architecture was first officially requested by Italy and consequently splendidly shown at the Strozzi Palace, Florence, in June 1951. The generosity of Arthur Kaufmann enabled Oskar Stonorov to volunteer to get the material together and arrange a preview in Philadelphia in January 1951. It was there displayed much as it was later seen, as a guest at first in Italy, then Switzerland, France, Germany, Holland and Mexico—exhibitions also supervised by Oskar Stonorov. Each of the events was received in the various countries by official dignitaries and accorded high academic honors by citations and gold medals. There were illustrious celebrations, receptions, banquets-in-honor. Special numbers of five architectural magazines were published in these various nations. Wherever the exhibition went there were national sponsors, patrons and important social occasions.

But here at home the case is different. This exhibition is not a guest but is host. There have been generous offers of sponsorship, but as its own patron and sponsor this work should beckon and welcome you. Art in a Democracy ought to be its own patron; no sponsor should be necessary if our Declaration of Independence means what it says.

As the citizen rises to eminence from humble circumstances by his own merit, so the artist must arise in his own good time.

Therefore here in your own country you are to see a life’s work, in its own way, for what it may be worth to you. If there are patrons they are you. If there are sponsors they are friends who have helped make this exhibition possible. If we as free people are ever to arrive at a culture of our own, we should not get one nor try to maintain it by illustrious sponsors or powerful patrons but by friends genuinely interested in developing and preserving the innate virtues of that work.

If our form of society is true to its own nature, conscientious independence should prove a proper test of values. By that test alone should any work in the arts survive. Fine art lives and must eventually stand upon its own. The highest humility. Why not now?

So, my friends known or unknown, “Sixty Years of Living Architecture” welcomes you.

FRANK LLOYD WRIGHT

AN EXHIBITION PRESENTED BY THE SOLOMON R. GUGGENHEIM MUSEUM AT FIFTH AVE. AND 89TH STREET, NEW YORK CITY, FROM SEPTEMBER 29TH THROUGH OCTOBER, 1953
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RUSCO Sets The Modern Pattern In Fenestration

Complete, Pre-Assembled Units — Fitted, Glazed and Finish-Painted — Make Big Savings in Installation Time and Cost...

Here is the window the whole building industry is talking about—the first truly complete window treatment. Proved through thousands of installations in the United States, Canada and Alaska, the Rusco Prime Window offers many unusual advantages. Made of tubular galvanized steel, bonderized and finished with baked-on outdoor enamel it is strong and rigid, yet streamlined and light in weight. Because it is fully pre-assembled, glazed and finish-painted—all ready to install in the window opening—it makes substantial savings in installation time and labor and in maintenance. Removable sash offers many conveniences and saves breakage during construction.

Rusco Offers You Important Features Not Found in Any Other Window!

- **GLASS**...
- **SCREEN**...
- **WATERPROOFED FELT MATERIAL**...
- **INSULATING SASH**...
- **FULLY ASSEMBLED IN METAL OR WOOD SURROUND**...

- Sliding glass and screen panels removable from the inside. A great convenience during construction—also simplifies window cleaning.
- Use of insulating sash aids in efficient air conditioning—permits no-draft ventilation where desired.
- All Rusco Windows have movable panels to allow ventilation.
- Joined in series by mullions, Rusco Prime Windows make full "glass wall" construction simple, inexpensive.
- Rusco Windows have no troublesome sash cords, weights or balances—raise and lower smoothly in felt-lined slides.

**ALL COMPLETE, READY-TO-INSTALL UNITS**

**HORIZONTAL SLIDE**

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ARCHITECTURAL FORUM • SEPTEMBER 1953
Slow Down, Sister—
Another Elevator's Ready

In heavy-traffic buildings Westinghouse Selectomatic with Automatic Traffic Pattern Control is continuously alert to every passenger's whim. During the morning rush—at noon—at five—24 hours a day—this new, completely automatic control adjusts and readjusts itself as the traffic dictates.

It outdates predetermined clock or starter dial settings required in all previous supervisory systems. Automatic Traffic Pattern follows any changing traffic demand far more efficiently . . . turns starters into building good-will ambassadors . . . keeps traffic moving.

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PASSENGER AND FREIGHT ELEVATORS • ELECTRIC STAIRWAYS

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Tops in Toplighting

Skydomes are tops for schools because they allow greater freedom of design. They make it possible to have lower ceilings and simple frame construction, resulting in balanced, glare-free daylighting at lower cubage costs. Skydomes bring more daylight into the far corners of rooms and corridors... at a lower cost per square foot... than any other toplighting! To darken rooms for visual education, specify prefabricated Wascolite Skyshades.

Skydomes... acrylic plastic domes that literally float in extruded aluminum, flash-welded frames... are the product of years of Wasco engineering research. Their patented construction makes full allowance for expansion and contraction, and complete condensation control. They are economical, too, because they are easy to install, reduce illumination costs and are maintenance-free.

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Available now—a Wascolite Daylight Engineering Study for your project. Just send blueprint and lighting requirements—we will submit complete light distribution and illumination data. No obligation. For additional information, see Sweet’s Catalog, or write Wasco Flashing Company, 89 Fawcett St., Cambridge 38, Mass.

NEW ORLEANS’ “NEW” IDEA

Sirs:
I call your attention to an article which appeared over 45 years ago in your famed predecessor, The Brickbuilder [see below.—Ed.]. It is particularly interesting with relation to the school city idea recently proposed for New Orleans (AF, Apr. ’53).

PHILIP WILL JR., architect
Perkins & Will
Chicago, Ill.

From The Brickbuilder (Aug. ’07)
Schools in City Parks

"President Charles W. Eliot... has advocated a scheme, first proposed, we understand, by J. B. Coolidge Jr., the Boston architect, to relieve the congested downtown school districts and give the children better accommodation in more helpful surroundings. The idea is that the city should utilize the outlying parks as sites for school buildings to which the children from the slum districts could be brought by the elevated trains in the morning, and returned at the close of the sessions, the city supervising them in transit, and providing them with lunch and suitable opportunities for recreation.

"The problem of providing school facilities in the congested tenement house districts is a serious one both on account of the high cost of the land and the difficulty of obtaining adequate and satisfactory sanitary surroundings... It is argued, however, with a good deal of truth, that Mr. Coolidge’s scheme is far better. The land would cost the city nothing, the buildings would not constitute serious encroachment upon the larger parks, and the saving in first cost would more than offset the added expense of carfares, supervision and lunches, while the benefit to the children themselves from being out in the fresh air away from the slums of the city would, from a physical standpoint, be highly desirable. At the time the children would be using the cars for transit, the bulk of the travel would be in the opposite direction, and they could consequently be easily accommodated by the roads. This is a project which deserves very careful consideration. . . ."

WORLD FORUM

Sirs:
I enjoy your magazine and find it full of news and ideas of the building business... As your magazine is widely read all over the world, it seems that it does not belong to the US only, but to the world. I would like examples of modern buildings from the old world and from the other countries to appear now and then in the magazine. This would help bring the different architectural minds closer and give a broader view of things carried out all over the world.

MRS. CELELE BUTKA
Istanbul, Turkey
continued on p. 96
REVOLUTION IN THE SKYLINE
WITH Sealuxe
METAL-GLASS FACADES

MILE HIGH CENTER
Denver, Colorado

WEBB & KNAPP, INC.
Architects
New York City, N. Y.

UNIVERSAL, Home of "Miracles in Metals" and Sealuxe Engineered Products, is proud to have a part in creating this new, ultra-modern center in Denver. Universal's cast aluminum spandrels, porcelain enamel fascias and aluminum windows combine beauty with function in this Mile High Center—a structure designed for the future for use TODAY! This is continued proof that SEALUXE Metal-Glass Facades are creating a Revolution on the Skyline!

UNIVERSAL can help solve your design and engineering problems. Authorized agents are in ALL of the Architectural Centers to assist you.

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J. P. TRAVIS, President, Creator of "Miracles in Metals"
Now! Stop classroom

The exclusive new TRANE

Available with... or without shelving

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING AND VENTILATING
drafts before they start!

New! Exclusive Trane Unit Ventilator System creates **Kinetic Barrier** which (1) stops window downdrafts every minute room is occupied, (2) improves distribution of heated and ventilated air, and (3) operates quietly—virtually noise-free.

Not since the first unit ventilator has there been such a significant improvement in school comfort.

The new Trane Unit Ventilator System actually accomplishes what architects, engineers, contractors and school authorities have long agreed would be the ideal.

**How Trane System differs.** The use of warmed air for intermittent "blanketing" of windows during the heating cycle has been common practice for many years. However, this still leaves pupils exposed to downdrafts since cooling is required about 75% of the time due to high heat gains. The new Trane system differs in that it is effective at all times—during cooling as well as heating cycles. It operates every minute the room is occupied... even when the heat is off.

**HOW TRANE Kinetic Barrier SYSTEM WORKS**

Outdoor and room air is drawn into the Trane Unit Ventilator in desired proportions where it is blended, filtered and brought to the proper temperature. It is then forced upward from the central unit and from lateral extensions along the entire window wall.

Rising air creates **Kinetic Barrier** which blocks drafts at source, draws room air to ceiling. These air streams blend and circulate around room in a continuous draft-free cycle. Air fans out from central unit, assists air from extensions to penetrate every corner.

**Report describes new system in detail.** Just published. Contains results of an investigation of the Trane Kinetic Barrier System of unit ventilation operating in an actual "problem" classroom during the winter of 1952. If you are concerned with modern schoolroom heating and ventilation, this report is "must" reading. Call your Trane sales office for a copy today.

**Trane matched products fit every school need**... Conectors • Wall-Fin Heaters • Volume Ventilators • Projection Heaters • Horizontal Unit Heaters • Force-Flo Heaters • Climate Changers • Compressors • Air Conditioners • Water Chillers • Fans • Coils • Traps and Valves.
You Can Be Sure
GALLAHER CERTIFIED RATINGS
mean Peak Performance

NEW Belt Drive 4000
to 65,000 CFM
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HERE'S WHY

Gallaher ratings are the result of actual physical tests of the entire unit—not a fan wheel alone or other component, not interpolations of free air data, but a true picture of the unit as it operates under actual conditions.

Any other method of rating a power roof exhauster will be inaccurate. Gallaher research has shown conclusively that the errors may run as high as 50% when ratings are mere theoretical calculations.

Gallaher units with patented, built-in scroll effect are the only power roof exhausters which can develop high static pressures. With this feature, thousands of industrial applications are well within the range of economical power roof exhausters. They have been rated in an independent laboratory under the direction of a nationally recognized authority under the conditions prescribed by NAFM and ASH&VE.

Before you buy power roof exhausters we think you'll agree that these three questions should be answered to your satisfaction. 1. How were the tests conducted? 2. Did it include the whole unit and not a component? 3. What impartial authority conducted the tests? We think that you'll buy Gallaher Air-Vans.

For full information write Dept. A-7

The GALLAHER Company
4108 DODGE STREET	OMAHA, NEBRASKA

LETTERS continued

SCHOOL FURNITURE

Sirs:

Reading through an old issue of your excellent magazine (Oct. '52), I find this question: "Do not modern school programs demand furniture which is movable and stackable, so that either a large working surface can be formed for, say, painting, or most of the floor cleared for the construction of a model?"

Functional furniture, unlike functional building, is designed to accommodate the individual, rather than the group. If, as I believe, the comfort of the individual child, or his convenience, must be sacrificed to gain the flexibility of arrangement which would allow formation of large surfaces (by combining the individual small ones, I assume), the whole idea should be discarded.

Among the purposes of furniture, and especially school furniture (since about one-seventh of a person's life is spent in primary and secondary schools), are comfort, convenience, discipline, and beauty—all these as they relate to the individual, and not to the group. When any of these integral aspects of design is removed, an injustice is done to the person who should receive the full benefits made available by the presence of them all.

Rather than submit students to the harsh, uncompromising design of multipurpose furniture, we should give them a design for every purpose—a feat which, in the "democratic socialism" of public school administration, should be far from impossible, if funds are reserved for worthy furnishings upon commencement of a building project.

FRANK C. MOFFETT
Designer of custom furnishings
Yokohama, Japan

HOSPITAL CENTERS

Sirs:

It was stimulating and fascinating to read in your May issue of the concrete approaches being made to the problem of comprehensive medical care.

I was particularly fascinated to learn that Joseph Neufeld has been conducting hospital design classes at Yale for students of the School of Architecture and the Graduate School of Hospital Administration and Public Health.

When this procedure is followed by all schools of hospital administration and public health, great strides will be made in the actual operation of medical facilities, particularly hospitals. The sooner students are taught that all theories of operation and planning must be related to a physical environment, the greater will be the progress.

DOROTHY A. HEMANN, assistant director
American Federation of Medical Centers
Detroit, Mich.

continued on p. 98
"... the patient must have absolute quiet."

GLYNN-JOHNSON

devices for
HOSPITAL ROOM DOORS

- G-J 320
  Concealed Door Holder — Friction Control
  ... keeps the door stationary, always under control. Prevents idle swinging and slamming. Gentle hand pressure moves the door to desired positions.

- G-J 64
  For Metal Frames
  Pneumatic Rubber Door Silencers
  ... form pneumatic air pockets when compressed by closed door. This provides exceptional cushioning power to prevent both door noise and latch rattles.

- G-J 65
  For Wood Frames
  Pneumatic Rubber Door Silencers

- G-J 30
  Roller Latch
  ... eliminates the annoying click of latch bolts. As the door is closed, the rubber roller contacts the strike and becomes engaged in the strike plate depression — with complete silence.

- G-J KH-1
  Hospital Door Arm Pull
  ... helps nurses and attendants avoid waste motion and unnecessary noise by permitting them to open and close doors with their arms, when their hands are occupied with trays or other articles.

These and many other G-J door devices are today being used on every type of door in thousands of hospitals and institutions throughout the nation, where, in addition to providing complete, efficient, and economical service, they are answering the need for silent performance of duty, expressed by the doctor's caution, "Above all, the patient must have absolute quiet."

Glynn-Johnson Corporation

 Builders' Hardware Specialties for over 30 Years

4422 N. Ravenswood Ave. Chicago 40, Illinois

Refer to G-J Catalog for complete line of door holders, bumpers, and specialties... for all types of doors in public and commercial buildings.
The days of the old "blackboard" are numbered. And here are plenty of good reasons why the attractive green porcelain-on-steel Armorply Chalkboard is taking its place in schools, offices, hospitals, and terminal buildings... for visual aid work, personnel training, production control, scheduling, and so forth.

1. Takes chalk beautifully.
2. Never needs resurfacing—the color of Armorply Chalkboard is constant throughout, from face to base.
3. Resists abrasion, scratching, chipping, cracking or denting.
4. Cannot shatter or break under impact, stress, temperature changes or concussion.
5. Will not warp or buckle.
6. Can be permanently installed or used as a portable unit.
7. Is easily and quickly erased.
8. Can be silk-screened with diagrams, maps, etc.
9. Scientifically selected green color—perfect reflectance factor.
10. The porcelain-on-steel surface attracts magnets—outstanding for visual aid instruction.
11. Never needs repair or replacement.
12. Guaranteed for the life of the building in which it is installed.

SPECIFICATIONS
The porcelain-enamelled steel face of an Armorply Chalkboard panel is a three-coated special composition of ceramic porcelain, fired on 18 ga. enamelling steel at high heat, under special control. It is bonded to exterior grade Weldwood fir plywood with .015 aluminum backing sheet.

SIZES:
- Standard Stock Size Panels:
  - Widths 36", 42", 48"
  - Lengths 72", 84", 96", 108", 120"
- Non-Stock Standard Sizes:
  - Widths 36", 42", 48"
  - Lengths 36", 48", 60"

* Porcelain faces manufactured by The Bettinger Corp.
No detail of planning was overlooked in making this new Youth Study Center one of the finest of its kind. Reinforced concrete was selected for the building's framing and floors.

The design includes flat wide beams which span the full width of the building. This framing method permitted a considerable reduction in the total height of the building as compared with conventional deep beams.

Not only did reinforced concrete permit greater flexibility of design, but it also proved more economical. Moreover, materials were readily available from local sources.

Reinforced concrete buildings are durable, firesafe, rugged... and go up faster. On your next job, design for reinforced concrete.

REINFORCED CONCRETE PROVED LESS COSTLY

Youth Study Center, Philadelphia, Pa.
Architects: Carroll, Griswold & Van Alen
Structural Engineers: Severud-Elsad-Krueger
Contractor: McCloskey & Co.

REINFORCED CONCRETE

CONCRETE REINFORCING STEEL INSTITUTE

38 South Dearborn Street • Chicago 3, Illinois

YOU'LL SAVE WITH REINFORCED CONCRETE
THIS NEW BUILDING, housing the Los Angeles, California, division office of Lever Brothers Company, utilizes Solex heat-absorbing, glare-reducing glass for the greater comfort of its occupants. For Solex transmits about 75% of the total solar light, but absorbs at least 50% of the total solar heat. In this structure the reception room extends upward the full height of the building, with the side walls glazed with Solex. Among the other Pittsburgh products installed here are fourteen Herculite Doors, Polished Plate Glass, and Plate Glass Mirrors. Architects: Bechtel Corporation, Los Angeles, Calif.
How Pittsburgh Glass figures in present-day architecture

IN ALL KINDS of commercial structures, the use of Pittsburgh Plate Glass enhances the over-all attractiveness of the design. This automobile showroom in Brooklyn, New York, is an excellent example of the integration of large areas of glass to create an open-vision front of immediate appeal. Here, three big Twindow show windows are ingeniously contrived so that, at the touch of a switch, they descend into a slot in the floor. This permits the quick movement of cars from the showroom to the street. Vita Automatic Windows, Inc., Woodside, L.I., New York. Nathan R. Ginsburg, A.I.A., Architect, New York City.

SOLEX-TWINDOW units, as shown in this sectional view, consist of two panes of glass. The outer is green-tint Solex...the inner is clear Plate Glass. Between them is a sealed-in air space. A stainless steel frame protects the seal and glass edges, makes handling safe and easy. These units offer the dual advantages of Pittsburgh’s Twindow—“the window with built-in insulation”—and the heat-absorbing, glare-reducing properties of Solex—“the best glass under the sun”

Design it better with Pittsburgh Glass

Your Sweet’s Catalog File contains detailed information on all Pittsburgh Plate Glass Company products...Sections 7a, 13a, 15, 16b, 21.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED
Will the floors you specify today speak well of you for years to come?

This flooring will be a prestige builder for you twenty years from now. It will continue to confirm your good professional reputation.

For in twenty years this floor of Wright Rubber Tile will still be new-looking, lustrous, and beautiful. The unsurpassed durability of Wright Rubber Tile flooring has been proven again and again in residential, commercial, and industrial use. Many Wright floors laid thirty years ago show virtually no sign of wear to this day.

This is the miracle flooring you've been hearing about. Being non-porous, it repels dirt, requiring less maintenance than any other floor. Being highly resilient, it resists damage and absorbs sound. Being uniform in color and quality from top to bottom, Wright Rubber Tile can't "walk off" and so stays smooth and beautiful throughout its long life.

You can specify Wright Rubber Tile flooring with the assurance of lasting beauty. You can be sure, further, that no one will ever say of this floor, "The architect should have known better."

WRIGHT MANUFACTURING COMPANY
5205 POST OAK RD., HOUSTON 5, TEXAS

WRIGHT RUBBER TILE

FLOORS OF DISTINCTION

* WRIGHTEX—Soft Rubber Tile
* WRIGHTFLO—Hard Surface Rubber Tile
* WRIGHT-ON-TOP Compression Core Base
Excellence of color work in concrete materials begins with the whiteness of the cement used. This is true regardless of whether the color is to be achieved by exposed colored aggregates; or by the addition of pigments to the mix.

Use Trinity white for architectural concrete units; terrazzo; stucco, etc. It is the whitest white—gives better color effects. It is a true portland cement.

*Trinity White*

Meets all Federal & ASTM specifications

A Product of GENERAL PORTLAND CEMENT CO. • Chicago • Dallas • Chattanooga • Tampa • Los Angeles
Air Conditioning Installed

— No Space Wasted

And
Ohrbach's
Customers
Shop in
Comfort

Installation photo showing how PC Cabinets fitted into unused space.

Installation photo showing how PC Cabinets fitted into unused space.

Installation photo showing how PC Cabinets fitted into unused space.

Installation photo showing how PC Cabinets fitted into unused space.

T HIS installation of "Buffalo" PC Air Conditioning Cabinets in Ohrbach's famous Newark, N. J. store illustrates how adaptable these units are. These compact, flat, suspended units fit neatly between the ceiling and clothing display racks, thus taking up no floor space, yet providing full comfort facilities for Ohrbach's shoppers.

Besides the units shown here, “Buffalo” builds models to fit a variety of space requirements—among them, vertical VPC Cabinets—all equipment of proven quality. Whether you are concerned with new-building plans or remodeling, you'll find a "Buffalo" Cabinet to fit the job perfectly, and give complete satisfaction. Why not have us mail you Bulletin 3703B. It contains helpful engineering information on solving your comfort conditioning problem!

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FOR FANS

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PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

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VENTILATING
FORCED DRAFT

AIR CLEANING
COOLING

AIR TEMPERING
HEATING

INDUCED DRAFT
EXHAUSTING

PRESSURE BLOWING

LETTERS continued

VAN DER ROHE'S STEEL

Sirs:

I would like to express a point of view on Mies van der Rohe's use of structural steel sections on the exterior of buildings recently published in the FORUM.

I always like to stop and look at tools when I walk by a hardware store. As a designer I envy very much the authority of their forms. Like forms in nature, they have evolved anonymously through time to reach stable and sensitive equilibriums between the forces of material, function and economy. No one would criticize the proportion of a pair of machinists calipers—it would be like criticizing the proportions of a mountain or the colors of a sunset.

The same thing can be said about structural engineering and industrial construction. Form in these fields has a sort of psychological momentum, a strength which comes no doubt from the nature of the discipline that determines it, which is a science, social rather than personal. You can read a lot of books about architecture, but for sheer authority none of them can compare with the AISC Steel Handbook.

Starting then with my own feelings in front of the hardware store window, I have come to the conviction that an underlying motivation in the work of modern architects is this envy of the authority of engineering, accompanied by a natural desire to share in it. This urge, reinforcing the practical necessity of using present-day materials and techniques, results in a vigorous and convincing architecture in which forms of an engineering origin form a prominent part visually. Barthelme's West Columbia Elementary School (AF, Oct. '52) is an excellent example.

But Mies van der Rohe takes a shortcut. Seeking the same authority of form, he uses the engineering element directly, out of context—applied. It is the technique of primitive magic, whereby the warrior seeks to acquire the courage of his fallen enemy by swearing the enemy's blood on his body.

Magic doesn't work. It has been tried in architecture for many, many years, down to the jaded businessman who, seeking the vigor and simplicity of medieval life, adds hewn oak beams to his living-room ceiling, complete with handmade worm holes.

Rather than gain the strength and authority of the steel members which he so eagerly applies, such an architect will gain nothing but will slightly—very slightly—de- tract from the model which he imitates.

Ernest Wright, designer
Belmont, Mass.
In its new office building, Minnesota Mining and Manufacturing Company has found that walls of Structural Corrugated glass by Mississippi are good business. The gleaming, translucent partitions flood hallways and offices with borrowed light and create a modern, efficient and pleasant working atmosphere. Offices seem larger, too. And these Structural Corrugated glass panels are so easy to maintain...they clean easily...never need painting...never wear out. Glass always looks good.

For new construction or the modernization of existing facilities, consider the many applications of rolled, figured and wired glass by Mississippi. Available in a wide variety of patterns and surface finishes wherever quality glass is sold.

Send today for free catalog, "Figured Glass By Mississippi." Samples on request.

**There is no Substitute for GLASS!**

It is non-combustible...won't burn. It is rigid...doesn't sag or warp. It has a permanently hard, impermeable surface, not affected by time, abrasion or exposure to the elements. It won't corrode or stain. It resists chemicals — acids, solvents, etc. It is easily installed, maintained and cleaned by conventional methods.

**MISSISSIPPI Glass COMPANY**

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World's Largest Manufacturer of Rolled, Figured and Wired Glass

ARCHITECTURAL FORUM • SEPTEMBER 1953
How to provide an economical wiring system for shopping centers

You can cut wiring costs in shopping centers and other multi-unit buildings by using G-E cables and a high-voltage distribution system. The high-voltage system will cut power losses; and G-E cables, designed for each part of this system, will provide dependable service with minimum installation costs.

This, basically, is the system: First bring in the power from utility lines with G-E Super Coronol* cable. This cable can be run underground to a master unit substation in the basement. No conduit is needed, and unsightly overhead lines are eliminated.

From the master substation, you can supply power at high voltages to load center substations, or at utilization voltages to distribution panelboards—depending on the electrical load pattern. A G-E V-c interlocked armor cable system can prove to be most economical for this application. This armored cable is flexible and needs no conduit. It can be run easily around corners and over beams to save both engineering and installation time.

Other load patterns may call for high-voltage Super Coronol cable feeders. These can be buried directly in the ground, or installed in conduit or ducts.

To supply low-voltage power to the smaller shops and other light load areas, your answer will probably be G-E Versatol® Geoprene cable feeders in conduit or ducts.

Whatever the load pattern, a planned G-E cable system will help cut wiring costs and give your client a dependable and efficient power supply. G-E engineers will be glad to help you with the planning. For more information, write Section W100-94, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

*Registered Trade-mark, General Electric Company

You can put your confidence in—

GENERAL ELECTRIC
Here are six big questions around which centers most of today’s thinking about tomorrow’s office buildings:

1. **Windows.** Should they be bigger than ever (as at Lever House and UN) or do air conditioning and high-level artificial light so reduce the function of windows that they should be made not larger, but smaller (as at Alcoa)? Do tenants like the big glass areas or do they find the glare disturbing? Are tall windows worth the extra cost in air conditioning if tenants will pull the Venetian blinds halfway down anyway?

2. **Volume.** Do air conditioning and modern lighting upset the economics of construction in such a way that deep space is more profitable than ever? Yes, say most of the postwar builders. No, says Lever House. No, says Bob Dowling at Penn Center. No, says Alcoa. No, says Gateway Center. Deep space used to be cheap, but with air conditioning and high-lighting intensities it now costs almost as much as space near a window, so it is as poor a long-term investment as ever.

3. **Curtain wall.** How far can we get away from the heavy masonry with which the last generation of designers preserved the illusion of structure?


5. **Design integration.** How far should the new engineering features of today’s office building find expression in their exterior design?

6. **Ground floor.** Can stores still be expected to pay the ground rent? Or has such a surplus of stores been built that it is now unprofitable to create retail space in office buildings?

No final answer to any of these questions is yet possible, but on the pages that follow are some very suggestive ideas.

- The discussion of postwar office building facades (p. 118) traces a dozen solutions to the new design problems posed by the continuous window—beginning with the bold exaggeration of the dark and white candy stripes on Kahn & Jacobs’ Universal Pictures building in Manhattan, and ending—for the moment—with TAC’s proposed office town for Boston.
- The Zeckendorf-Pei project for Denver (p. 114) suggests a compromise on bulk, with one side of the floors providing shallow space for executive offices; the other side, deep space for clerical operations.
- There is argument for eliminating ground-floor store space in the Zeckendorf-Pei building—on the theory that only 10¢ more rent per foot of office space will offset lost ground-floor revenue and that stores would lower the tone of the building.
- An experiment in more advanced curtain-wall design is contributed by Harrison & Abramovitz in their Republic National Bank building for Dallas (p. 108), where wall thickness is reduced to 1 1/2”.
- There is the suggestion that opacity can be as dramatic as transparency in Lloyd and Morgan’s Melrose Building in Houston (p. 112) and the additional suggestion that colored tile can replace glass to give excitement to a building.
New thinking on curtain walls and window sizes

for new Dallas skyscraper and bank building by designers of UN Building

Designed by the same architects who produced the UN’s all-glass Secretariat and Alcoa’s aluminum headquarters, this new Houston skyscraper for the Republic National Bank differs from its predecessors in several notable respects:

- The curtain wall is the thinnest yet built: a $1\frac{1}{2}$" thick insulated aluminum panel without backup. (The UN’s glass-covered spandrel wall is 8” thick; the Alcoa wall, 13”.) The prefabricated panels are bolted in place over the spandrels with a 4” air space between the perimeter heating units and the panels. To give rigidity to this thin curtain, the architects specified 4" x 10" reinforced concrete stiffeners or mullions every 4'-5".

- The window design differs radically. In the UN, Architects Harrison & Abramovitz ran the 8'-3" windows clear to the ceiling. In the Alcoa Building they used separate small (4’ x 4’) windows almost like portholes. Here, in collaboration with Architects Gill & Harrell, they use a compromise height of 5½’ to cut air-conditioning tonnage and sky glare and use a continuous design for flexible partitioning.

- The floor planning of the office tower features a central utility core, very much like Rockefeller Center’s buildings and Pittsburgh’s US Steel Building, not like the thin UN slab with its along-the-wall utility core. Reason: the bank wanted lots of small tenants as potential depositors and a plan with the core in the center and divisible perimeter space around it provides top-grade space for many small tenants.

The walls are thinner

Anodized aluminum panels that fit over fireproofed spandrel beams are more advanced than those used on the Alcoa Building. Like the Alcoa panels, they have a pattern impressed on them to increase rigidity and prevent oil-canning. But where the Alcoa panels are simply sheets of $\frac{1}{4}$” aluminum, the Republic panels are complete wall sections in themselves: $1\frac{1}{2}$” of insulation with aluminum-foil vapor seal cemented to $\frac{1}{4}$” aluminum. And where Pittsburgh codes required 4’’ of perlite backup, the wall in Dallas needs none.

Comparatively, the walls stack up like this:

<table>
<thead>
<tr>
<th></th>
<th>thickness</th>
<th>weight per sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcoa</td>
<td>6’-13”</td>
<td>40 lbs.</td>
</tr>
<tr>
<td>Republic Bank</td>
<td>1½”</td>
<td>4 lbs.</td>
</tr>
</tbody>
</table>

HARRISON & ABRAMOVITZ, GILL & HABRELL, architects
EDWARDS & HJORTH, structural engineers
JAROS, BAUM & BOLLES, mechanical engineers
J. W. BATESON, contractor

Aluminum and glass: west side of office-bank building is sheathed with light aluminum panel walls that contrast with the bands of continuous windows on the other three sides. The 36-story tower provides rentable office space, while banking activities fill nearly all the lower seven floors.
The windows are smaller
In the UN, the same architects not only ran the window clear to the ceiling but also built in a recessed pocket to house the retracted Venetian blind so it would not block any daylight. As a surprise, however, workers kept their blinds at half-mast most of the time to block sky glare. More unsettling was the knowledge that running the windows to the ceiling had increased air-conditioning tonnage requirements nearly 50%. With this knowledge, the architects wanted the Republic Bank Building windows to be only 4 1/2' high—as in the Alcoa Building—compared with the UN's 8'-3". However, Republic owners insisted on 5 1/2' windows on the tower floors.

While sky glare is a problem on tower floors, on lower floors daylight can very pleasantly offset shadows cast by adjacent high buildings. For this reason, the windows on the lower four floors are extended all the way to the ceiling.

All windows are pivoted top and bottom so they can be turned and cleaned from inside the building. To insure weatherproofing, two rubber gaskets encircle the window frame and press tightly against the sash when the window is closed.

The structure is different
Irregularity of the site and special requirements of the banking floors produced various-sized bays up to 28'. Floor-to-floor height is 11'-10 1/4" (compared with 12' for the UN and Alcoa). The 4 1/4" floor slabs are cantilevered 3' from spandrel girders.

A column-free space two floors deep in the middle of the main banking floor is obtained by an unusual structural device. A row of 15' deep trusses is used on the seventh floor (a mechanical floor). Columns suspended from the lower chords of these trusses carry floor loads below and are thus in tension. The trusses transfer the load to the heavy exterior columns.

With thinner and thinner curtain walls being used, rigidity is becoming more of a problem. To assure rigidity the architects introduced a series of precast concrete mullions (10' x 4" in section) set 4'-5 1/4" o.c. in the window walls.
Section through building shows three-level basement garage with first basement level used for drive-in banking. Note two-story-high main banking floor on second level serviced by escalators from the ground floor.

Fifteen-foot-deep trusses like this one on seventh (mechanical) floor carry floors below them by suspended "columns" so the big banking room underneath can be column free. Truss transfers loads to columns outside the main-floor area.

Main banking floor is reached by escalator or circular stair up through helical-shaped well (foreground). Cove lights provide general illumination, wood screen gives privacy to mezzanine that extends around end of room.
Horizontal sunshades mark the facades of this modest-size office building in Houston. Sunshades reduce sky glare, cut air-conditioning tonnage requirements, also set building apart from its aged neighbors.

Concrete eyebrows extend 4' over 5'-8" windows for sun protection in warm Houston climate. Note spandrel facing of 4" precast panels finished with glazed blue-green ceramic tile.

Typical floor plan: elevators are at end of office floor along one windowless wall; services take up nearly all of the second windowless wall. Recess at rear of building admits daylight to center of 76' x 131' floor.
New thinking on sunshading and floor planning
by architects of Houston's newest office building

This 21-floor office building in Houston uses three simple devices to create a dramatic appearance and pleasant work space:

- Windowless wall areas on two sides are juxtaposed with horizontal continuous windows on the other two sides. Where Lever House uses glass for dramatic transparency, the Melrose Building uses brick for dramatic opacity, which is further emphasized by the strip window walls. This device enabled the architects 1) to place elevators along one windowless wall, service areas along the other to gain rentable floor area; and 2) cut air-conditioning requirements from 800 to 667 tons.

- Sunshades make the window walls more effective. They extend 4' from exterior walls, above 5'-8" windows, to cut sky glare and further reduce air-conditioning tonnage. (The architects claim the cost of the sunshades was more than offset by the reduced air-conditioning tonnage requirements.)

- Blue-green tile was used as a facing material on precast concrete spandrel covers. Rather than use obscure glass, which is regarded by some architects as a misuse of the material, these architects got color on the building face, plus a somewhat reflective surface—and at the same time maintained the opacity they sought.

The simple loft interior of the modestly sized (131' x 76') tower can be rented as bulk space with only five columns interrupting the floor area. Partitioning within the window module along two sides of the building creates perimeter executive office space with a corridor along the row of interior columns (see plan).

Total cost of the 220,687 sq. ft. building including fees and tenant partitioning was $3,160,000, or $14.31 per sq. ft.
Pocket-size Rockefeller Center for Denver consists of three buildings. At left is remodeled bank which will command corner rental because of open ground-floor planning of office tower. At right is clear-span airplane ticket office level with upper street. Beneath it are restaurant and bar on level with lower plaza.
New thinking on fenestration and ground-floor use
by developer of Denver's new office center dramatizes curtain wall, maximizes rents

In planning this “Mile High Center” for Denver, Tycoon Bill Zeckendorf and Architect Ieoh Ming Pei have pooled their very different talents to develop some interesting solutions to these problems:

› how to get more rent by doing less building on the street level,
› how to dramatize a curtain wall, and
› how to compromise the great argument over whether air conditioning makes it profitable to build deep office space.

Mile High Center occupies a prime two-acre site, with three street frontages, right across Broadway from the Brown Palace Hotel. The project suggests comparison with Lever House but its 266' x 301' site is enough bigger than Lever’s 155' x 200' to let Zeckendorf cash in on the values his open areas added to the adjoining buildings. And Denver has no cake-mold zoning ordinance to restrict the tower area, so the floors can be 127' x 152' (vs. Lever’s 53' x 155').

Around its new 23-story tower, Mile High Center will group a low remodeled bank building and a new two-story structure that will take advantage of the sloping site to put the restaurant below and the clear-span downtown airline terminal above both on grade.

In this new facade treatment, gray is for structure and off-white is for cooling

Here is an all-glass curtain wall interrupted only by:

1. the dark-gray cast-aluminum cover plates, which truly express the structure of column and spandrel beam, and

2. the off-white porcelain enamel grid, which expresses the perimeter heating and cooling system—24” deep horizontals to cover the window units, 10” wide verticals to cover the air risers.

This is the first time any office-building wall has so precisely expressed the structure. It is the first good expression of a cooling system in the wall. One interesting result: a 12” ribbon of glass between floor and window unit will show all around the building. This will be most effective at night, when even the all-glass fronts of Lever House and the UN Secretariat are divided into alternate bands of light and dark for every floor.

All the windows are fixed and will be washed from a traveling platform running up and down on shallow tracks recessed into the aluminum column covers. The mechanism, first used for this purpose on Frank Lloyd Wright’s Johnson Wax Tower, will cost only $8,000. It is nothing more than two spider cages connected with a truss, and it is lowered to the ground for easy movement from bay to bay while workers atop the building shift the cables.

Each broad band below the first-floor windows and above the top-floor windows covers a windowless mechanical floor.

WEBB & KNAPP, INC., Architectural Div., I. M. PEI, director, architect
KAHN & JACOBS, G. MEREDITH MUSICK, associated architects
JAROS, BAUM & BOLLES; SEVERUD-ELSTAD-KRUEGER, consulting engineers
GEORGE A. FULLER CO., contractor
All this ground-floor openness spells more rent, not less, for these six reasons:

- The open area will earn a handsome corner rent for the remodeled bank in the middle of the block.
- The open area will put the restaurant below the air terminal on grade at a more profitable rent.
- A store to fill in the open space would bring less than the $5 per sq. ft. rent budgeted for the office floors. (In Los Angeles the General Petroleum Building has converted its ground floor from stores to offices. In many cities there are now so many store vacancies that the old rule that ground-floor income should cover the ground rent no longer holds.)
- The drugstore operation, which offered $7.50 for the corner, would hardly have raised the tone of the center.
- A difference of 10¢ per sq. ft. in the rent for the office floors will more than cover any profit that could be made on stores.
- Stores would have required changing the plan of all the office floors to get the elevators back from the street.

In this way Zeckendorf’s uncanny real estate sense helped the architect create a far better center without any sacrifice of profit.
Wall section shows how 9' high window wall is divided into three parts by 2' high heating and cooling units. Upper window is almost 6' high; lower window is 1' high. Note that 2'-2 1/4" spandrel is faced with cast-aluminum panel.

Zeckendorf's compromise on deep space: 25'-38' to the window for executive office space on three sides of the service core—75' for open office space on the fourth side.
New thinking on

the effect of office windows on design

99 Park Ave., New York City
Emery Roth & Sons, architects

UN Secretariat New York City
Wallace K. Harrison, director of planning

General Petroleum Building, Los Angeles
Wardman & Becket, architects

Prudential Building, Los Angeles
Wardman & Becket, architects

525 William Penn Place, Pittsburgh
Harrison & Abramovitz, W. T. Cocks, architects

Lever House, New York City
Skidmore, Owings & Merrill, architects

Look Building, New York City
Emery Roth & Sons, architects

1407 Broadway, New York City
Kahn & Jacobs, architects

Public Safety Building, Seattle
Naramore, Brady, Bain & Johanson, architects
It is a sure thing there will soon be many functional changes in office-building windows, but the present investigation deals entirely with today's design. Whether the "more glass" people will multiply floors 25 stories above the ground where you can look down at the city between your toes, or whether the "less glass" people will convince clients that they should cut down on vertigo as well as on air-conditioning loads, curtain wall design will nevertheless go on from where it is today.

Today's typical window is the ribbon window, which Louis Sullivan did not foresee. He had two classical treatments— for horizontal buildings the Carson-Pirie-Scott cage like this:

[Image]

— for vertical buildings the Prudential treatment like this:

[Image]

Both of these make the wall elements between windows look structural—they have body to them. But today's evolution has caused the curtain wall to lose its "body"—it looks more and more wholly like a screen.
First major American version was Kahn & Jacobs’ Tishman Building (now the Universal Pictures Building). (The appeal of the idea lay in the chance it gave for modular partitioning and for avoiding dark pockets next to individual windows.) In New York two factors produced a change: 1) fatter mullions were demanded for technical reasons; 2) the height of the building completely changed the effect. It went counter to Sullivan’s principle of horizontal lines for low buildings, vertical lines for tall ones:

Next, color. Weathering has now almost eliminated the glaring contrast between Tishman’s white spandrel ribbons and black window ribbons. But Kahn & Jacobs meanwhile hit on another expedient to reduce contrast: color. From Hood’s McGraw-Hill Building they borrowed the idea of a green facing for their 1407 Broadway building:

Pattern joined color, almost unconsciously or accidentally. By a paradox, just because the Broadway building was still higher than the Tishman, the horizontal lines were less unsupported-looking—there were so many more of them that they were reduced to a mere element in a pattern. The wall now looked insubstantial, all pattern, all color, all “curtain.” Completely bodiless wall pattern meanwhile reached its apogee in Harrison & Abramovitz’ UN Secretariat and Skidmore, Owings & Merrill’s Lever House, where the ribbon effect was destroyed even more completely by making the spandrels, like the windows, out of glass:

By now the office-building curtain wall was not only all pattern and color but all mirror too—at least by day; the ribbon effect reappeared only at night through the lights. By throwing light into the spandrels as well as the windows, Pei has now kept the bodiless “curtain” effect even at night (see p. 114).
Texture joined color and pattern most conspicuously in Harrison & Abramovitz' Alcoa Building in Pittsburgh, where the spandrels, instead of being glass-smooth, were given a reverse-diamond shadow texture. When the system was imitated on Park Ave., Architects Emery Roth & Sons further suppressed the verticals. The two systems:

Panelization joined texture, color, pattern in all three of these buildings: UN, Lever, Alcoa. Where the ribbon spandrel of the Tishman Building and 1407 Broadway still had a faint "structural" echo, all three of the new pace setters were completely divided into panels head to toe; all "structural" reference was gone.

So complete was the divorce by now of the curtain-wall appearance from any structural appearance that Architect Sylvan Bien could even drop the cantilever, put his windows back between the columns again, and still make the wall look like a bodiless, weightless curtain (except at the corners) like this:

And the concept of a bodiless curtain, all panel, all texture, all color, all pattern was even carried back into that oldest of all office-building enclosures, the continuous wall with individual windows punched out of it. A group of eminent Harvard and MIT teachers* placed their windows diagonally in the wall, thus dynamiting the effect of a structural grid, producing the effect of a giant vegetable grater:

This was for the Boston Back Bay Center, promoted by Roger L. Stevens (see News, p. 43).

*Belluschi, Bogner, Gropius and his colleagues of TAC, Koch, Stubbins (with Kenneth Welch as economics consultant).
Walking down Park or Madison Ave. in New York today the visitor is treated to an assortment of brand-new office-building fronts — UN fronts, Lever fronts, Uris fronts, and the whole new Alcan front transplanted virtually intact.

The more assorted they are the more alike they are — what FORUM's late publisher, Howard Myers, used to call "the same old new stuff." They are alike because each is curtained in one simple unalterable pattern, alike because the pattern is always flat and thin and hides any sign of bones. Between a bright original and its hasty copy the eye is grateful no end for a few older buildings, with some modeling to them, and shadow relief, and some evidence of a body:

The setback rule in New York makes all but a few of the best new curtain walls a cause for eye sadness. Once the window & spandrel pattern is set it cannot be diminished in scale to fit the smaller rectangles above the setback line, nor has the cardboard curtain cutter of today any chance to soften the transitions from base to crown with sculptural modeling:

So the ribbon treatment is apt to end like a precarious stack of trays and the panel treatment can end like the work of a crazy paper hanger set loose on the packing boxes in a warehouse.

A much larger scale goes with the new curtain-wall buildings, so one or two big masses to the block replace what was once the lively parade of a dozen smaller units. But the street has grown no wider than it was. The result is that the one thin flat pattern goes on for whole blocks at a time and seems ready to fall on the observer because the buildings look so crowded on the old narrow street:

1. 420 Park Ave. remodeling (under construction), Emery Roth & Sons, architects—Lever House is tall building at extreme left. (See News, p. 20.)
2. Look Building, Emery Roth & Sons, architects.
5. 575 Madison Ave., Emery Roth & Sons, architects
— it is getting duller every day

What can be done?

1. Release the new curtain-wall buildings from the cake-mold setback rule, invented 40 years ago, when New York was dreaming about Babylonian ziggurats, and when stonecutters and terra-cotta modelers could sometimes achieve a roughly passable equivalent. Suitable zoning revisions were framed at great labor by Harrison, Ballard & Allen four long years ago (AF, Sept. '50). The one man who could do the most the fastest to get them adopted is Commissioner Robert Moses. They would permit curtain-wall buildings to be designed without prescribed setbacks, simple coherent shapes—genuine architectural design.

2. Put adequate space around the new large office building. Here is a simple test: all the New York buildings you are likely to remember are the ones that stand far enough apart to be seen as complete, separate shapes: the Woolworth, Daily News, McGraw-Hill, UN, Lever House and above all the Rockefeller Center buildings.

3. Achieving this effective design in modern cities can rarely be done on a scale smaller than the superblock, with buildings off the street on the pattern of Rockefeller Center. Since the Center was built, 20 long years ago, there has been steady retrogression, not progress, in the major aspects of New York’s building habits, and so too in the habits of every major US city. Only the superblock can today put enough plazas, trees, air between buildings so even the simplest boxes gain character and relief against the endlessly varying scenery of the sky. And,

4. Listen to Frank Lloyd Wright; try a few buildings that put life into something else than the simple curtained box. . . .

The pioneers of modern architecture envisioned a "crystal city," weightless, bodiless, glittering and endlessly reflective. But it was to reflect the clouds and trees into which the crystal city was to be set. It was all to be clean and free of grime. This setting, this reflected life, was to replace in interest the old-fashioned ideal of sculptural mass. Lacking space, lacking freedom in setting and design, the crystal building becomes merely a curtained box.
Formal entrance takes up entire width of standard 20' bay. Fixed portions of aluminum frames are painted black to blend with steel.

**This small suburban administration building**

Logical framing produced logical plan and elevations: 20' bays, two offices wide, are divided into 10' bays on facades.
is four things to four men:

- **to the engineer** it is a demonstration of new ideas in radiant cooling and heating
- **to the planner** it is further proof of a growing trend toward decentralization
- **to the critic** it is an eloquent example of the fine precision of steel-glass-and-brick architecture
- **and to the artist** it is a study in contrasts—the magic of light and shade,
  and the romantic contrasts of the works of nature and of man

The story on the following pages makes these points in greater detail:

- The critic's interest in this latest example of Mies van der Rohe's (and now Philip Johnson's) austere esthetic is justified by the pictures on these pages. It is also justified by the fact that here is a "Miesian" building that tries to solve completely and radically, all the many requirements of a controlled interior climate.
- And, finally, this building's lighting magic (described on p. 127) adds a new dimension to Mies's skin-and-bones architecture—just as the planted patio at the center adds a new warmth to the cool formality for which Philip Johnson's architectural work is best known.

The radiant cooling-heating system is described on p. 126.

The planner's interest in this building is easily explained: for here are the research headquarters of a firm making industrial equipment for use throughout the world—and these headquarters have been efficiently located in (of all places) the Connecticut woods, 65 miles from New York City. Reasons: better living and working conditions for the small staff of scientists and patent lawyers, lower taxes, lower land costs, better chances of putting up a building that will work. As more and more corporations argue this way, the impact upon our cities may be sharply felt before long.
1. Supply air is fed to two cells in a row. (Alternate pairs are used for wiring and telephone conduits.) For heating, 150°-150° air warms the slab to 88° F. For peak cooling loads, air enters cells at 50°, cools the slab to as low as 56°-58° safely above the room dew point so there is no condensation. (Unlike chilled-water systems for radiant cooling, a 100% air system is usually condensation-proof, for the air is dried out to a dew point lower than slab surface temperature. In other words, air temperature and humidity are always one step ahead of the slab temperature.)

2. Dehumidification and ventilation needs call for dry air to be released into the rooms after the slab has been heated or cooled. In this case, air from the floor cells is ducted up to the ceiling plenum and then spills into the rooms through diffusers. (Another possibility would be to discharge air from the cells into the room at the window sills.)

3. Return air is pulled back to the conditioner through under-the-window grilles. (Thus cold downdrafts from windows are also intercepted before they can chill the room.) Wall cavities are used to carry the air back to the basement.

4. Structural note: standard metal sash has been reversed throughout the building and attached to outside edges of steel columns. Johnson did this to get a "glassier" effect on his exteriors, get more reflections of surrounding foliage on his 10' sheets of plate glass.

A new kind of air conditioning is used here for the first time in a commercial building. Chief feature of this system is the use of the cellular steel floor to provide radiant heating and cooling. Moreover, by integration of system into the building, major structural changes usually needed for conventional air conditioning are minimized. For instance:

- Much ductwork is eliminated under the slab by channeling supply air through the steel cells. (However, cells must be especially tight to prevent leakage.)
- Space above the hung ceiling is used as a plenum so there is no need for separate ducts to each diffuser. Normally with regular air conditioning the ceiling would have had to be dropped at least another 6" under the steel beams to accommodate ducts. (And in a building the architectural success of which depends so much on a high, unbroken ceiling and slim roof fascias, dropping the ceiling would have spoiled the whole effect.)
- Use of the wall cavity for return air minimizes special wall design just for air conditioning. In fact, there is virtually no return ductwork because the cavity "ducts" lead to the basement, which serves as a big return-air plenum. (The basement houses all mechanical equipment and is also a garage.)

The substantially reduced ductwork and the structural savings permitted by this radiant heating-cooling system should cut costs about 20% compared with conventional air conditioning. Due to its pioneering nature, this job cost somewhat more.

Although this system has been laboratory-tested (AF, Nov. '51, p. 154) and has worked successfully with a radiant ceiling, this pioneering slab installation has not been in use long enough for a complete report on its operating efficiency.
Lighting is also integrated with precise structure

Architect Johnson and Lighting Engineer Richard Kelly say (with Le Corbusier) that architecture is forms seen in light. Consequently they did not design a lighting system for this building, but created the building in connection with the light, and light in connection with the building. Architecture and lighting are here well integrated.

In developing general illumination, Johnson and Kelly have three major objectives in addition to the objective of integration:

1. Lighting must be effortless. It is supposed to create a mood by subtle means—not draw attention to itself.

2. Overhead sources of general illumination are best concealed, since they tend to be distracting and make people seem unimportant.

3. There should be a close relationship between day and night lighting (so as not to change the focus and use of rooms at night). Similarly, there should be a bright cheerfulness indoors, regardless of whether the skies are cloudy or clear.

Here is how these objectives were realized in this office building:

In the corridor areas continuous rows of 2’ deep, 2’-6” square skylights are lined with plywood painted a light gray (see section). Each skylight has a reflector lamp angled to “wash” light across the gray brick walls along one side of the corridor. Floors are covered with gray vinyl tile.

Here are some of the results:

- The skylight walls are so deep that they cut out sky glare.
- The lighted walls extend the sense of space.
- The ceilings are illuminated by reflection from the light-gray tile floors. This further reduces the glare.
- The “wash” of light, being a combination of natural and artificial light, has a mysterious and beautiful glow that is ever present—rain or shine.
- A major source of light is the glowing wall—i.e., much light comes from eye level rather than overhead, thus keeps people from being dwarfed.
- Finally, on sunny days, there is a beautiful, ever changing pattern of sunlight that travels all over the interior surfaces, gives the
building a cheerful and lively look. But because of the over-all glow on walls, floors and ceilings, there is little or no glare connected with these spots of sunlight.

Says Kelly: "We tried to get the effect you would have in a walled garden, roofed over with a canvas tarpaulin that doesn't quite touch the walls. And that is just what we got."

In the offices are hanging egg-crate fixtures of a special design. Since the offices have their own windows, the fixtures are placed off-center toward the window sides so that the light, at desk level, is again a combination of natural and artificial lighting—and relatively constant regardless of the weather.

The fixtures have fluorescent tubes and special-process, extra-bright aluminum reflectors. The reflectors are highly efficient, avoid the striped source patterns evident in many fluorescent units (even if you look straight up into these, you cannot distinguish the tubes from the reflectors, and nobody normally goes around looking up at them).

Above the tubes, the reflectors have been slit to permit light otherwise wasted to illuminate the ceiling as well (result: less glare by contrast). Since egg crates are of "natural" aluminum finish (and not white) the fixtures do not seem particularly bright even when providing well over 100 foot-candles at desk-top levels.

The moral of the air-conditioning and lighting stories told above is important: to Architect Johnson, environmental control devices are necessary—but they should not be seen, heard or felt. Unlike some extreme devotees of environmental control, Johnson is now sure that you do not have to mutilate your architecture to get living and working comfort. The devices of climate control are tools only, and not ends in themselves; and if you pick the right tools, and the right experts to handle them, there is no reason why you cannot get buildings of fine art.

Entrance lobby is separated from library by glass wall at left. General illumination from skylights is supplemented here and elsewhere by recessed spots. Ceilings are acoustical plaster throughout.

Typical executive office has gray magnesium-spot brick walls. Desk by Florence Knoll is large enough to serve as conference table. Note special lighting fixture near window to mingle natural and artificial light.

Core of building (opposite) is ring of passages around central patio, library and secretarial pool. Changing patterns of sunlight on floor and walls are indoor reminders of country setting.
Here one of the most quietly provocative writers among the younger architects argues that the International Style is just as untimely as Traditionalism and must be superseded. He describes the effort which has taken place in San Francisco's Bay Area and elsewhere to overcome the academism of both these styles but finds that thus far the countermovement (which the *Architectural Review* of London has called the "New Empiricism") is in turn inadequate. Readers who care to follow a close and scholarly argument will be rewarded by a study of Kennedy's own proposals for a more rounded approach to design.

WHAT HAS GONE BEFORE. Romanticism, says Kennedy, in the discussion preceding this article, has been the main stream of American architecture. In its first phase it benefited from genuine tradition, the kind of living, continuative tradition that was handed from father to son, and that was still strong enough, even in the Greek Revival, to make this a variation rather than a break within the continuity. By the time the Industrial Revolution had substituted "more and more reliance on statics and dynamics, functional thinking, measured drawings, the whole new paraphernalia" and came into the High Victorian style, continuative tradition was pretty well dead, and architecture was more and more invented. The break with true tradition came with Eclecticism, in which style is conceived simply as a "commodity" to be picked up from any land or any century and applied regardless of time or place, so "Cape Cod invades Texas while ranch-style houses invade Cape Cod." The greatest Eclectic revivalist was H. H. Richardson, whose famous Trinity Church in Boston is in the English sense a "folly" having slight organic relationship with its time, its place or its immediate neighborhood. The present-day Traditionalists are Eclectics at heart but have narrowed the choice of models to revivals of native styles. He goes on:

In presenting this condensation of a chapter from Kennedy's forthcoming book, *The House and the Art of Its Design* (to be published by Reinhold this fall),

*FORUM*'s editors act in the belief that the argument is equally applicable to larger buildings.

But in this debate all opinions are the author's and do not necessarily reflect the opinions of *FORUM*.

This is the third in *FORUM*'s series on the crisis in architecture.

Preceding articles: "The language of organic architecture," by Frank Lloyd Wright (May '53); "The six broad currents of modern architecture," by Eero Saarinen (July '53).
then what?

The gap between the Traditionalist and his models is now some 100 years in extent, a century marked by tremendous changes in our culture, economy and technology. It constitutes a moat between the practitioner and his idealized models. He is effectively isolated from his sources. This leads quite inevitably to nostalgia and results in a derogatory attitude toward contemporaneousness, in conservatism. In adopting this position, the Traditionalist cuts himself off from the principal well of creative energy, the present. Expression is denied him.

For example, an important characteristic of building, as expression, is that it must open for us some new perception of the nature of our time. This feeling is completely absent from traditional work. What we miss is the sense of an intuitive reorganization of our present position.

The Traditionalist’s sources, the dead American styles, are of course now incapable of growth. Nor can the Traditionalist himself change them very greatly, lest they become unrecognizable. They must remain forever static. The Traditionalist, therefore, defines tradition as fixed, dead, unchanging and unalterable. This is the essence of his conservative approach. It is in their ability to suggest security that the Traditionalists have a fast-selling and almost universally wanted commodity. No left-wing movement will ever have a solid effect on style, and thus on environment, until it too puts the average man in touch with his place.

The International Style: a dogmatic revolt

Traditionalism is essentially a flaccid reform movement within Romanticism, which has been the main stream of US architecture. The International Style is a violent revolt from all that Romanticism means. Typical of revolutions, it is highly dynamic and dogmatic. Its fundamental proposition can be cartooned as follows:

- The failure of the previous styles is due to their neglect of the present.
- Therefore we will reintroduce contemporaneousness.
- Our times are characterized by science and technology.
- Therefore we will design for biological and physiological man (science) in keeping with current techniques (the machine).
- As biological man is universal, and as the machine should be common to all cultures, our theory will necessarily be universal in applicability.

This proposition, naive though it is, has freed architects from the bondage of “Ruskin-type” thought. The energy it has released is due to its opening up of science and technology as legitimate stimuli. Its failure lies in the narrowness of its definition of man, and in the inaccuracies of its application to building. Both faults are the outcome of the self-conscious, rather than intuitive, definition of the present. While the machine is perhaps symbolic of our time, it has very little place indeed in the building industry — a craft operation par excellence. Thus the smooth stucco surfaces typical of the earliest International Style, “as if rolled out of a machine,” and the current efforts in this country to achieve the same effect in wood, are at best prognostications and at worst distortions of fact. The same obscurantist effect is produced by the basic proposition relating to man. Such slogans as “the house is a machine for living,” and the overemphasis on biology and physiology, tend to obscure the fact that houses and buildings are environmental in nature, and that man’s spirit and intelligence are as important to his total adjustment as his body is. The distinction here is similar to the one made in medicine between the organic and the psychosomatic approach to disease. The Internationalist position does not allow man a soul.*

*Isn’t that last sentence a little strong?—Eo.

"The Traditionalists’ sources, the dead American styles, are now incapable of growth"—Main Street, Wickford, R. I.

"A beautiful folly having slight organic relationship with its time, its place or its immediate neighborhood"—Trinity Church in Boston by H. H. Richardson.

Talbot Hamlin
"Empiricist work is humanly robust, varied, with great emphasis on personal emotion... as in the Bay Area style"—elementary school by Ernest Kump Associates.

"It has adopted some Internationalist precepts and opposes others"—the same kind of building in the same city by the same architect; high school, San Jose, Calif., by Ernest Kump Associates.

The peculiar character of the International style is directly traceable to these two distortions. To design a handmade building as if it were to be made by a machine is futuristic. The robot-like, impersonal concept of man is also typically futuristic. Thus while contemporaneity is the desired goal, errors in definition have caused the movement to miss the present. In this sense it is a new phenomenon in the history of architecture. It is a prognostication of things to come. The future is used to guide the present. A natural result is that the past seems of no relevance to either.

Style is yet again placed out of the immediate present and is considered placeless, as it was by the Eclectics.* Any theory designed for world-wide use must be extremely clear, well documented and dogmatic. It must also carry a reformist emotional charge. It need not, however, be practical in a pragmatic sense. International stylistic no exception. Its bible is the complete work of Le Corbusier; its Golden Age was the Bauhaus at Weimar; its Collegium Romanum is the C.I.A.M., its rules were codified in The International Style — Architecture Since 1922 (Henry-Russell Hitchcock Jr. and Philip Johnson). Its connection with science is reflected in Siegfried Giedion’s Time, Space and Architecture (courtesy of Mr. Einstein) while its concern with the machine is reflected in his Mechanization Takes Command.

Another way forward: the "New Empiricism"
The Traditionalists’ failure to produce architecture and the Internationalists’ failure to respect environment, personality, individualism, were bound to cause yet another search for a new point of adjustment. The London Architectural Review has dubbed this last movement the "New Empiricism," i.e., "the effort to humanize the esthetic expression of functionalism." Empiricism is an attempt to return, at least in part, to continuative Traditionalism— to something that disappeared after the first phase of Romanticism. But it owes most of its character to the International Style movement. It has adopted some, and opposes others of the Internationalist precepts; the Empiricists largely eschew science, theory and dogma, and depend instead on experiment and experience. They are apt to be common-sensical, anti-rule, anti-style, anti-dogmatic, careless of techniques—all qualities opposite to those of either the Traditionalists or the Internationalists.

These qualities result in an easygoing and rounded atmosphere. Empiricist work is humanly robust, but often fragile and temporary in structure. It necessarily lacks the extreme clarity, the sharp and easily understood outlines typical of architecture based on dogmatic theory. It enjoys neither the models, the measured drawings and details of the Revivalists, nor the sure knowledge of what is right, typical of the Internationalists. It is rooted in the present, i.e., in the person of the practitioner, in his feelings and intuitions.

Empiricism is regional: for example, in the Bay Area
Empiricism tends to become regional in character, rather than to internationalize itself, and to breed anonymous architects rather than the highly visible and notorious personalities more typical of Internationalist architects. It tends to create loosely organized schools rather than to attract ardent disciples. The greater freedom the method allows to its practitioners results in a far more varied, less obviously "modern," often less brilliantly organized and proportioned type of work, with much greater emphasis on personal emotion, or play. The Bay Area style is an example in point.

The Empiricist style is accurately adjusted in time between past and future, and its adjustment to place is equally complete. It responds to environment, and its understanding of tradition and respect for it is profound. In a comparison of the various present-day adjustments, it is the most complete and well founded since the death of genuine tradition. The Empiricist proposition can be cartooned as follows:

The failure of the previous adjustments was due to their emphasis on techniques, documentation, rules and dogma, at the expense of human feelings and intuition.
We will therefore avoid rules, form, permanence and theory, in favor of warmth, humanity and flexibility.

This proposition tends to be reactive, i.e., it is against the previous adjustments. By the same token it is not thoroughly grounded in a philosophy of its own. Thus while the Empiricist adjustment to period, place, and process is complete, its adjustment to form, function, and expression is heavily weighted toward expression, and tends to avoid form.

This de-emphasis of techniques, of form and of the sort of simple rule on which the average person can hang his hat is, perhaps, essentially unbalanced. It is bound to result in yet another search for a new point of adjustment. The Empiricist thinks of the Internationalist as "the man of iron whim," and there is more than a little truth in this epithet. Yet the need for iron, for an easily understood skeleton, is a human desire which cannot be denied.

To correct Empiricism—a greater sense of direction
One might predict that that "Directivism," or a new resolution of style, environment, tradition, and of form, function and expression in an aesthetically directed manner, will sooner or later supersede Empiricism. It can be argued that such an adjustment comes perilously close to completing the circle. It may well be that the introduction of a ramrod in the Empiricist's jacket will, sooner or later, cause his pseudo-Traditionalist slump to disappear.
It is all too easy to think of even our current styles as vast historical movements, disconnected from real people. Actually the four modes just described are all now in full flower. They are being modified and refined by you, dear reader, me, this magazine, and by all the people who commission architects. Thus while we share this year of 1953, we must—in order to produce such different styles—disagree in our feelings about what the year 1953 represents. The effect on style of differences of opinion as to the nature of the present is shown in chart above:

**Directivism** is obviously in the nature of a prediction of a style to come. Like most things seen in crystal balls it is one man’s, or one group’s, explanation of his or their intuitions about the drift of our times. The overriding idea of our moment is that man’s spirit and destiny can be scientifically studied and, so to speak, discovered. A new architecture for man must be as sensitive to his inner and his social workings as are the social scientists studying him in the laboratory. It has been argued above that each new style is the result, in part, of a reformist charge. Why change if no improvement seems necessary? The four improvements which the drift of our times suggests (any one of which could produce Directivism):

1. A fuller understanding of the esthetic and social meaning of our man-made (historic) environment, and better efforts to preserve and improve its good qualities.

2. A fuller understanding of the relationship of man and nature. This relationship is obviously one of the root sources of sensual pleasure in architecture and, because it is not a constant, it must also play an important part in contemporaneousness. To be up to date is to realize accurately what that relationship presently is.

3. A fuller understanding of the comparisons we make between our bodies and structure and mechanical equipment. The ancients drew analogies between the whole of a form (as a pediment, columns and base) and our body as a whole. We see brick as skin, plumbing as entrails, wiring as a nervous system, steel as bone. How can we make full use of the emotional charge inherent in the contemporary way of making analogy between these “organs” and our own?

4. A fuller understanding of the symbolic meanings of forms. The ancients saw the dome as a symbol of a very ancient god’s but within a sacred grove. We are apt to see it as a woman’s breast, or alternatively as a skull, the enclosure of the intellect. In either case, powerful and deep-rooted emotional chords are struck, and one of Directivism’s chief pleasures will be to discover and use other such involuntary reactions.

(Continued on p. 186.)

<table>
<thead>
<tr>
<th>TRADITIONALISM</th>
<th>past was better</th>
<th>archaic</th>
<th>handicraft</th>
<th>immobilization</th>
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<tr>
<td></td>
<td></td>
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<td>conservative</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>reaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>machine</td>
<td>workmanship</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>prolifration</td>
</tr>
<tr>
<td>INTERNATIONAL STYLE</td>
<td>future will be better</td>
<td>futurist</td>
<td>progressive</td>
<td>moodlessness</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>snappiness</td>
</tr>
<tr>
<td>EMPIRICISM</td>
<td>is disordered &amp; uncontrolled</td>
<td>opportunist</td>
<td>formlessness</td>
<td>variety</td>
</tr>
<tr>
<td>DIRECTIVISM</td>
<td>is ordered &amp; controllable</td>
<td>responsiveness</td>
<td>personalized</td>
<td>goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>nationalism</td>
</tr>
</tbody>
</table>

"Directivism is a prediction of a style to come: a fuller understanding of environment, the relationship of man and nature, the comparisons we make between our bodies and structure and the symbolic meaning of forms"—Schuckit Building, Sunnyvale, Calif., by Wurster, Bernardi & Emmons.
Big banking and modern architecture finally connect

This new $3 million branch bank will be sheathed securely with the biggest sheets of glass ever put into a building

Banks used to sell security. But now, with their deposits federally insured, they are selling service. Today's bankers are an aggressive new breed of financial merchandisers, replacing the stiff old banking types of yesteryear, and they are out to lure every passing pedestrian into opening a special checking account.

That is the story behind the decision of Manufacturers Trust Co. (fourth largest US commercial bank) to put up a $3 million Manhattan branch with the most impressive facade in town, one walled with no marble slabs, but with slabs of clear glass—slabs as big as $9' \times 22'$ in one piece, expressing with their lavishness a dynamic new kind of prestige design for large financial institutions (for a smaller example in Kansas City, see p. 160). The bank's president, Horace C. "Hap" Flanigan says: "... Banking today is a selling service..."; his show windows will be the biggest in town.

Behind the 200' stretch of 60' high glass wall angling around the southwest corner of Fifth Ave. and 43rd St. will be two tremendous open banking floors and two office floors, with a luxurious executive penthouse riding the roof—all in the bold idiom of Architects Skidmore, Owings & Merrill.

There will also be a functional difference between this bank and the customary marble mausoleum. "This is a store type of operation," says SOM's Gordon Bunshaft, "open, departmentalized, efficient. Downstairs on street level we put the special checking division where the main volume of business is handled—the ten-cents-a-check department where you go in, cash a check, and get out fast. On paydays the traffic is terrific."

Up the escalator, on a mezzanine set back from the exterior wall, is the main banking floor for commercial accounts and senior officers. This is big too—6,000 sq. ft. of floor space accessible to the public compared with 9,300 sq. ft. for the public downstairs.

Model is built to $\frac{1}{16}$" scale by Theodore Conrad. Ground floor is for special checking accounts, mezzanine for bigger accounts. Above are offices.

SKIDMORE, OWINGS & MERRILL, architects

Partners in charge:
William S. Brown—coordination
Gordon Bunshaft—design

GEORGE A. FULLER CO.,
general contractors

SYSKA & HENNESSY,
mechanical engineers

WEISKOPF & PICKWORTH,
structural engineers

ELEANOR LEMAIRE,
interior design consultant
Facing the mezzanine are the immense sheets of glass—upright \(9' \times 22' \times \frac{1}{2}''\) panes, which are being specially rolled. These will be clear glass (heat-resistant glass could not be bought in such sizes) and so will the rest of the building’s exterior wall, except for the thick edges of the floor “slabs.” The architects dared make this decision because very little direct sunlight ever will hit the walls of this building. Exposures are north and east, and high buildings across Fifth Ave. shadow the east wall. To combat glare, the glass walls will be screened with gauzelike curtaining of a gold tint.

The big glass sheets will be heavy (1,500 lbs. each) and expensive, but the whole wall will not cost as much as the typical bank wall of granite, according to SOM. The biggest part of the big glass expense will be in placement; each sheet, carefully crated, will have to be taken up on exterior scaffolding and walked into place. Say the designers: “It was within the budget.”

Other results of this raid by SOM into the bastion of conservative design, the banking world, are these reversals of historic form:

**An intangible investment, not an income investment.** Manufacturers Trust could have built a skyscraper on this site; next door is one of Manhattan’s biggest and most profitable, the 59-story 500 Fifth Ave. But zoning regulations force buildings of more than 75,000 gross sq. ft. to include off-street loading platforms. A skyscraper would also need big banks of elevators which would have eaten up most of the first-floor space, shoving the bank itself upstairs or down. Also, from the fourth floor up, a 25’ setback from the neighboring skyscraper would be necessary because the neighbor owns air rights. So the bank came easily to the decision to build a structure just under 75,000 sq. ft., the street floor of which would be clear for themselves, not cluttered for tenants.

The new bank will stand with SOM’s Lever House as an example of what can be accomplished architecturally when the zoning laws do not shape the structure. Lever, on a site assessed at $3 million, fills only about one-third of the maximum zoning envelope; the new bank, on a site about one-third the size of Lever’s, assessed at $2.3 million, will fill only about one-fourth of its maximum legal cubage.

**Sculpture, not murals.** The literal illustrations of fine old historical happenings, heroic in size, which decorate the interior walls of most banks will not appear here. Instead there will be an even more heroic sculpture by Harry Bertoia (AF, Sept. ’52, p. 142), a 70’ long, 18’ high screen wall made of large suspended plaques of bronze. It may be the most appropriate art a bank ever had, looking like a great wall of abstract wealth.

**A vault in the window.** The inner safe has been dug up from its time-honored place in the basement and put on display on Fifth Ave. behind the first-floor glass wall. There its massive, bristling door will be spotlight night and day, gleaming against a wall of black granite. The door itself is being redesigned by Henry Dreyfuss and, according to SOM, is regarded with a good deal of esthetic emotion by the bankers. “It’s like sailors and boats. While we were designing the building, the bankers kept taking us down into bank cellars and showing us vault doors; then they would stand around looking at them, and say to each other reverently, ‘Isn’t it beautiful!’ After a while we began to agree.”
Typical section at spandrel shows window detailing, floor cantilever

and the world's biggest glass panels

**Sandwich ceiling.** The mechanical system, the veins and arteries of the building, will be as hidden as its heart, the vault, is visible. All services—electricity, high-velocity air conditioning and water—run up a hollow south wall into each floor "slab." These are 3'-6" thick, including structure and over-all lighting, which will be either by egg crate or a paper-thin plastic luminous ceiling. The slab edges are expressed neatly on the exterior facade by a spandrel strip of wired glass, its back sprayed with gray cocoon plastic.

**A wall in tension, not compression.** The exterior glass wall does not support anything; it is a true curtain, hanging from the cantilevers. The structure that supports this cantilever is simple; within the 100’ x 125’ rectangle of the building are just eight interior columns. The main steel framing is toward the cantilever, with close-spaced concrete joists bridging the intermediate spans. Longest column setback is from the side street, fully 19’ from the sidewalk; longest span, 48’.

To close observers of Skidmore, Owings & Merrill’s techniques, the new bank will mark a definite shift of emphasis within the esthetic they have made their own, with far more surface texture than Lever House’s slick wall. The bank’s polished aluminum mullions (stainless steel was not available in sufficient quantity) will project 10” from the glass; Lever’s stainless framing projected only 1 1/4” from the glass. Lack of color in the glass also will count heavily in the finished structure; the monotone shell, the concept of which was first developed by SOM Designer Charles E. Hughes III, will have more severity and dignity than Lever.
Postwar construction trend: Forecast of next year’s construction activity stacks up favorably with preceding postwar years. Graph above charts the trend in deflated (i.e. constant) dollars — 1947-49 prices considered par — while the table, right, details the last three years in actual dollars.

**NEW CONSTRUCTION ACTIVITY**

<table>
<thead>
<tr>
<th></th>
<th>1952 actual</th>
<th>1953 estimate</th>
<th>1954 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total new construction</strong></td>
<td><strong>$32,638</strong></td>
<td><strong>$34,600</strong></td>
<td><strong>$33,300</strong></td>
</tr>
<tr>
<td><strong>Private, total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential (nonfarm)</td>
<td>11,100</td>
<td>11,700</td>
<td>11,300</td>
</tr>
<tr>
<td>New dwelling units</td>
<td>9,870</td>
<td>10,350</td>
<td>9,900</td>
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<tr>
<td>Additions and alterations</td>
<td>1,045</td>
<td>1,100</td>
<td>1,150</td>
</tr>
<tr>
<td>Nonhousekeeping</td>
<td>105</td>
<td>250</td>
<td>250</td>
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<tr>
<td>Nonresidential building</td>
<td>5,014</td>
<td>5,400</td>
<td>5,200</td>
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<tr>
<td>Industrial</td>
<td>2,320</td>
<td>2,150</td>
<td>1,900</td>
</tr>
<tr>
<td>Warehouses, office and loft buildings</td>
<td>515</td>
<td>600</td>
<td>725</td>
</tr>
<tr>
<td>Stores, restaurants and garages</td>
<td>622</td>
<td>970</td>
<td>975</td>
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<tr>
<td>Other nonresidential building</td>
<td>1,557</td>
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<tr>
<td>Religious</td>
<td>399</td>
<td>450</td>
<td>400</td>
</tr>
<tr>
<td>Educational</td>
<td>351</td>
<td>410</td>
<td>450</td>
</tr>
<tr>
<td>Social and recreational</td>
<td>125</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>Hospital and institutional</td>
<td>394</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Miscellaneous nonresidential</td>
<td>288</td>
<td>290</td>
<td>250</td>
</tr>
<tr>
<td>Farm construction</td>
<td>1,610</td>
<td>1,475</td>
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<td>Public utility</td>
<td>4,003</td>
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<tr>
<td>All other private</td>
<td>85</td>
<td>95</td>
<td>100</td>
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<td><strong>Public, total</strong></td>
<td><strong>10,826</strong></td>
<td><strong>11,500</strong></td>
<td><strong>10,900</strong></td>
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<tr>
<td>Residential building</td>
<td>654</td>
<td>500</td>
<td>350</td>
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<tr>
<td>Nonresidential building</td>
<td>4,119</td>
<td>4,600</td>
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<td>Industrial</td>
<td>1,667</td>
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<td>Educational</td>
<td>1,619</td>
<td>1,800</td>
<td>1,800</td>
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<tr>
<td>Hospital and institutional</td>
<td>473</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>Administrative and other nonresidential</td>
<td>360</td>
<td>500</td>
<td>400</td>
</tr>
<tr>
<td>Military and naval</td>
<td>1,388</td>
<td>1,400</td>
<td>1,200</td>
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<tr>
<td>Highway</td>
<td>2,860</td>
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<td>3,300</td>
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<tr>
<td>Sewer and water</td>
<td>692</td>
<td>750</td>
<td>800</td>
</tr>
<tr>
<td>Miscellaneous public service enterprises</td>
<td>193</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>Conservation and development</td>
<td>854</td>
<td>900</td>
<td>800</td>
</tr>
<tr>
<td>All other public</td>
<td>66</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

1954 will be another boom year for building. Continued activity in all types of construction is expected to maintain next year’s industry expenditures at close to the record volume of 1953 and 1952. An analysis of the factors affecting the future trend of construction by Economist Miles L. Colean

During 1953 the dollar volume of construction will be the largest in history—over $34.6 billion. Practically every form of new construction activity—private and public—will share in this $2 billion advance over the record set in 1952.

Next year—1954—is certain to be another big year. Although it will not set a new record, 1954 seems sure to exceed 1952’s volume of activity, and 1952 was the record year up to then (see table). Even allowing for inflation, the 1954 volume will compare favorably with previous years (see graph).

Just how big 1954 will be depends a good deal on what the construction industry itself does about it. It will be a year of tough competition in which the customer’s canny buying must be matched by aggressive, imaginative selling. Yet markets still are far from saturation, basic sources of demand remain in force, and the economy still is strong. The year can be big if industry is determined to make it big.

PRIVATE CONSTRUCTION should be not more than 3 to 5% below 1953. That will still be a little more than the volume in 1952.

Nonfarm private housebuilding probably will react the same way as total private activity. Housebuilding should be down perhaps 4 to 6% in dollar volume from 1953, and almost the same as or slightly more than 1952. Nevertheless, housing is one of the illest parts of next year’s construction. The outcome will depend a good deal on whether the government acts to make FHA and VA interest rates attractive enough to compete for their historic share of the nation’s investment money. But at worst the dollar volume of new dwelling units should not be much below what is shown. In starts, there is a good chance of a million-house year, and even if the FHA-VA interest boggle continues, the prospect still is for at least 900,000 houses in 1954. (For details of the housebuilding forecast, see p. 174—En.)

Major additions and alterations should continue to expand in dollar volume. So should hotels, motels, and other nonhouse-keeping residential construction. Nonresidential private building in total will be close to 1953’s record volume.

Industrial building activity will continue to slow down; but the dollar figure in 1954 will probably be no more than 10 to 15% below that of 1953.

Warehouses, office buildings and loft buildings will exceed 1953’s activity, while stores, shopping centers, garages, and restaurants should at least not lag behind.

Religious buildings, private school and college buildings, libraries and museums, social and recreational building, private hospitals, as a group, should just about keep pace with 1953’s substantial volume.

Farm construction, reflecting a lowered level of farm income, will continue the drop begun in 1953.

Public utilities: railroads, telephone, telegraph, electric power and service companies, etc., as a group, will continue a mild rate of expansion.

GOVERNMENT CONSTRUCTION as a whole in 1953 may drop around 5 or 6% both as a result of federal cutbacks to avoid exceeding the statutory debt limit, as well as to build a stockpile of projects in case of a recession.

Public housing construction will take another sharp setback as a result of the Congressional limit of 20,000 starts.

Combined federal, state and local nonresidential building is likely to be 8 to 10% below 1953, with most of the drop coming in the federal government’s industrial activity (mainly atomic energy) and veterans’ hospitals.

Local school building, both primary and high schools, and university building will undoubtedly keep pace with this year’s level and may very well move ahead. Fewer government administrative buildings are likely to be built in 1954 than 1953, again largely because of restraint by Washington.

Military and naval construction, because of more rapid completion of projects now under way, may slow down in 1954.

Highway building will continue to expand. Toll roads will be a notable feature in 1954. In their wake: a sizable volume of motels, restaurants, filling stations and similar private building. All in all, if 1954 will not be a year of advancement in all lines of construction, it will be a year with no major faltering in any segment. It promises strength and stability for the whole, with much needed building left for the future.
Here are some of the reasons why construction can have a good year in 1954

Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Occupied same house</th>
<th>Moved to different house, same county</th>
<th>Moved from outside of county</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>78.8</td>
<td>13.9</td>
<td>7.3</td>
</tr>
<tr>
<td>1952</td>
<td>80.9</td>
<td>13.1</td>
<td>6.0</td>
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<tr>
<td>1953</td>
<td>80.8</td>
<td>13.0</td>
<td>6.2</td>
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<tr>
<td>1954</td>
<td>79.8</td>
<td>13.6</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Data are as of April except for the 1950 figures which are as of March. Sources: Occupied same house, same county; 1946-52, Bureau of the Census; 1953 and 1954 estimated by Architectural Forum.

Marrying is still a booming enterprise, despite the upsurge in the marriage rate after World War II and despite the now declining number of persons in the marrying age brackets. The number of new marriages during the past several years has been remarkably stable. This should continue.

Household formation appears to be stabilizing at a level exceeding anything reached outside of the first postwar peak. The large number of marriages is one element sustaining a high net number of new households. But there are other reasons for the high figure: many single persons establish households; widowed and divorced persons frequently keep up separate homes; other couples, aided by savings, pensions and social security, maintain their own independent living long past the age once customary. Doubling up is no longer popular and, with today's prosperity, it is no longer widely necessary.

Mobility as well as growth is characteristic of the population. People are on the move. In 1951, nearly 14% of the people moved to a different house in the same county. More than 7% moved beyond the county in which they were living. The same sort of movement has been going on year after year. The significance of this is the sustained demand it promises for all kinds of construction—more houses and more factories, stores, streets, highways, public utilities, schools and hospitals to serve the people that live in them.

Demand is kept effective by a growing labor force, working at peak employment. The total labor force of over 65 million matches the swollen limits reached during the war years, even including World War II's hordes of armed men. At around 55 million, civilian employment (other than farming) exceeds that of any previous year. Farm employment has been gradually declining with the movement of workers to cities. The trend will continue. This fall about 1.5 million persons were employed—less than 2% of the total labor force. In other words, with allowance for time lost between jobs, nearly everybody who wants to work can find a job. In 1954, some drop from today's payrolls seems likely—accompanied perhaps by doubled unemployment. But we should still have close to as many people employed in 1954 as in 1953.

Even with some possible drop in individual family income in 1954 as compared with 1953, the national aggregate of personal income will be sustained by the high level of employment and by the profitable operations of business.

Private construction demands depend mainly on prosperity, and the basis of prosperity is with us. Any decline in business that appears in prospect for 1954 is not likely to be sufficient to disturb this solid base.

Construction requires lots of money: and the supply of funds in 1954 will be greater than in 1953.

The liquid funds (currency, demand deposits and government bonds) in the hands of individuals and business organizations in 1954 will be around $191 billion, or about half a billion more than this year. Part of these liquid funds will be available for investment in building construction.

Close to $15 billion is in depreciation reserves of industry. Practically all of this will go into new construction, new equipment or plant modernization.

Funds for new loans will also be available in greater amounts in 1954 than in 1953, which in itself was a record year. Since construction activity is mainly carried on on credit, this is critically important. Over 80% of savings and loan funds, more than one-quarter of life insurance company funds, about 45% of mutual savings bank funds and close to 40% of commercial bank time deposits are invested in real estate mortgages. These institutions account for three-fourths of all mortgage holdings and are the year-in, year-out sources of mortgage money. That is why these figures have so much significance. During 1954 the total net increase in the assets of savings institutions will be about $12 billion. The pay-offs on already existing loans will amount to around one
and a half times this amount. Altogether, there should be at least $30 billion available for investment of all kinds in 1954 from the savings institutions alone, close to half of which would be available for mortgage loans. This would, at the minimum, assure as great a supply of mortgage funds in 1954 as these sources are providing in 1953. And for mortgage lending as a whole, 1953 has been a record year.

Money generally will be easier to borrow in 1954 than it has been during much of 1953. In addition to the effect of the continual growth of savings funds, both the Federal Reserve Board and the Treasury are now following a policy of gradual economic expansion. There is little probability that money will again (at least in 1954) become as tight as in mid '53. Interest rates will drop somewhat from the highs in May and June.

Taxes will be lower in 1954. The excess profits tax will die. Personal income taxes will be cut; some excise taxes will be reduced or dropped. All these will provide strong incentives to economic expansion and construction.

Costs will be stabilized. Under the pressure of 1953's demands, construction costs moved gradually up. Nearly everything that builders buy costs more than it did at the beginning of the year. Wages, too, continued to rise.

The outlook is for a leveling off, and possibly for a slight decline in construction costs during '54. Wages should hold firm. Materials prices may edge down a little. Some savings will result from the steadily spreading adoption of methods that save both labor and materials.

There is no "mature economy" in construction. Despite eight fat years, there is still no good reason to believe that construction has been overdone. Quite the contrary—recent rates of building in relation to the size of the economy have not come up to the performance of earlier times.

Take, for example, just three types of private building—residential, industrial and commercial. The average dollar volume of private residential building during the first eight years after World War I (1919-26 inclusive), in relation to the average gross national product for those years, was over one-third more than during the first eight years after World War II (1946-53 inclusive). In only one post-World War II year, 1950, did we reach the average relation of housebuilding to GNP for the years 1919 through 1926.

The average dollar volume of industrial building in relation to GNP was one-sixth more in the post-World War I years than the post-World War II years, and in only three of the last eight years did industrial building hit the former average, and in only one of those three years did it exceed that average—and this in face of a phenomenal industrial expansion.

For commercial building, the discrepancy is even greater. The average amount of commercial building—office and loft buildings, stores, warehouses, garages, restaurants—following World War I was over twice the average volume, in relation to GNP, of that following World War II. Not one post-World War II year had as high a relation of commercial building to GNP as the lowest-ratio post-World War I year.

In contrast to the divergence of these types of private activity during the two postwar periods, the relationships of public construction to GNP during the two periods were very close. Yet after World War I, there was no continued military and naval construction and no vast atomic energy investment—two items that have helped to sustain recent public building at its high level. The ordinary garden varieties of public construction have lagged seriously behind conservatively estimated current needs.

During each of the remaining six years in this decade we could average the following amounts of public construction with assurance that we would not be overdoing the job:

- Schools, colleges, libraries and museums: $2,500,000,000
- Hospitals and other institutions: $800,000,000
- Administration and miscellaneous: $900,000,000
- Sewer and water installations: $900,000,000
- Highways: $4,000,000,000

While these averages are undoubtedly higher than what is actually likely to be achieved, they demonstrate not only the size of the potential volume in these areas, but also the possibility that exists of stepping up public construction to meet any serious future decline in private activity.
What Corbu has been up to:

Charles Edouard Jeanneret, one of the magnetic poles of modern architecture, in this new book continues the saga of his design life, jubilantly described in captions in three languages (including English) and lavishly illustrated with drawings and photographs. Like the four that have preceded it, this is a deeply personal volume, but readers will recognize in its contents a personality and vitality mirrored by many designers in many fields. A large number of the new generation's architects work in forms defined by this impulsive, impatient genius. Those forms are nervous, brittle-seeming intellectual expressions of industrialism which he makes 20th-Century-human by adding vivid, almost brutal contrasts of burning colors and coarse textures (and which other architects sometimes leave incomplete in dead geometry).

What is new with Corbu since the war? In his architecture he has become more strongly sculptural; in career he is in the middle of executing the biggest mission ever given a great architect, an entire city in India (see next page); in energy, ambition, restlessness, "the Crow" is flying higher, cawing more importantly than ever. Today's designers will find this volume of marvelously engraved drawings and photographs as fertile as a full seed package.
building an entire new city in India, Chandigarh

The capital of Punjab Province (population 150,000) is starting from the scratch of Le Corbusier’s pen

In 1791, a forceful young country which had just resigned acrimoniously from the mighty British Empire hired an emigré French engineer to lay out its new national capital. Major Pierre L’Enfant received $2,500 for his work; the new city was christened Washington.

In 1950, another withdrawal from the British Empire also turned to a Frenchman for the same kind of job, but bigger. India’s province of East Punjab commissioned a team headed by Le Corbusier—and including Pierre Jeanneret and England’s Maxwell Fry and Jane Drew—not just to make a study, not just to make drawings or a street layout, but to create a complete city for 150,000 people to move into in 1956.

To L’Enfant, his majestic city plan was a guaranty of lasting fame for an obscure patriot, soldier and planner. To Le Corbusier, his assignment was a chance to build on an unbelievable scale, an opportunity for him to shoot up and spread light like a Roman candle after an earthbound career which in 40 years has sputtered, fumed, smoked, sparked, but only occasionally taken flame to express itself in completed buildings. The opportunity came at a time when Corbu’s apartment house at Marseilles (for 1,600 people) was thought to be his culminating masterpiece; but Chandigarh is 100 times bigger.

Out on the isolated Indian plain near the Himalayan foothills, the new city has actually been under construction for more than two years; Corbu and his associates have been commuting regularly by plane from their complicated European practices, flying off to another world to direct long lines of primitive Indian laborers in a new way of building. Cost considerations and the absence of modern construction machines keeps the new way simple, but Chandigarh’s structures are being shaped into the French master’s most sophisticated architectural sculpture yet.

143
Chandigarh is a 14-square-mile city:

Of green spaces. Fingers of foliage, elongated parks, will run through the city, providing areas for play and paths for strolling on warm evenings, an old Indian custom.

Of severely defined traffic. Automobiles and men will not mix. The plan strictly segregates cars from pedestrians, goes on to divide traffic into avenues of seven different characters and sink fast roads into earth (see plan, opp. p.).

Of neighborhoods. Twenty-five different residential areas, separated by through ways, make up the city, each with 128 houses, its own bazaar, clinic, police station, nursery school, cinema, etc.

Of unparalleled consistency in design. Few buildings will lack the Corbu flavor—and even those few designed by others must be approved by Corbu, Jeanneret, Fry and Drew. They are designing 13 residential types for various economic strata from peon to governor, plus official buildings.

Of low cost. The total budget is $35 million. The peons' houses, for example (see also p. 148), are costing only $620 each.

Of conscious monumentality. The buildings, particularly the capitol group, are designed plastic ally, abstractly—a strong contradiction of the mild, massive British colonial architecture that has dominated the land in recent centuries. But, says Punjab's chief engineer, Parameshari Lal Berma, "Abstract design is not something new in India. . . . Indian statuary is largely symbolic and abstract."

Says Corbu: "The materials of city planning are sky, space, trees, steel and cement, in this order and in this hierarchy. . . . No pains have been spared to make Chandigarh the world's most modern city. Its unique road system restores to the pedestrian the dignity and peace of mind of which the modern city has deprived him, and at the same time permits automobiles to run at the fastest speeds."

"The symphonic problem of climate"

To meet the Indian climate—ten months of burning sunshine and overwhelming heat with two months of torrential rain—Corbu and his associates are putting concrete parasols over the large buildings, shading them without inhibiting air movement. In monsoon time the parasol becomes an umbrella.

The smaller houses of Chandigarh cannot afford these parasols, but are completely equipped with concrete louvers, "sunbreakers."

"The symphonic problem of climate," says Corbu, "has not been understood. Modern architecture, foraging through manuals and magazines from all over the world, blindly absorbs French, American, Indian, German, English or Scandinavian discoveries and shapes. Confronted with this inconsistency, we felt the need for a climatic screen, and we have created it."

"40 miles of roads, with no buildings facing them"

Chandigarh's site, picked from the air, is between two rivers which have water in them only two months of the year. Running down the middle of the capital is the deep eroded gully of another nearly dry river. Around this earth slash, which will be landscaped, the planners are setting a network of roads which simultaneously will speed fast traffic and protect pedestrians.

Something to remember in considering these roads: there will be few privately owned automobiles. The roads:

1. Fast through roads to airport and other cities.
2. Arterial roads for city-wide traffic, sunken as deep as 14'.
3. Fast traffic roads, automobiles only, no pedestrians or cyclists.
4. Bazaar streets for mixed slow traffic, no cars.
5. Neighborhood access roads. Slow traffic separated between automobiles, pedestrians, cyclists.
6. Intimate roads to houses, no cars.
7. Bicycle trails, pathways.

Capitol plan. Surmounting the city will be official buildings, governor's residence. At ground level are shaded pedestrian paths; 14' below are fast motor roads, dug into the ground.
Residential quarters for government employees rise on the dusty Indian plain. Grille visible on building near center of photo is one of the “sunbreakers” with which all houses are provided. Below, a Corbus sketch.

Materials—contrasts and analogies

Because even steel for reinforcing is too scarce and expensive for any but the large buildings, the principal material in Chandigarh’s houses is handmade brick. But seasoned wood is scarce too, so stressed concrete is used for shelves, etc.

Finishes are being left rough. While Corbu was visiting the site of the high court building under construction last summer, an Indian engineer pointed to the uneven surface of the concrete wall and suggested that it should be polished. Corbu took hold of a passing goat and said, “Look at this creation of God. Some of its hairs are white, others brown, some muddy. The very rough surface of this concrete is its beauty.”

His more intellectual appraisal: “By an eloquent classification of working functions and materials; by the use of contrasts and analogies, of harshness and softness, of sharp and blunted lines, I have been able to create an architecture full of variety, made of rough concrete blocks (I propose the phrase: the splendor of rough concrete) and of thin layers of concrete 5 to 6 cm. thick, which are either simple or twisted in form. The whole is whitewashed inside and out, relieved by the violent polychromy of the fabrics which will serve as curtains. They alone will supply the thunder of color so necessary to set off the whitewash and the concrete.”

Chandigarh—point of progress

Asked for an on-the-spot description of what is going on in Chandigarh, Correspondent Achal Rangaswami reported:

“The new capital is the scene of intense activity. Thirty thousand workers—men wearing dhotis and women clad in multicolored saris—work seven days a week. Machinery is limited to a few bulldozers and concrete mixers. Women pour liquid concrete in wooden molds. After setting, a slab is removed and carried by hand to the house rising nearby. Bricks are carried from trucks to building sites in baskets delicately balanced on the heads of erect women. Boys carry water in big leather bags of buffalo hide. Hundreds of men are busy smashing huge boulders into gravel with hammers. There
1. **Secretariat** is 83’-9” long, 126’ high, 78’-6” wide (all based on Corbusier’s modular) and stands on concrete legs. Ramps run up from the three-story main entrance to eighth floor, for easy egress by 3,000 employees at day’s end. On the roof are a garden and an egg-shaped concrete water tank.

2. **Governor’s palace** is a series of blocks for entertaining, offices, and guest apartments, building up to governor’s living quarters and roof garden.

3. **High court building** (above and below) houses eight large judicial chambers, is 70’ high, with an enormous winglike parasol roof and a large doorless entrance.
are some road machines, but molten coal tar is poured and spread on the roads by men who wrap their hands and feet in jute sacking to protect them from being scalded. Roads are scooped out by bulldozers, but donkeys remove the mud to artificial hillocks being raised nearby.

"More than 1,000 houses have already been built and almost all of the 3,208 quarters being built by the Punjab government to house its servants are expected to be completed this winter. The main road system in the residential areas has been built and is in use. In the capital complex bulldozers have begun creating the sunken roadway system. Housebuilding is going on in ten sectors and completed in four. Work in others will start soon. These sectors consist mainly of plots sold to private citizens who will build their own homes according to designs approved by Corbusier and his associates.

"A half-dozen departments of the Punjab government are functioning now in Chandigarh. Residential buildings already completed are being used as offices, and the entire government will shift to Chandigarh this winter. Assembly sessions will be held in the auditorium of the engineering college, which is scheduled to be completed early in October. The high court building is well under construction and will be completed by next spring. Work has begun on the secretariat, which will be finished in two years.

"Twenty tube wells have been sunk to provide drinking water and the water-supply system is in operation. So is drainage. Electricity is being provided by a thermal electric station, but in two years Chandigarh will get its power from the nearby Bhakra Nangal hydroelectric project—one of the biggest in the world. A railroad line is being laid to connect Chandigarh with the existing Delhi-Simla railroad."

Corbu's progress report: "We are making in India great things with hand labor, without machines; architecture abounds there, it flows as the music flows in Johann Sebastian Bach, because it is built on a foundation, on a texture. There is a material and intellectual armature which makes everything develop in dazzling fashion, smiling and radiant. . . . Money has nothing to do with a man of feeling. It is a good thing for an architect to have little money. . . ."
Typical multistory building of brick takes shape beyond parabolic arch of rough stone masonry.

School building (Jeanneret) is brick, stone, precast concrete slabs. Corbu's "modular" dimensions govern all designs.
These five hospitals in the United Mine Workers’ chain will be easy to work with and easy to look at

In other words . . . these hospitals are Architecture

The immediately sensational feature of these hospitals is their internal supply system, presented overleaf.

Unlike many sensational things, this feature deserves all the attention it will draw because the organizational concept behind it—originated by Senior Administrator Gordon Friesen—and the architectural interpretation of this concept are both truly creative contributions to hospital planning.

But something else about these hospitals—something subtler and perhaps even more important—merits the closest study.

They are the absolute opposite of the bumpy hospital.

The bump and the squeeze

Bumpy hospitals are all too familiar: they start with a strong backbone that peters out into visually irrational setbacks and boxes. It seems as if unrelated bumps ought to have some nifty functional purpose. But bumpy hospitals are almost always disappointing; the bumps are usually makeshift ways of shortening corridors or housing departments that “didn’t fit in anywhere.”

To be fair, there is something worse than the bumpy hospital:

the stuffed hospital whose visually sane forms conceal functional compromises right and left.

But these five Sherlock, Smith & Adams hospitals are neither bumped nor stuffed. They are Architecture, a rare and difficult thing for a good hospital to be.

Now, these architects had all the troubles—including a tight budget—that any hospital designer has. Maybe more, because the clients wanted all kinds of new things. For instance, they wanted the emergency entrance to be at the main entrance because they know that when people are hurried or frightened they get confused and have trouble finding secondary doors.

Behind the basic excellence of the final plans is the outstanding client-architect-builder planning teamwork described in last month’s Forum. But added to that is an ingredient only the architects could supply: these are not bumpy hospitals because every time a plan outgrew its breeches, the architects reworked the whole scheme to make better internal and external sense, to keep the two always hand in hand.

Notice the variety among these five hospitals—single corridor,
double corridor, square. Look at Harlan's seeming eccentricities—its second-floor kitchen and cafeteria, its main-floor storage.

Sherlock, Smith & Adams did not indulge in this variety to exhibit their virtuosity; each highly individualized plan is the solution to an individual problem.

Whitesburg, for instance (p. 154), with its special feature of nurses' substations, just would not go together sensibly without makeshifts or patching until the architects tried its square plan.

Hazard (p. 156) was panning out fine except that its basement floor was a killer. Something finally had to give. Look at the plan to see what the architects chose to squeeze outside the perimeter and how they made a virtue of the squeeze.

The pay-off

Should anyone doubt that this striving for harmonious expression was worth while, let him examine the plans, for they are its direct result. Look how beautifully the pieces fall into place.

Look at Harlan's first-floor plan for things like these:

- the single entrance control point for visitors, admitting, emergency, outpatients, and the way all this traffic is combed out;
- the unique interviewing-admitting-records complex (see p. 157);
- the way the main entrance leads into emergency ... and emergency into recovery and surgery ... and surgery into radiology ... and radiology into outpatient;
- the way the universal hospital argument about whether fracture and cystoscopy belong with surgery or radiology was settled;
- the institutional waiting spaces (see also p. 157) the indoor-outdoor pediatrics waiting;
- the integration of lecture-movie-demonstration with waiting;
- the place placed chest X-ray and specimen suite;
- the "central backbone" circulation with branching corridors;
- the casual grace with which courtyards serve as outdoor rooms.

In one respect the architects got an easy break. Because most patients will be beneficiaries of the Mine Workers' welfare fund, business offices could be separate from reception and Friesen did not care where the architect put administrators; he says a good administrator is seldom in his office anyhow.
Admitting desk (Harlan) controls all incoming traffic; emergency traffic is shielded from lobby by knee-to-shoulder screen. Screen not shown in sketch; see plan.

Harlan data: 192 beds (expandable to 379); 111,400 sq. ft.

Costs on all hospitals in group are estimated to average $13,000 per bed, $22.65 per sq. ft.

Shelves on wheels and the all-purpose dispatcher:

In these hospitals almost every storage shelf or cabinet is a lightweight, silent aluminum cart.

And all service departments simply prepare materials. A single dispatching office stores and issues everything, routine or emergency (other than food).

In the small hours of the night, dispatch men wheel away the carts from each clean utility room (see core plan, opp. p.), replace them with next day's supplies. From the soiled utility room they wheel away filled carts, replace them with empties.

Through the vertical supply core, into the clean utility side, comes the food on a vertical tray conveyor. Down from the dirty utility side of the tray conveyor go the used trays.

Any time, day or night, a nurse's station wants a special item, it calls the dispatcher or kitchen on the intercom; up comes the item, usually by dumbwaiter. But every need that can possibly be anticipated will already be on the carts.

Look at the diagram—which shows the system as worked out at Harlan central hospital—to see how all supplies (whether standard stores or instruments sterilized in the hospital, linen or sterile packs from the service center described in last month's Forum) feed to the dispatcher. Look at the plans of the other hospitals to see how the system works with ground-floor and nursing-floor plans different from those of Harlan. Note how the system works out in two-story Wise Hospital (p. 154) where the tray conveyor is omitted. This is no strait-jacketing system.
GOWN'G WORKRM

TRETMN'T

a radically new labor-saving supply system

The detail, on which the supply system's smoothness really depends, is beautifully worked out.

For instance, the carts themselves (still in planning stage): basically they are identical but are equipped with interchangeable shelving and compartments. Here is what a clean utility room will get: (1) housekeeping carts, each with a full 24-hour complement for 15 patients (including linen, washed mop heads, bedside packs for new patients, laundry hampers, soap, etc.); (2) two sterile supply carts; (3) two nonsterile supply; (4) one drug cart; (5) one miscellaneous cart.

As a hedge for flexibility, the supply core has a letter-drop to the dispatcher. This is in case of a now unforeseen need for requisitions on some items, or in case the hospitals ever wish to install a perpetual-inventory system; nurses or maids would then tear tags off items as used and drop them in the slot.

Special maintenance carts, equipped with folding ladder, tools and routine replacement parts like light bulbs and faucet washers will make regular rounds, eliminate most maintenance requests.

Specimens, slipped into containers that look like cutaway rubber hose, will travel by a brand-new nose-dialed pneumatic tube system (see New Products, AF, Aug. '53) to be installed in Harlan, Whitesburg and Hazard.

All these supply-system ideas are used in the other five hospitals of the regional system also (see map); carts for all ten hospitals were developed by Sherlock, Smith & Adams and Friesen.

As for the charting and administrative aspect of nurses' stations—that is a story in itself. It will be described, along with other hospitals in this coordinated system, in the November FORUM.
The smallest of the five hospitals illustrates especially well a point all have in common: respect for their sites. Wise's shelf preserves the hilltop feeling of a high and lovely orchard knoll. Staff housing climbs farther up the slope. Note another nicety: first-floor roof is on north side of nursing unit. Wise has 58 beds, 41,700 sq. ft., is expandable to 140 beds.

**WHITESBURG has a square nursing unit**

How to combine decentralized nursing with a single central supply-utility core? This plan is a neat solution. In addition to obvious step-savings, the scheme has flexibility; the load assigned to any substation can be easily shifted "like moving a figurative bookmark"; at night headquarters station can take the whole floor. The basement is noteworthy for circulation space economy. It is a transfer point for supplies to other hospitals (AF, Aug. '53), hence the large loading dock. Whitesburg has 92 beds (expandable to 120); 55,100 sq. ft.

**Square plan permits advantages of same central supply system as other four hospitals, combined with special requirement here for decentralized nursing. Note good placement of acute patients' single rooms, advantage taken of corners. A mountain is west sunshade after 3 P.M.; courtyard cuts west roof from beneath bedrooms. Climatology survey had shown site required air conditioning.**
Nursing floor supply-utility core at Wise is similar to Harlan's. Dispatching office and kitchen are in basement; Wise omits vertical tray conveyors.

SECOND FLOOR

FIRST FLOOR

THIRD FLOOR

BASEMENT
MIDDLESBORO uses outside “patios”

This hospital’s relatively long and narrow shape precluded courtyards, used so deftly in the other hospitals as patios. A similar pleasant, friendly atmosphere is achieved with perimeter terraces and lawns related to waiting spaces. The architects have used the outdoors as in good residential planning, still a rarity for hospitals. One public terrace is at the west end of the building; a larger one, interspersed with lawns, is at the north end of the lobby.

The nursing unit is similar to Hazard’s. Middlesboro has 77 beds (29 on obstetrical floor, 48 on third floor), 50,700 sq. ft., is expandable to 125 beds.

HAZARD makes the most of a slope

The architects had less than four acres, some of it sloping sharply, on which to get this 54,200 sq. ft., 84-bed (ultimately 170-bed) hospital, nurses’ dormitories and staff housing. Instead of fighting the slope they worked with it, got fun as well as a good plan out of it. Note how the round cafeteria simultaneously solved a basement-plan snarl and an esthetic problem. The bridge to housing will be fun too—bent-pipe arch with slab.

Note (opposite page) the large-scale plan of lobby area with its uninstitutional waiting spaces, good placement of pharmacy. The interview-admitting section serves both out- and inpatients. The entire outpatient department (designed to permit group practice) is a far cry from the now outmoded notion of a charity stepchild department; it is a significant piece of up-to-date thinking and designing. Salient features of the public area are incorporated in the other hospitals too. All hospitals expand vertically.
COMPACT TOWN HALL accommodates all offices for a small community, uses wall-bearing structure to simplify construction and cut costs

Fire department, police headquarters (plus jail), city council, city clerk, magistrate’s court, city treasurer, mayor’s office, city engineer—all these departments are organized into a pleasant unity in this new town hall for Brighton, Calif. (pop. 7,000). The total cost: $103,000, or $13.72 per sq. ft.

And all these departments are not only adjacent; if necessary they can also be managed by one hand. Architect Hunter, realizing that any emergency in a community this size means that all city employees have to jump departmental barriers and cooperate, left out enough office partitions so that one man can take entire charge. Example: without leaving his own office desk, the city clerk can act as desk sergeant, easily taking over the switchboard when the entire police force is called into action.

Almost equally important is the design character of the structure. Government on this level is relatively informal, so the building consciously was designed to seem hospitable, with a pleasant entrance court garnished with planting. Structurally everything was kept very simple for two reasons:

- Cost. The county did not want to go deep into debt for the new building, and did not have to.
- Local contracting. Community pride led to the hope that a local contractor could get the contract; simple wall-bearing structure made it possible.
Council chamber on second floor is designed to have utilitarian dignity without ostentation. Windows are for ventilation only, since council meets at night.

Fire department is allotted considerable space because it is a volunteer organization. It is run almost as a club.

COST BREAKDOWN:

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Grille designed on abacus theme partitions the vault area.

Stairways, fixed and moving, connect reception room at street level with underground banking floor.

Banking floor, a remodeled cafeteria, plays curves of partitions, counters, tables.

General office area lies behind overlapping curved walls.
Entry building and 600-car parking garage (with drive-in banking counter) are the only parts of bank extending above grade.

**UNDERGROUND BANK** beneath the traditional crust

of Kansas City uses modern design to boost business and efficiency

Reaction of the bank management (headed by Arthur B. Eisenhower, the President's brother): "There is no question that business has increased because our facilities are more comfortable, more convenient and more inviting. The arrangement of the tellers' facilities has enabled us to use a larger number of windows more efficiently and effectively than would have been the case with the traditional "U" shaped or rectangular setup. . . . The open feeling has eliminated any reserve that could have existed between the public and our officers."

Upstairs, the architect did his best to shield his modern street facade from the dowdy glories of the Spanish-American graduation-diploma decorations of the superstructural parapet impediments. Architect Becket's method was a discreet canopy jutting just as far out over the sidewalk as the real estate grantees would permit (9'-6''). From across the street, this makes for an amusing contrast, but close up it works very well; the bank clearly deals in dollars, not doubloons.
This cocktail lounge was transformed from a chrome-and-juke box bar to a tasteful landmark in San Francisco. When Architect Gaidano was called in to "redecorate" the bar to stimulate its so-so trade, he saw—and seized—the chance to work a minor miracle.

The owner proposed to spend about $7,500 for the job but Gaidano convinced him that nothing less than an entirely new character for the business could jolt it out of its established rut. The architect's concept of this new character is best summarized by his own words.

"In the lounge, the individual should feel at once pleasantly awed by the atmosphere and comfortably at home. He should be, as he cannot be in his own home, taken out of himself and still be master of the situation—of the room itself. This can't be done by deafening him with juke boxes, startling him with pinball-machine effects or mirror reflections without end. Everything must be scaled to his level, must enclose him in an atmosphere of comfort, ease and naturalness."

To realize this concept, Gaidano did away with all the glitter of the former room and treated the area as three integrated spaces: the bar and two lounges. In the bar he replaced the usual mirror with gold grass cloth and used concealed accent lights to show off the wall and illuminate the display of liqueur bottles. A grid of redwood beams forms a deep, textured ceiling here. In one lounge area he used more gold grass cloth on the walls and illuminated the space indirectly with concealed lights that reflect from the plaster ceiling. In the other lounge area walls are redwood; the ceiling is of wide-spaced beams topped with redwood strips. Light filters down through gaps between the strips to illuminate a brick fireplace wall which is the main focus of the room. Low tables, chairs, ottomans and sofas increase the room's intimacy.

The exterior of the building now hints at the secluded comfort inside: obscure glass and a brick wall suggest privacy; a discreetly lighted sign and a planting box in the entryway suggest luxury.

Total cost of remodeling was just double the owner's original budget—$15,000. But so successful was the design that owner Bacci paid off all costs in eleven months and watched profits climb 200%. Most important, his clientele—formerly from the neighborhood—now comes from all over the city to enjoy the distinctive atmosphere.

Architect Gaidano gained, too. He not only realized his concept in the remodeling, but won an AIA award from the northern California chapter for his efforts.
"Waffle" block slabs are welded atop 24' steel columns. Underside of slab (right) shows four-piece, 2' square coffer blocks on which slab is poured.

Four slabs are cast on ground floor (above); each is later hoisted on columns 22' x 24' apart. Right: supporting collars with two-way reinforcing.

1. Lift-slabs with noise control for $2 per sq. ft.
2. Insulated aluminum curtain wall for $6 per sq. ft.
3. Two-story aluminum wall panels for quick enclosure
4. New construction techniques for big projects

Photos: (bottom, left) The Peoria Journal; (others) Associated Photographer
Floor plans, before and after remodeling, show how character of the cocktail lounge was changed with minor structural changes.

Old mahogany bar dating from 1915 was only authentic note in original room (left). It was retained in remodeling (above) but now is complemented by tasteful wall and ceiling treatment.

Fireside lounge has intimate character with sophisticated note added by R.e. Ackler's wall mobile.
Lift-slabs of lightweight concrete “waffle” blocks which remain in place as acoustic ceilings helped frame this two-story high school in four weeks for $2 per sq. ft. The entire 91,500 sq. ft., 910-pupil Limestone Township High School in Peoria, Ill., was completed in ten months for $1,130 per pupil, under $11 per sq. ft. The lift-slabs’ cost of $2 per sq. ft. beat the bid of $2.10 for cast-in-place slabs, also saved three months’ construction time.

Roof and second-floor slabs are cast in sequence on the ground-floor slab, then jacked up 8” square steel columns in the familiar “Youtz-Slick” method (AF, Sept. ’51). First the roof is hoisted 24’ and the steel collars in the slab are welded into position on the columns; then the second-floor slab is hoisted 12’ and similarly positioned.

To lighten the structure and provide good acoustics, slabs are made of 2’ square coffer blocks made of 2,000-psi lightweight concrete. These are 8¾” deep, have 2” thick shells and a 3” flange to carry the reinforcing rods and poured concrete of the 11” deep slab. Laid side by side, the blocks make a continuous form like the grid of a waffle iron. Weight of the coffer block is 25 psf; of the finished slab, 100 psf. Each block is machine-cast in four sections by standard concrete block equipment for $1.60 per block or 40¢ per sq. ft., delivered.

This framing system proves extremely simple and flexible. Design of the slab is according to standard ACI Code with the coffer blocks considered as dead load (they are held in place by bond alone). Only the columns are fixed (at 22’ x 24’ intervals) and the slabs built around them as desired. Coffer blocks are omitted in a 6’ x 6’ area around each column to produce a section of solid concrete to resist shear forces. Joints between slabs are cast-in-place.

Largest of the 15 slabs is 60’ x 82’, weighs 275 tons and is carried upon 12 columns (a maximum of 12 jacks can be handled by the lifting equipment at one time). Capacity of the jacks is well over twice the weight of the slab; subcontractors take advantage of this by placing their supplies on the slab while it is still on the ground, thus having everything hoisted for them.

Non-loadbearing exterior walls and partitions are made of clear glass and glass block, mounted upon masonry cavity walls. Underside of the slabs is spray-painted and, with ductwork, left exposed; sound absorption of this ceiling is found to average 50%.

The school is designed by Hewitt & Bastian, architects; Pfuhl & Shideler are the structural engineers; C. Iber & Sons, the general contractor.
2. INSULATED ALUMINUM CURTAIN WALL

Precast vermiculite concrete panels and aluminum skin cost $6 per sq. ft.

More architects are turning to light prefabricated curtain walls. Here and on the next page are two new applications that again demonstrate the advantages of thin metal skins over masonry—greater strength and weathertightness, lighter construction occupying less space, rapid erection and easy maintenance.

Here, on the new State Office Building at Jefferson City, Mo., is a clever combination of 3" panels of light vermiculite concrete faced with 5/32" weather-resistant aluminum sheathing. Hung on the concrete structure in continuous spandrel walls, 4½' high on a 5'-2" horizontal module, this wall costs $6 per sq. ft. including a light steel supporting frame (panels cost $4.60 per sq. ft. delivered; erection $1.40 per sq. ft.). Other comparative cost figures: in Alcoa's Davenport Building the aluminum wall with concrete backup cost $4.78 per sq. ft. (AF, June '49); Gateway Center's stainless steel wall with integral concrete backup, $6.80 per sq. ft. (AF, Apr. '52).

Weight of the wall is 14 psf (saving an estimated 1,700 tons as compared with the 150 psf of a 14" masonry wall). A sliding joint with slotted bolt holes provides efficient horizontal connection without caulking. This joint permits thermal expansion up to 3½" in the 193' length of the building, yet the wall is so tight and the vermiculite concrete insulation so good that an air temperature of 80° is achieved with 100° water in the window heating units.

Concrete panels are precast with a 1-to-6 mix of cement and vermiculite aggregate (giving a 28-day compressive strength of 450 psi, a density of 26 psf and a "K" factor of 0.76). From inside the building, each panel is lowered into place on 4" steel channels by two men in only 20 minutes. The aluminum facing goes up even more quickly. Working from ordinary painter's scaffolds, each 4½' x 5' spandrel is bolted to a steel bracket by one man in only 15 minutes.

The steel supporting frame for the wall is mounted on a 6" cantilevered concrete slab that extends out 2' to 3' from each peripheral line of columns. The 14-story flat plate concrete structure contains 219,000 sq. ft. of rentable office space and cost $18.20 per sq. ft. including air conditioning. Marcel Boulicault is the architect; structural engineer, William C. E. Becker; mechanical engineer, Ralf Toensfeldt; and general contractors, MacDonald Construction Co.

Precast panels are lowered into steel channels

Vermiculite concrete panels are placed inside building ready for erection as wall insulation.

Light steel frame will carry wall and windows

Aluminum spandrel covers bolted into place (above) give horizontal accent to completed State Office Building (far left).

Maule
3. PREFAB ALUMINUM SKIN

98,000 sq. ft. of exterior wall, factory-made in two-story units, erected in 6½ days

Even the contractors were surprised to see how fast this aluminum curtain wall went up on the 26-story office building nearing completion at 99 Park Ave., N. Y. Having cautiously provided 40 men and scheduled 12 days for the job, they completed it in 6½ working days. Cost: $6 per sq. ft.

Basically, the wall consists of a skin of 1⁄8" aluminum (surfaced on the outside with a 5% silicon-aluminum alloy and on the inside with a sound-deadening asphalt coating) plus a backup of 4" cinder block and 3⁄4" vapor-sealed glass-fiber insulation to give a “U” value of 0.24. The cinder block is built up to the 2'-7" sill height on each floor to withstand a three-hour fire test. (Paradoxically, under most building codes the backup would not be required if the wall were entirely of glass.)

In developing this wall the architects had three objectives: 1) a thin wall giving maximum rentable space—total thickness of 10½" is about 6" less than the typical all-masonry wall and the windows are located as far out as possible; 2) simple, low-cost maintenance—the aluminum is washed by rain and needs no cleaning; the vertically pivoted windows are cleaned from inside; 3) speedy enclosure without expensive plastering. They considered the Alcoa wall (AF, Apr. '52), decided to use larger, two-story panels to exploit the long extrusions possible with aluminum. These panels are prefabricated in units 4'-6" wide and 23'-3" high. They com-

Erection from inside the building saves time.
prise two 4'-6" high spandrel sections, die­ pressed into a 5" deep concave pattern for rigidity, and two 6' high aluminum window frames with stainless-steel weather-stripping, all shop-welded between a pair of 23'-3" extruded aluminum "mullions."

In erection, the panels are simply hoisted into position and the mullions bolted to galvanized steel brackets that are welded to the spandrel beams of the steel-framed structure. Adjacent mullions mesh to form a strong joint that is weathertight without caulking. Vertical expansion is provided at intermediate floors by aluminum spring connections; horizontal expansion by the zigzag mullion joints. Condensation accumulating behind the aluminum facing is drained through weep holes at the base of each panel. Panel weight: 2 psf.

The building contains 403,500 sq. ft. of air-conditioned rentable space, is being built for about $12 million ($2 per cu. ft.). Emery Roth & Sons are the architects; Victor Mayper & Associates, structural engineers; W. R. Cosentini & Associates, mechanical engineers; Tishman Realty & Construction Co., general contractor and owner. The curtain wall was fabricated and installed by General Bronze Corp.

4. NEW IDEAS SPEED BIG JOB

Billion-dollar AEC plant stimulates new thinking on construction techniques

At the peak of construction the billion-dol­ lar U-235 "facility" for the Atomic Energy Commission near Paducah, Ky. covered 8 square miles (5,000 acres) and employed 23,000 people. Its great scope and importance to the national defense challenged architects and engineers to improve speed and quality of construction at minimum cost, a challenge they met with many new construc­ tion methods. The most successful new ideas are described below.

Prime contractor for the plant is F. H. McGraw Co. Architect-engineers are Giffels & Vallet, Inc.; Smith, Hinchman & Grylls, Inc.; Singmaster & Breyer; and Sargent & Lundy. Operators of the plant are Carbide & Carbon Chemicals Co.

1. Traffic controls

To ensure that the 10,000 cars belonging to employees did not hold up construction, the traffic manager devised a rigid traffic control scheme whereby the entire construction area was ringed with eight vast parking fields. Four access roads lead to an outer ring-road around the parking areas. A second ring-road is inside the parking areas for the use of construction traffic. In addition, a series of eight radial roads con­ nect the ring-roads and a control center in the middle of the construction area.

The whole system is coordinated by five traffic control towers at the local road junc­ tions assisted by manually controlled traffic lights, loudspeakers and two-way radios. Efficiency of the system is demonstrated at the end of each day shift when 8,000 vehi­ cles get away from the project in about 17 minutes.

2. Suspended scaffold

Since every building includes one or more large crane track support beams...

All this you see at a glance—but there's more to a Ro-Way than meets the eye!

There's your client's deep-down, long-lasting satisfaction and pleasure—result of smooth, quiet, easy operation, trouble-free service and long life.

And your own sure feeling of confidence whenever you specify Ro-Way—confidence born of the knowledge that Ro-Way is your own best "standard of comparison" in overhead type doors.

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An objective study by the Faber Birren Company* shows: the all-FLEXALUM aluminum blind controls room air temperature more effectively than any other window covering—including Venetian blinds made with other materials. An even more dramatic difference was obtained by measuring the surface temperatures of unfinished FLEXALUM aluminum and raw steel exposed to solar heat...the FLEXALUM reading was 19°F lower. This study points to all-FLEXALUM blinds as an effective way to reduce heat.

only all-Flexalum blinds have all these long-life and low-maintenance advantages:

Wipe-Clean Plastic Tapes—Won't fade, fray, shrink or stretch.
Spring-tempered aluminum slats—Snap back to perfect shape. Won't rust, chip, crack or peel.
Long-Wear Nylon Cords—Won't fade or fray. Tassels are noiseless, unbreakable plastic.

*Copies of this study available on request. Write for local Flexalum sources, free file of venetian blind information

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Since there's no need for central system duct work, Dunham "Vari-Temp" costs less to install and maintain. A single riser, connected to the unit, supplies hot water for heating—chilled water for cooling.

Units are also available for heating with steam coil, or heating and ventilating with non-freeze steam coil.

In addition, these handsome, compact cabinets save space. One "Vari-Temp" delivers the same amount of heat as five radiators equal to it in size!

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Please send your "Vari-Temp" Literature.

Name

Company

Address

City Zone State

ARCHITECTURAL FORUM • SEPTEMBER 1953
When you have 8,000 squares of flat roofing, you have yourself a roof. That's what was involved in this Acme Market's roof that covers their bakery and warehouse. It stretches for 5 city blocks. And in Philadelphia the blocks are long! The vastness and very nature of the construction of this roof dictated copper in the vital spots. For this roof must endure for many years, require the absolute minimum in maintenance and do a thoroughly efficient job of protecting the foodstuffs stored beneath it. On top of that, with 4,000 ft. of expansion joints, the material used had to be rugged enough to withstand abuse yet readily workable and economical to install. Also it had to be able to shrug off year after year of contraction and expansion. Copper dovetailed into this pattern perfectly.

Actually, copper fits perfectly into many patterns. There is not another single metal or alloy that has all the outstanding construction characteristics of copper. Its endurance has been proven over centuries of use. It is readily worked into any desired shape. It solders to perfection. It requires no painting. And it can't rot or rust.

The end use restrictions on copper a while back did more to point up its importance in building construction than anything that we might print about it. Architects, builders and contractors told us at that time that there are places in building where there just is no substitute for copper.

Now, with restrictions on the use of copper ended there isn't any reason why your next job can't have the many benefits of Revere Copper. See the Revere Distributor nearest you about Revere Sheet, Strip or Roll Copper for flashing. Particularly ask him about the money-saving advantages of Revere Keystone Thru-Wall Flashing*. And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

*Patented
"We have standardized on Janitrol since 1946. Experience proves they provide efficient heating with a very minimum maintenance cost."


All are important reasons for specifying ®Janitrol GAS-FIRED UNIT HEATERS

Good locations . . . well planned buildings . . . have contributed to the rapid growth of the Miller Super Market Chain. The same advantages of clean, even heat with a minimum of maintenance . . . the fact that Janitrol Unit Heaters adequately meet these needs without the use of valuable floor space . . . are all benefits deserving your consideration in the planning of any commercial or industrial buildings.

Surface Combustion’s files of architects’ reports show that savings of up to 50% on original installations over central heating systems are often possible. In fact, many Janitrol Unit Heater installation savings have made it possible to build within exacting budgets even though other material and labor costs have increased.

If you are planning year ‘round air conditioning, Janitrol Unit Heaters (Duct type) offer the same space and cost saving advantages as in straight heating jobs. These Janitrol duct heaters fit right into new or existing summer air conditioning duct work to conserve space. No fan or blower is required because the installation utilizes the cooling blower mechanism.*

You are sure to find the following literature most useful in your current and future planning work:

1. A.I.A. File on Commercial and Industrial Heating
2. "Businessman’s Blue Book of Better Heating"
3. Revised Sweets Catalog Insert

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*Note: Stores beyond the gas mains can enjoy these same advantages with LP Gas.
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Sun reflecting aluminum sheets will cover this Wolmanized lumber reservoir roof in Pomona, Calif.

Wolmanized lumber, on steel framing, gives lasting protection and insulation to this Orlando, Fla. reservoir.

FORUM FORECAST cont’d from p. 141

Housing: economic trends point to 1 million units in 1954

Since 1946, the average number of new family dwelling units started each year has exceeded 1 million—more than 7.5 million in a seven-year period. This is an unprecedented performance.

Nonfarm Housing Starts, 1946-54

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Private</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946</td>
<td>675,500</td>
<td>662,500</td>
<td>8,000</td>
</tr>
<tr>
<td>1947</td>
<td>849,000</td>
<td>845,600</td>
<td>3,400</td>
</tr>
<tr>
<td>1948</td>
<td>931,600</td>
<td>913,500</td>
<td>18,100</td>
</tr>
<tr>
<td>1949</td>
<td>1,025,100</td>
<td>988,800</td>
<td>36,300</td>
</tr>
<tr>
<td>1950</td>
<td>1,396,000</td>
<td>1,352,200</td>
<td>43,800</td>
</tr>
<tr>
<td>1951</td>
<td>1,091,300</td>
<td>1,020,100</td>
<td>71,200</td>
</tr>
<tr>
<td>1952</td>
<td>1,227,000</td>
<td>1,068,500</td>
<td>58,500</td>
</tr>
<tr>
<td>1953</td>
<td>1,100,000</td>
<td>1,065,000</td>
<td>35,000</td>
</tr>
<tr>
<td>1954</td>
<td>1,000,000</td>
<td>980,000</td>
<td>20,000</td>
</tr>
</tbody>
</table>


The very heft of this volume has loudened the voices of the pessimists; it simply cannot keep up, they say, especially in face of the falling rate of family formation (see table, below). Net family formation has fallen off, and no doubt it will continue to slip or to move along at around half or less of the 1949 peak.

Family formation is important as a source of housing demand. But in times of high employment and good income it is certainly not the only source.

Moreover, the number of marriages (see graph, p. 140) and the net number of new families do not in any case measure the total demand for separate households—as witness the difference between family and household formations. Households are also made up of unmarried and widowed persons. The total requirement for separate accommodations is increased by the earlier earning power, the longer life span and greater social security.

With a drop of about 20% in new starts from the top building year 1950, housebuilding has already made a substantial adjustment to a lower level of family formation; and, in the years since

Net Family Formation, 1947-54

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>579,000</td>
</tr>
<tr>
<td>1948</td>
<td>1,040,000</td>
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<td>1949</td>
<td>1,557,000</td>
</tr>
<tr>
<td>1950</td>
<td>716,000</td>
</tr>
<tr>
<td>1951</td>
<td>581,000</td>
</tr>
<tr>
<td>1952</td>
<td>620,000</td>
</tr>
<tr>
<td>1953</td>
<td>600,000</td>
</tr>
<tr>
<td>1954</td>
<td>575,000</td>
</tr>
</tbody>
</table>

IN keeping with advanced concepts of design and construction, Pratt & Lambert Paints and Varnishes were used in this imposing newcomer to the Fifth Avenue scene. And it is just one of hundreds of recent instances where P&L has been chosen for the finishing touch in all types of buildings throughout the land.

Each year, an ever-growing number of architects has come to look upon Pratt & Lambert as their dependable source for all interior and exterior finishes. They know that P&L quality is scientifically developed and jealously guarded by one of the finest and most extensive laboratories in the industry — that P&L colors are exactly right for easy-to-live-with decorative effects of distinction.

You are invited to call upon your nearest Pratt & Lambert Architectural Service Department any time for assistance in specification writing and color planning.
Behind this master plan for comfort...

PACIFIC BOILERS with JET-ACTION circulation!

Baltimore's Broadview (drawing shown above), with 465 apartments and four penthouses, is unequaled for luxury and convenience. Tenants are provided with catering services, public dining rooms, private garages, special entertainment suites, efficiency apartments for week-end guests.

To supply luxury heating comfort plus top economy, Broadview planners* chose Pacific Boilers with Jet-action Circulation:

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The result of this continuous turbulence is maximum heat transfer. Broadview owners get immediate response when changes in building temperature are desired, more efficient use of fuel.

Why not take a tip from Broadview planners and see how Jet-action Circulation can benefit your installations? Your local Pacific representative is ready with complete information on Pacific Boilers for every use. Call him today!

*Architects: Palmer, Fisher, Williams & Ney; Mechanical Engineers: Egli & Gompf; General Contractor: John K. Ruff, Inc.; Mechanical Contractors: H. E. Crook Co., Inc.
Discriminating planners of fine homes are discovering the warmth and distinctive beauty of wood for interior uses. As a result, kitchens equipped with wood cabinets acquire a unique character.

One of the woods responsible for this trend is Weyerhaeuser 4-Square West Coast Hemlock, a superb softwood found only in the mild, even climate of the Pacific Northwest.

The soft, silvery sheen of this Hemlock softens the severity of gleaming modern appliances. Straight grain, uniform texture, and freedom from pitch add to the wood’s attractiveness.

Fortunately, West Coast Hemlock is versatile. It may be used both inside and out. Because it is light to handle ... easy to cut and shape ... tough and durable, with exceptional nail-holding power, Weyerhaeuser 4-Square West Coast Hemlock is also ideal for such uses as framing and sheathing. Its outstanding capacity to take and hold paint or natural finishes makes this West Coast species excellent for many other purposes, from siding to paneling—from ceiling to flooring.

When you specify materials for clients who appreciate fine woods, consider the distinctive beauty of Weyerhaeuser 4-Square West Coast Hemlock.

Descriptive literature on this abundant “Ability Wood” will be mailed on request.

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FORUM FORECAST
continued

1950, it has made much progress in adapting itself to other sources of demand.

What are these other sources?

- The need for more space is one. Families are growing in size with a phenomenal output of babies, and especially of second, third and fourth babies (see table, below). The old houses in many cases will not do.

- Mobility (see table, p. 140) is another important source of demand. Literally hordes of families do not want to live in the noisy, congested centers of cities, but prefer to take advantage of the opportunity that modern transportation gives them to live where they choose.

- New technologies also spur demand. More attractive designs, more convenient arrangements, more and better equipment, better all-around adaptation to modern living requirements provide a major source of demand. This is industry’s great contribution to sustained demand. It has been possible to sell people out of even good old houses because the new ones can be so much more satisfactory. This is also industry’s greatest opportunity to assure continuance of its successful activity.

A boost from rehabilitation

Programs to rid cities of unfit old houses can help prevent a decline in total housing demand during an economic setback. Strict housing and occupancy laws and firm enforcement will force vacancy upon houses that can no longer be economically repaired. The exercise of the police power can force their removal from the market—and at the same time insure against an unmanageable surplus in a period of recession. Local law enforcement programs, now increasing in number, are important economically as well as socially.

So long as people have jobs, so long as they retain their confidence in the future, so long as industry continues to increase the attractiveness of its product,

continued on p. 182

Birth Rates by Birth Order, 1940-51

Registered live births per 1,000 female population 15-44 years of age

<table>
<thead>
<tr>
<th>Year</th>
<th>1st</th>
<th>2nd</th>
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<td>1940</td>
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<td>36.0</td>
<td>37.6</td>
<td>33.2</td>
<td>27.5</td>
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<tr>
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<td>35.2</td>
<td>36.8</td>
<td>38.2</td>
<td>33.8</td>
<td>28.4</td>
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<td>1942</td>
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<td>37.4</td>
<td>38.8</td>
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<tr>
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<tr>
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<td>44.0</td>
<td>39.2</td>
<td>33.8</td>
<td>8.2</td>
</tr>
</tbody>
</table>

MOVIE STARS SHOP IN COMFORT at the new Robinson's Beverly. Designed by architects Pereira and Luckman, and architect Charles O. Matcham, this modern department store is air conditioned all year-round by a Worthington system. Installation by Kilpatrick & Co., Alhambra, Calif.

Year-'round air conditioning in Beverly Hills' first department store

Featuring two-level parking and an outdoor garden lounge, Beverly Hills' first department store, the new Robinson's Beverly is completely air-conditioned every day of the year.

Fan and coil units throughout the store are used for both heating and cooling. Flow of steam or chilled water is controlled by change-over valves, actuated by four thermostats on each floor.

Chilled water for the air-conditioning system is supplied by three Worthington 125-hp Freon-12 reciprocating compressor units. The Worthington system was chosen by architects Pereira and Luckman, and architect Charles O. Matcham. Said Pereira and Luckman: "All products and equipment were judged in terms of the contribution they make to a smoothly functioning facility for the distribution of merchandise. Ease and economy of maintenance were also major factors in the choice."

For over half a century, Worthington-engineered air conditioning installations have been serving business and industry. Today, the complete Worthington line is ready to meet any assignment, large or small. So when you think of air conditioning—think of Worthington. Get in touch with your nearest Worthington district office or write to Worthington Corporation, Air Conditioning and Refrigeration Division, Section A.3.55, Harrison, New Jersey.
"My architect was right . . . . .
PC Glass Blocks give ideal daylighting,

says Reverend John A. McSweeney, Pastor, Our Lady of Monadnock Academy, East Jaffrey, N. H.

Without question, this is one of the most attractive and useful schools ever constructed. It was built in 1951 for a cubic foot cost of only 82¢.

Reverend McSweeney says, "Our Teachers think this is the finest building they ever taught in because of the excellent light characteristics of the glass block panels. During a long, cold New Hampshire winter, our classrooms were extremely comfortable because the glass blocks are such good insulators. Reduced heating cost is one thing we can count on.

"Maintenance of the glass blocks is obviously not going to be a problem. We expect to hose them down once, maybe twice a year."

Be sure you know the PC Glass Block story before you build or remodel your next school. No other building product will give your client so much for his money.

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Pittsburgh Corning Corporation

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**Reduced Heating & Cooling Costs** — Glass block panels have insulating efficiency of 8-inch masonry wall.

**Lower Window Maintenance Costs** — Glass block panels seldom have to be washed. Breakage is rare. There is nothing to paint.

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**No Dirt Infiltration** — A glass block panel is an integral part of your building wall. Tight mortar joints seal out moisture, dirt.

**Less Outside Noise** — PC Glass Blocks are hollow. Internal dead air spaces reduce sound transmission.

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Title

Firm

Address

City

Zone

State

ARCHITECTURAL FORUM • SEPTEMBER 1953
price-wise and quality-wise, a good housing market will persist. Such a market should certainly persist in 1954, though the number of new houses started is likely to be somewhat less than that of 1953.

**No. 1 problem: frozen interest rates**

With the recent rate of building, a true mass market has been developed. Mass markets thrive only on ample credit and low cost. Government-insured and guaranteed loan programs, through FHA and VA, by cutting through the restrictive limits of state mortgage and investment laws and by making low down payments and low monthly payments possible, have largely contributed to the creation of the mass market and the type of efficient project builder who can provide the kind of houses it wants.

Yet for three years these programs have not been working well. They have not worked well because, depending on private financing as they do, they have not offered an investment yield that is competitive with other offerings in the investment market. This situation has resulted from an anomalous and contradictory government policy. Sponsoring a free money market generally, it has at the same time prevented interest rates on FHA and VA loans from being adjusted to the market.

The situation continues. It can be cured only by legislative changes, permitting a freer movement of interest rates, or by a vast program of public credit (which from a practical point of view is not to be contemplated), or by an easier money market.

Some easing of the general money market during the year ahead seems certain, continuing a trend already begun. But whether it alone will be sufficient to bring the VA and FHA terms into better relationship to the whole financial market is difficult to say.

This really artificial element, therefore, may reduce 1954's volume somewhat under what might otherwise be fairly safely forecast. Despite the uncertainty created by government policy, the resiliency and ingenuity of the housebuilding industry and its financing agents can be counted upon to find now, as many times in the past, at least a partial answer for its difficulties. The investment funds will be present. The problem is only to find the way to them.

If a fairly satisfactory answer is found, another better-than-a-million-house year is ahead. If the problem persists, the volume may be less; but in any case it is likely to exceed 900,000.
now...
sightron
in four and two light versions

fully diffused lighting
...trim, crisp design

Our highly efficient Sightron series is now available in a new four light version. Both four and two light fixtures offer trim, unobtrusive design that maintains the architectural integrity of any area. Both now have concealed hinges at side of diffuser to make maintenance simple, and both now have rapid start ballasts to produce instantaneous lighting. Ribbed plastic diffusers give an even glow of fully filtered light without shadows. May be used individually or in continuous runs. Quickly and easily installed. Ends are white enamel. Accessory pieces to match.

End section drawings above show placement of lamps in two light (top) and four light versions of Sightron fixtures.

Write today for free brochure of architectural lighting by Lightolier.

Lighting by LIGHTOLIER

JERSEY CITY 5, NEW JERSEY
Reynolds Aluminum Acoustical Ceiling being installed in Naval Ordnance Plant, Pomona, Cal., operated by the Pomona Division of Consolidated Vultee Aircraft Corporation to build guided missiles.

Ideal for any large expanse...offices, schools, hospitals, industrial production and office areas!

Effective noise reduction, with the increased efficiency and safety it promotes, can now be brought to any large area...industrial, commercial or institutional. This can be done swiftly, with minimum work interruption and no alteration of overhead utilities...at amazingly low cost. And the result is as distinctively modern in appearance as it is exceptional in performance!

It's all done with large perforated panels of Reynolds Aluminum, attractively formed and finished...simply laid in place with sound-absorbent backing (see diagram), and just as simply taken down for access to space above.

Study the advantages listed. You'll see why the new Reynolds system has won immediate acclaim from leading architects. Though military needs limit general supply, millions of square feet have already been installed...millions more are now being specified. Call the nearest of the listed Franchised Applicators, or write us for literature. Reynolds Metals Company, Louisville 1, Kentucky.
FRANCHISED APPLICATORS
Contact nearest listed for engineering service, free estimates.

ALABAMA: Badham Insulation, Birmingham; Stokes Interiors, Mobile.
CALIFORNIA: Pacific Acoustics, Los Angeles; Sound Reduction, Oakland.
COLORADO: Dence, Inc., Denver.
FLORIDA: Standard Insulation, Fort Lauderdale; Cliff Heller, Orlando.
GEORGIA: Lewis & Co., Atlanta.
ILLINOIS: Anning-Johnson Co., Chicago.
IOWA: Anning-Johnson Co., Des Moines.
LOUISIANA: Walker Lloyd, Baton Rouge.
MARYLAND: Limbach Co., Hagerstown.
MINNESOTA: Anning-Johnson Co., Minneapolis.
MISSISSIPPI: Stokes Interiors, Jackson.
MISSOURI: Hamilton Co., St. Louis; Stokes Co., Kansas City.
NEW JERSEY: Woolsonite, East Orange; W. M. Moyer Co., Newark.
NEW MEXICO: Welch-Erwin, Albuquerque.
N. & S. CAROLINA: Bonita Insulation, Greensboro, Columbus.
OHIO: Geilin Co., Cleveland; J. H. Archbold Co., Cincinnati.
OKLAHOMA: Bell Bros. & Sons Co., Tulsa, Oklahoma City.
WISCONSIN: De Gelleke Co., Milwaukee.

TYPICAL INSTALLATION
Panels are supported on aluminum angles and T-sections. Sound-absorbing material is laid on panels or attached directly to ceiling.

ADVANTAGES OF THE REYNOLDS ACOUSTICAL SYSTEM
- Low Cost. Low material cost; fast, labor-saving installation.
- High Sound Absorption. Up to 90 and high at all frequencies.
- Unlimited Access to utilities... any section movable at will.
- Low Maintenance. Rustproof, non-staining panels removable for cleaning.
- Fire Resistant. Both aluminum and sound-absorbing backing are incombustible.
- High Thermal Insulation. Greatly reduces summer cooling and winter heating costs.
- Low Weight. Completed ceiling weighs less than one-half pound per square foot.
- Modern Design. Eye-pleasing corrugations in straight-line or pattern effects.
- Adaptability to any air-conditioning, including plenum chamber above panels.

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INDUSTRIAL BUILDING PRODUCTS
New Ribbed-Embosed Siding. Modern architectural beauty with all the advantages of aluminum. Rustproof, corrosion-resistant, strong, light, heat-reflective and low in applied cost. Stipple-embossed finish. Sheets cover 32". 19 lengths from 5' to 13'10". Metal thickness .032".

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For full data on these products call the nearest Reynolds office, listed under "Building Materials" in classified phone book of principal cities. Or write Reynolds Metals Company, Building Products Division, 2020 So. Ninth Street, Louisville 1, Kentucky.

ARCHITECTURAL FORUM • SEPTEMBER 1953

ACOUSTICAL SYSTEM
<table>
<thead>
<tr>
<th>PERIOD</th>
<th>TRADITIONALISM</th>
<th>INTERNATIONALISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>(Neither achieves the present)</td>
<td>Future</td>
</tr>
<tr>
<td>PLACE</td>
<td>National</td>
<td>International</td>
</tr>
<tr>
<td>(Neither regards the local place)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROCESS</td>
<td>Academic (archaistic)</td>
<td>Academic (dogmatic)</td>
</tr>
<tr>
<td>FORM</td>
<td>Historic rules</td>
<td>New rules</td>
</tr>
<tr>
<td>(Neither allows personal freedom)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUNCTION</td>
<td>Fully compromised</td>
<td>Partially compromised</td>
</tr>
<tr>
<td>(Neither frees functions of esthetic rules)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPRESSION</td>
<td>Absent</td>
<td>Absent</td>
</tr>
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The family fight

From the public's point of view Internationalism, Empiricism and all the little "isms" clustering around them are one phenomenon—Modern, or as the case may be, "Modernistic." The split across both profession and public separates on the one hand Eclectic, Revivalist and Traditionalist; and on the other Internationalist, Empiricist and Modernistic. Thus both the sincere Modernist and the sincere Traditionalist are constantly finding themselves in bed with people whom they regard as very unsavory characters. To call an Empiricist a "modernistic architect" is more insulting than to call one's mother a bitch. The Traditionalist-Modernist fight—because its issues are so disparate and confused—usually appears more as an opéra bouffe than as a drawn battle. Its farcical nature is further demonstrated by the fact that the ultraconservative Traditionalist faction and the ultradogmatic International Stylists are, in every technically significant respect, more alike than unlike. Their only real divergence is in appearance.

Again with the criteria here used as a guide to style, the two warring camps compare somewhat as outlined in the table above.

Two kinds of Selectivists

Because of the very great similarities between them, it will be useful to be able to refer to Traditionalism and Internationalism together. The qualities they share in common are: a dependence on theory, i.e., on "a more or less plausible . . . general principle offered to explain a phenomenon" (Webster), in this case style; and a dedicated and unquestioning attitude toward their total adjustment. Both of these qualities involve the selection, out of a welter of possibilities, of certain tenets, for the purpose of simplifying and anchoring their work and professional behavior patterns. Thus Selectivism would appear to be an appropriate word to signify both.

In order to appreciate the fight between these two kinds of Selectivists, it seems necessary, first of all, to define the meaning of style. The word style means a characteristic and distinctive mode of construction. But the real impact of style, on the person seeing architecture, is largely influenced by the environment by

continued on p. 190
FOR 55 YEARS
Peelle Freight Elevator Doors have been the accepted standard throughout the world.

Peelle has maintained its leadership by constant development of its product and its guarantee of dependability and long, maintenance-free service.

Architects can assure their clients of the use of the best freight elevator door by specifying that the freight elevator doors shall be manufactured and installed by The Peelle Company, 47 Stewart Avenue, Brooklyn, New York. This will prevent down-grading of specifications by the use of "Peelle-type" doors.

ADVANTAGES OF PEELLE DYNAMIC DUAL-DRIVE OPERATORS
1. All equipment entirely within shaft
2. No building work required
3. Each side of door equipped with Dynamic Dual-Drive Operator
   - Prevents canting
   - Eliminates adjustment of roping
4. Operating equipment cannot be damaged by electric trucks, etc., ramming door panels
5. Doors under positive electric control throughout travel
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THE PEELLE COMPANY

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OFFICES IN PRINCIPAL CITIES
At the new Greater Fort Worth International Airport, two distinct sound-conditioning problems prompted the use of two different acoustical materials—Armstrong’s Travertone and Cushiontone®.

In the main concourse, lobby, and ticket wings of the terminal building a distinctively beautiful ceiling appearance was as important as acoustical efficiency. Armstrong’s Travertone offered both features, as well as complete incombustibility.

Economy was the important factor in sound conditioning the lower floor of the terminal where large work spaces are located. Cushiontone, a perforated wood fiber tile, was selected. The low initial cost and easy maintenance of Cushiontone permit economical treatment of large areas without any sacrifice of acoustical efficiency.

Travertone and Cushiontone are two of Armstrong’s complete line of sound-conditioning materials. Call in your Armstrong Acoustical Contractor for helpful advice, with no obligation, on Armstrong’s Acoustical Ceilings. With a wide range of special product features to select from, there’s one material that best meets the requirements of every job. For the free booklet, “How to Select an Acoustical Material,” write directly to Armstrong Cork Company, 4209 Rooney Street, Lancaster, Pennsylvania.
Over 200 feet of ticket counters are kept comfortably quiet even at the busiest times by ceilings of noise-absorbing Armstrong’s Travertone.

Large work spaces like this baggage area require sound conditioning that is moderate in cost, high in acoustical efficiency, and easy to maintain. Here, economical Armstrong’s Cushiontone was used.

ARMSTRONG’S ACOUSTICAL MATERIALS
"The real impact of style on the person seeing architecture is largely influenced by the environment by which an individual building is surrounded."—Mira Vista School in Richmond, Calif. by Architect John Warnecke.

KENNEDY ON ARCHITECTURE cont'd.

which an individual building is surrounded.

A satisfactory environment is like a forest. The total forest is a complex affair, dependent for its character on every aspect of climate, on cross-fertilization, on death, on decay, and on cycles of new growth. All its aspects are interrelated. The typical forest tree is warped and twisted by its relationship to its neighbors. Roots interconnect, branches touch, the sun is let in haphazardly. One seldom finds a specimen tree in such an environment. The well-rounded tree comes from open fields, or a more symmetrical environment.

Houses come in "forests." To all intents and purposes they are never isolated. The person viewing them brings with him, in his cultural baggage, a series of invisible houses with which they are compared. And, in any case, they are usually cheek by jowl.

The building forest

The building which is one with its environment might be described as of its time; also as warped and modified by its neighbors, its position, its climate and its style. This sort of compromise with environment was typical of the old continuous tradition. One has only to compare the Greek Revival architecture of New England and the Southeast to appreciate the sea change the original concept went through in becoming adapted to its new environment.

The Selectivists agree in regarding the forest as an orderly arrangement of specimen trees, rather than as the tangled and interconnected network of warped and anonymous units which it is. They reserve the right to pick one tree out of the center, to develop, feed, prune and generally manicure it, and still claim that it is of the forest. This sort of approach is highly artificial, and as a result those environments created by Selectivists are characteristically stage sets. Their artificiality is the result of the dogmatic insistence on one style, or type of tree, impossible in a real forest.

To pick out a single style and develop it for its own sake, regardless of environment, or period, or place, as the traditional type of Selectivist does, is to postulate tradition as a series of disconnected specimens. History is used as a grab bag full of tricks to be dipped into at will, or as a forest full of dying trees, which in

continued on p. 194
Capture the Sky...

Truscon makes the metal windows that help inspire creative construction ideas. Architectural imagination—plus the extreme versatility made possible by Truscon's unmatched choice of window types and sizes—combine to inspire beautiful and functional structures.

Let your imagination soar... capture sun and sky... free from the limitations of conventional window usage. Achieve outstanding design with superior lighting and ventilation. See details on all Truscon Metal Windows in Sweet's; or, write "window headquarters" for latest literature. When it comes to windows, come to Truscon.

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TRUSCON® A Name You Can BUILD on...
MONSANTO PENTA PRESERVATIVE

ADDS PERMANENCE TO WOOD

All runners under roof tiles were replaced with 11/4" x 4" penta-treated material, shown here. This wood will resist decay many years beyond the rotting point of untreated wood of the same quality.
In the towers and dome of St. Louis Cathedral — recently renovated — decayed, untreated wood has been replaced with 96,000 lineal feet of long-lasting, penta-treated lumber. Kiln-dried Douglas fir members, now installed under the green tiles of the beautiful structure, will resist rot and insects for years beyond the normal life span of the same wood, untreated.

**Pressure-treating with penta** drives this clean preservative deep into the cells of the wood, making it virtually time-proof. Penta protection is long-lasting; rain or ground water can’t wash away the preservative.

When you write Monsanto Penta into your timber specifications, you add permanence to your work and save money for your client.

**Architects** will be interested in a new brochure, titled “Specify Penta,” which gives complete instructions for specifying penta treatment. A copy will be mailed to you at no obligation. Ask also for details on Santobrite — a salt of pentachlorophenol — for preserving organic fibrous products such as insulating board. Write:

Monsanto Chemical Company, Organic Chemicals Division, 800 North Twelfth Boulevard, St. Louis 1, Missouri.

SERVING INDUSTRY . . . WHICH SERVES MANKIND

One of the largest churches west of the Mississippi, St. Louis Cathedral has been undergoing renovation for several months. The twin towers rise 157 feet above Lindell Boulevard. Old wood stripping, which can be seen through the scaffolding, was put on at the turn of the century with handmade nails.
Kennedy on Architecture continued

“All-glass houses are the physical signs of the Internationalist’s race with dogma”—860 Lake Shore Drive apartments in Chicago by architect Ludwig Mies van der Rohe.

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Juneau, Alaska

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Montgomery features and manufactures all modern systems of control and operation including “attendant-free” operatorless service.

Prominent Montgomery accessories include their patented Load Limitor, exclusive Oil Cushion Safety and Lever Type Oil Buffer for shallow pits—features that assure modern and safe elevator service for any and all types of buildings.

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Consult Montgomery Elevator Company
General Offices and Factory
Moline, Illinois

Exclusive Manufacturers of Quality Elevator Equipment—Since 1892

Order to be used must be operated on and generally fixed up. This presents a most unpleasant picture. The next logical step is to dislike the whole forest. On the Internationalist side one symptom of this is the prevalent dislike and disregard for history. Another step, typical of Selectivism, is the derogation of the Romantic era; that is, of the very styles with which the architect must deal, because they form so large a part of his environment. The fact that much Romantic work was lively and utterly charming does not sway the over-all dislike.

One result of these attitudes is the current emphasis on stylistic consistency. Having postulated each style as distinct and separate, as essentially disconnected from both environment and all other styles, the Selectivist finds he must demonstrate this with greater and greater insistence. On the Traditionalist side the period piece, the exact reproduction and the archaeologically correct version become the highest goals. On the Internationalist side the greatest fidelity to the rules takes the place of archaeology. The most touted Internationalists do not hesitate to follow them far beyond the limits of good sense, such is their ardor, such is the degree of their dedication. Sagging cantilevers, propped up porches, and all-glass houses are the physical signs of their race with dogma.

Livability is similarly affected. The grouping of incompatible functions for the sake of stylish space effects, the cult of the open plan, hit the individual where he really lives.

Adzed antiques vs. bar joists
The reliance on dogma seems, typically, to be accompanied by tendencies toward nostalgia, alternating with strong moods of revolt from discipline. The nostalgic moods are directed toward the past, when things were wonderful and warm and easy, or toward the future when things will be clear cut and neat and simple. The active moods are directed against the tyranny of current techniques and socio-economic demands. The Traditionalists scuttle around after old summers, after hand-adzed, genuine antiques, while the Internationalists scuttle through Sweet's Catalogs for the summer of the future. This is currently believed to be the bar joist.

However, the International Style’s preoccupation with technology, pseudo though it sometimes is, has by and large been
In this school room, Hope's Steel Windows extend from sill to ceiling, giving an abundance of controlled, natural light. There is little to obstruct the distant view so refreshing and necessary for the health of young eyes. Any pattern of air circulation desired is readily obtainable by adjusting top or bottom ventilators.

Hope's ventilators retain their weather-tight bedding contacts permanently without sticking or binding. In addition, Hope's Steel Windows provide excellent records of economy in upkeep. Write for Hope's Catalog and Publication No. 130A. Hope's Engineering Department is available to you for any service you may require.

**HOPE'S WINDOWS, INC., Jamestown, N. Y.**

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS
This Combination gives you wider latitude in planning rest rooms

**Zurn Engineered** carrier systems relieve the wall of all the load! There is a Zurn adjustable wall closet fitting or carrier for every type plumbing fixture—lavatory, toilet, urinal, sink, and fountain.

**Shown Above** is the new wall-type model of the famous Sanistand fixture—a urinal especially designed for women by American-Standard. Made of genuine vitreous china and available in gleaming white and a variety of colors. Fits standard toilet compartments.

**Send for these FREE BOOKLETS**

**American-Standard** off-the-floor plumbing fixtures

**Installed with the Zurn System**

The architectural and structural advantages of wall type plumbing fixtures for rest rooms are sound...and many. Planning such rooms around completely bare floors gives you greater freedom of design. Furthermore, rest room floors that are intact and free of obstructions create a pleasing effect of spaciousness. They look more modern...and, because they are easier to keep clean and maintain, they stay modern through the years!

Yes, American-Standard wall-type plumbing fixtures installed with and supported by Zurn engineered carrier systems insure against the untimely obsolescence of the rest rooms you plan. In addition, this time-tested combination permits you to lower ceilings, use less space for walls, and use practically any type of floor construction. Your foresight also saves your client money on construction material, time and labor! For a comprehensive discussion of modern rest room ideas, write for the booklets shown below.


<table>
<thead>
<tr>
<th>American-Standard Dept. AF-93, Pittsburgh 30, Pa.</th>
<th>Please send me the 2 booklets: &quot;BETTER REST ROOM GUIDE&quot; and &quot;YOU CAN BUILD IT FOR LESS A NEW WAY.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Title</td>
</tr>
<tr>
<td>Company</td>
<td></td>
</tr>
<tr>
<td>Street</td>
<td>City, State</td>
</tr>
</tbody>
</table>
Stainless Steel Sash
IN SUPERMARKET

Two types of stainless steel sash construction were used in this Philadelphia shopping center. On the tall glass front, stainless steel provides an attractive covering for structural steel mullions and muntins. The neat lucheronette window, free of columns, has structural sash of stainless bar stock.

Because of the many forms available in stainless steel, the architect has this choice in sash construction. He can clad standard structurals with stainless strip or use structural members of solid stainless steel.

Types of stainless steels used in architectural work have about the same yield strength and modulus as structural steel. Consequently, sections may have slim proportions, yet possess more than ample strength.

Today Armco 17, Type 430 stainless steel, is readily available in sheets, strip, bars and angles. It is one of the oldest of the stainless steels, widely used in interior architectural applications, rust resistant in exterior applications except in severely corrosive seacoast atmospheres.

For more information on Armco Stainless Steels, use address at right.
You've no doubt read or heard from time to time that one or another type of fire protection is the correct answer to your safety problem. One says foam is best. Another says water sprinklers are the answer. Perhaps carbon dioxide, dry chemical, or other media will do the trick.

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The vinyl plastic wearing surface is .050" thick. This is keyed to Armofelt—Armstrong's exclusive extra-tough fresh-fiber backing—giving an over-all thickness of .090". The granite-textured design is striped in harmonizing tones. Decoresq Corlon is made in rolls 6' wide and available in three patterns: No. 6150—Black, gray, and white; No. 6151—Three-tone green; and No. 6152—Three-tone tan.

Ask your Armstrong flooring contractor for color samples, specifications, and prices on Armstrong's Decoresq Corlon or write direct to Armstrong Cork Company, Floor Division, 309 Rooney Street, Lancaster, Pennsylvania.

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How to get spaciousness without buying space

The space in a schoolroom can be measured in feet and its cost in dollars. But spaciousness is a feeling, and you can get it without enclosing unneeded space or spending extra dollars. See how this has been done in the room above. The clear glass Daylight Wall stretching from sill to ceiling opens the room into the world beyond. Notice how the room is flooded with natural daylight. This cuts down on glare and contrast which cause eye discomfort. And it saves on illuminating costs. Daylight Walls are economical to build (no masonry, lath, plaster or paint), economical to maintain (glass is easy to clean and doesn’t wear out). In the box below, you’ll find facts on Thermopane® insulating glass which cuts heating costs and adds to indoor comfort in winter.

But most important, a Daylight Wall helps children to be happy; to see and enjoy the trees, the sky, the seasons. It banishes the cooped-up feeling that comes with walls that you can’t see through.

If you’d like to read more authoritative facts on school lighting and construction, write for a copy of the booklet, How to Get Nature-Quality Light for School Children. Libbey Owens-Ford Glass Co., 4293 Nicholas Bldg., Toledo 3, O.
Hospital modernization programs, designed to provide better facilities and improved medical services, can also serve to lighten the burden of operating and maintenance costs. This has been demonstrated by the St. Joseph Hospital in St. Cloud, Minnesota, where modern Frigidaire units were recently installed to replace a central steam-powered refrigeration plant and circulating brine system. Decentralized units totaling only 12 horsepower now serve the hospital's needs fully — where a 90 horsepower system was formerly required.

The new equipment consists of 18 Frigidaire Reach-In Refrigerators, 7 Frigidaire Ice Cube Makers and 4 XD Meter-Miser Compressors. The hospital engineer reports, "Our Frigidaire compressors are now saving us the equivalent of half a ton of coal every day. And these savings are even greater during the summer because then the steam boiler which furnished power for refrigeration can be shut down entirely."

Administrator Sister Francis Xavier says the new Reach-Ins give more efficient refrigeration of foods and medical supplies, and the new automatic Ice Cube Makers show a remarkable saving over the old ice plant formerly located in the basement.

A phone call will bring you detailed information on any Frigidaire product or service. Call the Frigidaire Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book, or write Frigidaire, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.
around which a great deal of electrical and mechanical equipment has to be attached and painted, a mobile three-man welded scaffold was designed. It consists of a platform, with toolboxes attached under the inside of the crane bay area, supported by an A-frame on four small wheels, two on each side of the web of the supporting beam. Thus the scaffold can be towed by hand along the crane beam as required.

3. Rolling workshops
Throughout the plant a number of electrical and mechanical workshops have been mounted on casters so they can be rolled wherever required. Usually a mere platform, each workshop is equipped with one or more workbenches, light machinery, power cables, compressed air, toolboxes, pipe bending machines and any special equipment.

Some of these workshops are electrical testing cubicles complete with three walls and a roof. The open side can be placed against a control panel and sealed off during testing operations. This permits important electrical work to be carried on in dustproof and noise-proof seclusion.

4. Drilled foundation forms
The Paducah plant is built on a sandy clay subsoil in which spread footings proved expensive. Tests showed that the soil was suitable for drilling and that the loads could be carried by cylindrical footings having enlarged bell sections at the bottom. These footings are from 2'-4" to 5'-6" in diameter, from 13' to 20' deep with a bell diameter at the bottom of the hole of from 6' to 12' wide.

Procedure: 1) The shaft is bored with an auger drill. 2) A special flaring tool cuts the bell section at the bottom of the hole. This tool is a bucket with four folding blade cutters that open outward when the bucket is turned in a clockwise direction. 3) A temporary metal liner protects the bored hole until concrete is poured into it.

continued on p. 206
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LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING
Steeltex was used to reinforce the concrete floors in the $10-million Park View Apartments at Collingwood, N.J. Knopf and Oshiver, Architects. Built by Sylvester J. Lowery and E. J. Frankel.

How STEELTEX* helped save up to 10% of floor costs on multi-million dollar apartments in Philadelphia and suburbs

The residential trend toward the suburbs in Philadelphia during the last three years has been highlighted by construction of some of the country's outstanding private apartment plans.

Commercial building of this type must incorporate economy in design, speed in construction and low maintenance cost in the finished building to get a maximum return on the investment. It is not surprising, therefore, that these projects, totalling some $29 million, have some interesting features in common.

"Substantial savings have been reported by owners in this area through the use of Steel Bar Joists and STEELTEX in comparison with reinforced concrete construction," reports the head of a large contracting firm that has participated in many of these projects. Here's why:

1. In design of the floors, no additional reinforcing was necessary with STEELTEX. The crimped stitch wires permit the backing of STEELTEX to fall away from the reinforcing mesh under the weight of the concrete. Thus, the wire mesh is imbedded in the concrete.

2. Installation costs on these projects have shown that STEELTEX has been installed at a saving of approximately 10% over the installation of centering material requiring additional reinforcing in the form of mesh.

3. Savings in concrete have been reported as high as 10% through the use of STEELTEX. In pouring a 2 1/8" slab, for example, sag loss for STEELTEX was reported approximately 1/4" compared to 1/8" or 3/16" for other types of centering material. Finally, waterproof backing on STEELTEX virtually eliminated drippings on the floor below and prevented the loss of cement and fines, resulting in a better quality concrete floor. Clean-up time was reduced to a minimum.

These savings carried through into every phase of these apartment projects in Philadelphia. A skillful coupling of contemporary design and economy in construction, without sacrificing value in construction, has made this vanguard of new projects commercially successful. Proof lies in the dozens of new projects now in planning stages throughout the area, most of them incorporating the advantages worked out on these initial buildings.

Whether your projects involve apartments, schools, banks, hospitals, or warehouses; you, too, can achieve the same results. See the STEELTEX catalog in Sweet's or write for catalog.

One man can roll out a 125' roll of Steeltex in a few minutes. Steeltex provides both waterproof form and steel reinforcement for concrete floors.

*Steeltex is a registered trade-mark of the Pittsburgh Steel Products Company.
The massive Parkway House overlooking Philadelphia's famed Parkway contains Steeltex and concrete floors. The $3.7-million apartment house was designed by Roth and Fleisher. Stanwell Construction Co. was general contractor.

Listed below are other important apartment houses in the Philadelphia area in which Steeltex was used:

- Duval Manor Apartments
  Philadelphia, Pennsylvania
- Latches Lane Apartments
  Merion, Pennsylvania
- Pelham Park Apartments
  Philadelphia, Pennsylvania
- Wynnewood Apartments
  Wynnewood, Pennsylvania

Note: In the cross section and closeup the weight of the wet concrete forces the backing away, which permits the galvanized welded wire mesh to assume its proper position in the slab. Steeltex Floor Lath also performs two other functions. It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.

CONCRETE SLAB

WATERPROOF BACKING

EMBEDDED WIRE

The $7.5-million Presidential Apartments at City Line Ave. and Presidential Blvd. in West Philadelphia contain Steeltex and concrete floors in all buildings. Mayer I. Blum & Sons, Architects; Turner Construction Co., Contractor.

The attractive School Lane House Apartments in Philadelphia's historic Germantown section cost $2.5 million. All floors are concrete, reinforced with Steeltex. Arthur F. Deam, Architects; Turner Construction Co., Contractors.
This technique saved 50% of construction time through the elimination of foundation formwork, reinforcing steel, backfilling, hand excavation work and the need to haul grading materials.

5. Road equipment for floor slabs

Heavy road building equipment was used to help build ground-level floors in large process buildings. The sequence: 1) rough grading is done by small-sized bulldozers; 2) smoother grading is finished by a road scraper; 3) gravel is spread over the smooth surface; 4) the bed is compacted with mechanical rollers; 5) steel side forms are positioned and the slabs poured and vibrated; 6) the concrete slabs are finished with power floats and finishers in the usual manner.

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6. Aligning clamps reinforce foundation forms

To reinforce foundation formwork and at the same time to speed up erection and stripping of 9/16" plywood forms these are braced with unique side clamps. Each clamp has two 1/4" diameter bolts designed so that the top bolt can apply tension and the bottom bolt compression to the form by simply tightening one bolt or the other with a hand wrench. With these clamps it is possible to realign a form that has been distorted during a pour before the concrete is actually set. In conventional form construction, bulging forms are pushed into place with wedges but there is no way to pull into place a form that has bulged inward.

7. Rolling scaffolds

Throughout this AEC project there are large concrete floor slabs high off the ground. To speed stripping of the metal forms used to build these slabs rolling scaffold platforms are used. They are mounted on wheels that roll along the webs of I-beams attached to struts of the building structure. The tracks are about 60" long and are moved and clamped into a new position as necessary. The platform is hung a few feet beneath the floor slab and the metal forms slide to the ground via chutes.

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Bayley Psychiatric Windows meet today’s demands of hospital authorities for security, plus ample air, daylight and vision

Rendering all phases of specialized window assistance—from the inception of a building project to its completion—is Bayley’s forte. Time-proven quality of product is only one ingredient. Even more important is design—achieving a window that meets the buildings specific needs. This is exemplified by the Bayley Psychiatric Window which was developed in collaboration with mental hospital and institution authorities. It complies with their demands for such window features as:

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There is a York Engineering office in every trading area with experts equipped to work with you from start to finish. A consultation incurs no obligation, of course... and can lead to appreciable savings in money, time and worry. Call your York office or write to York Corporation, York, Pennsylvania.
8. Heating during construction
Throughout the project it is necessary to maintain a temperature of around 70°F to reduce undue expansion or contraction of pipes. The conventional practice (a complete steam-heating system with unit heaters) is expensive. The designers found that the overhead ducts of the permanent ventilation system could well be used to carry warm air. Therefore, these overhead ducts were put in first with temporary heating coils in the filter rooms. Thus the regular ventilation system provided temporary warm-air heating in each building. This saved 60% in initial costs and eliminated a great deal of expensive labor, steam pipes and fittings.

9. Straddle trucks carry steel
Originally designed for handling lumber, these straddle trucks were found to be most effective in handling large volumes of structural steel over a large construction area. They release valuable trailer trucks for the more important work of bringing in new supplies.

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The colonial-like structure has 50 rooms, provides complete hotel facilities as well as desirable features of the modern motor court. Crane plumbing serves the building throughout, its modern styling and high quality typifying the distinctive atmosphere of this unique structure.


Typical Crane-equipped bathroom in Thos. Jefferson Inn. Tub is Crane Criterion model, closet is Crane Santon, lavatory is Crane Neuday with Whitney Dial-ese fittings.

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CITY PLANNING IN SOVIET RUSSIA. By Maurice F. Parkins. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill. 120 pp., plus diagrams and 137 pp. bibliography. 7" x 9 1/2". $6

Soviet architects condemn US cities as being a chaos of individual buildings with no coherent city picture. They seem not to notice such integrated developments as Rockefeller Center, Radburn or Baldwin Village and forget that our unrelated building forms elsewhere do at least reflect the dynamics of urban living. In contrast, the Soviet city planning now shaping Moscow and Warsaw has only the superficial coherence of the "city beautiful," a mechanistic two-dimensional city form that was buried in Chicago 50 years back.

City Planning in Soviet Russia starts to evaluate Russian achievements in planning the new cities of a modern, industrialized society. Unfortunately, the author (who is Russian born and speaks the language) has had to rely on material available in the US without seeing the new and redeveloped cities on the ground and his book does not include details or pictures of postwar developments.

Foreign influence small

Early Russian towns, just like Western ones, grew around trading posts and fortresses. Construction was mainly of wood, with stone enclosing walls built to repel attackers. Except for a narrow region fringe on Europe, the country was very backward. Western ideas and culture did not begin to penetrate until the 19th Century, and serfdom was not abolished until 1861. At the end of World War I, Russia's urban population was only 3½ million. Accommodation was poor, people shared highly congested, unsanitary tenements having only 20 sq. ft. per person. By 1951 the urban population had risen to over 27 million, but the average dwelling space had increased to only 44 sq. ft. per person (compared with 200 to 500 sq. ft. in Europe and the US).

Following the Soviet Municipalizing Law of 1918 when all land and building was brought under public ownership, the writings of Marx and Lenin were carefully combed for pronouncements on city planning. According to Marx the first objective was to eliminate the difference between the city and village or more accurately, perhaps, between the "social conscious" factory worker and the "feudalistic" peasant. Marx and Engels believed this could only be accomplished through the elimination of capitalism itself. (It is irrational that Marx chose to regard the maldistribution which limited mid-19th-Century capitalism as a flaw to be used to overthrow the system rather than as an evil to be overcome.)

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NEW YORK'S
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Easy to install on either new or old doors. The many convenient switch arrangements include radio control installed on factory trucks or any vehicles. Electric operator prices start at $230 f.o.b. Rockford, Illinois.
City planning was practically unknown in Russia before 1922, when the State Electrical Commission began to build planned settlements around the new hydroelectric power stations. Since then three phases of city planning can be traced: 1) an initial or trial-and-error stage from 1922 to 1931; 2) a transitional stage, still experimental, during which a national policy was laid down culminating in the Moscow Plan; and 3) a reconstruction stage from 1944 to 1950. In the initial stage European and US ideas were much discussed and in some cases followed. Architects were given a free hand and foreign advice was highly prized. Albert Kahn, Le Corbusier, Ernst May and many other foreigners worked in Russia during this period. Despite numerous master plans, actual construction was limited to high-priority buildings, factories and multistory superblocks. City planners were untrained; they theorized and made mistakes; in particular they neglected the environment and topography for which they were supposed to be planning.

No new ideas in city planning have developed. Russian planners experimented with various city forms that might speed the distribution of heavy industry over the entire country: 1) the linear city where city functions were to develop along parallel lines (proposed by Corbusier) was rejected as being uneconomical in servicing and transportation after experiments in Magnitogorsk; 2) satellite towns—where greenbelts separate industrial from residential areas. Novosibirsk was designed with neighborhoods for 5,000 people alternating with 1,500'-wide greenbelts; 3) "gigantomania" cities—tall superblocks uniformly "oriented to the best available principles of sanitation engineering." Example: Orsk by the Dutch planner Mart Stam. (This idea was later condemned as feudal.)

Moscow plan sets standard

In 1931 a special Party plenum criticized architects for not relating their buildings to any over-all plan, for the crude imitation in a small town of features that were only practical in a major city and for a complete absence of human scale. They proposed 1) to reject all foreign influences; 2) to decentralize industry as far as practicable; 3) to curtail the size of large cities; and 4) to reconstruct Moscow as a model for Russian architects and, presumably, as a demonstration of Russian vitality to decadent foreigners.

The Moscow Plan developed after four years of all-Union competition. It provided for a maximum population of 5 million (present population about 4 million) in a city about 15 miles wide, surrounded by a 10-mile greenbelt. Parkways, subways and canals...
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running through city parks will link residential, commercial and industrial districts designed around a strongly developed civic and cultural center. Each residential district is to house 100,000 to 600,000 people together with all necessary administrative and service facilities. The emphasis is to be on livability and human scale as distinct from sheer monumentality; the directive requires intimate tree-shaded interior courts designed within residential superblocks, plus attention to esthetics, street furniture, vistas and a careful balance of high and low buildings. (All this sounds very nice but current photographs from Moscow show nothing but masses of highly grandiose Wrigley Buildings; if the intimate courts have been built, they must be carefully hidden.)

Over 300 Soviet cities were planned and some of them built along the lines of the Moscow Plan before World War II and 475 more after the war. In fact, so slavish has been the imitation that the architectural profession has been criticized for insufficient attention to the requirements of different cities and design teams are now sent out to each town to carry out their planning at the site. Further, while all prewar planning was from the top down, each town plan has now to be approved by the local inhabitants (in theory at least) before it is passed by Moscow. In reconstruction, architects are directed to retain the original city plan where it is of historical value or is simply practical. In style they must follow the traditional in both architecture and city planning. (This clause seems to be keeping Soviet designers and historians awake at night in attempts to define just what this "traditional" might be, as reflected by the numerous articles on the history of Russian architecture in their professional magazines. Current building in Moscow, including the prize-winning 26-story university building, seems to follow the pseudo-Gothic lead of the 1910 US classicists.)

Housing less socialistic

The crux of the Soviet architects' problem is how far to socialize individual and family life. Their difficulties are aggravated by the absence of standards—in accommodation, construction, design. In the Twenties the Party favored extreme anti-heap community houses where family life was broken into community kitchens, cafeterias, rest and recreation rooms built into huge multistory barracks. These proved unmanageable. The trend is now reversed in favor of one-family dwelling units built in economical two- and three-story garden apartments.

In each of four five-year plans, housing construction had sadly fallen short of proposed targets, mainly because of the shortage of building materials, lack of skilled
* This unit represents the unique and fresh approach to indirect incandescent lighting by ART METAL. Available in pendent or close-to-ceiling mountings and from 150 to 750 watts. * It is one of many unusual designs found in Catalog 153. Write for a copy.

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INDUSTRIAL FLOORS
Textile Mill Spinning Room. Problem: Concrete floor, made with hardener, failed less than two years after it was put down. Solution: SURCO Red Label mix was applied one quarter inch deep and after nearly a year of continuous, heavy traffic there are no signs of wear.

WATERPROOFING
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architects and construction engineers and the Party's insistence that priority be given first to heavy industry, next to impressive public buildings that might "astound" foreign visitors. Housing, except for a few model projects here and there, languished near the bottom of the priority list.

After World War II the Party took drastic steps to speed housing construction, concentrating upon easily erected row housing and garden apartments and encouraging people to build for themselves wherever possible. For this purpose the state bank was authorized to provide loans up to 10,000 rubles per family and local authorities were directed to provide serviced land, free building materials and technical assistance. In 1947 there were 70,000 private houses built by the aid of this program, 40% of them by ex-servicemen. (One wonders what effect these incipient capitalists might have on the communist philosophy.)

Like his American counterpart, the Red architect (in Russia city planners are known as architects) has a client. In the USSR it is a ministry, a city soviet, an industrial trust or perhaps an agricultural development authority. All these groups and more are competing for the best building sites and the highest design and building priorities—thus state control of land does not seem to make land acquisition any easier than in feudalistic Manhattan. As coordinator each city has a chief city architect, an unenviable position that seems too much in the public eye for a successful career in Soviet Russia!

Russian architects pro-American . . . ?

Soviet architects and city planners (along with other intellectuals—artists, musicians and writers) are currently being purged by the witch-hunting committee of the Central Executive of the Communist Party. The architectural profession is accused of being "pro-Western, pro-American and generally cosmopolitan," though the grounds for such accusations are not clear (nothing so decadently bold as the Johnson Wax or the Lever House buildings yet adorn the Steppes). It is heartening to read that Soviet architects are striking back at the Party. In 1948 Academician Lev Rudnev, chairman of the Council of the Moscow Architectural House, vigorously, though somewhat dogmatically, wrote: "I deny the right of those not actively engaged in planning or construction to criticize the works of architects." Apparently this statement did not produce much response among the profession. But neither did it lower the high stature of Architect Rudnev for he later won a 100,000-ruble ($25,000 by "official" exchange rates) first prize for his pseudo-Gothic design of the 26-story Moscow University Building. In general, however, the healthy exchange of ideas that existed between Russian and Western architects in the mid-30's has been effectively squashed. Threats of quick removal for failure to follow current ideological lines has made the young architect timid; the stylistic pendulum has swung to "formalism and neoclassicism."

Many questions unanswered

Thus Mr. Parkins' 120-page thesis on Soviet city planning is necessarily inconclusive and leaves many important questions unanswered. Nevertheless he has done well to attempt such a difficult and unrewarding assignment and has laid the foundations for a more complete analysis when the iron curtain rusts away and Russian architects are less reticent about their work.
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BOOK REVIEWS continued


First published in 1939, this new third edition of "Theory and Practice" is rewritten in two volumes; this one on basic principles for undergraduate students and a more advanced volume on indeterminate structures to be published shortly.

Professor Dunham (associate professor of Civil Engineering at Yale) has revised his book to conform with the 1951 design codes of the American Concrete Institute. The new volume gives greater emphasis than hitherto on precast and prestressed concrete, formwork and practical design problems. Throughout, the emphasis is on principles rather than formulas; design procedures are strongly related to practical details and planning of construction of the job. Both this and the second volume should prove useful additions to the architect's technical bookshelf.

PUBLIC GROUNDS MAINTENANCE HANDBOOK.

By the Tennessee Valley Authority, Old Post Office Building, Knoxville, Tenn. 496 pp. 8½ x 10⅝. Illus. $5

For 15 years the Tennessee Valley Authority has been actively engaged in the maintenance of vast areas of public grounds. Since little had been written on the subject, Engineer H. S. Conover started a loose-leaf handbook in order to help TVA field supervisors in their daily maintenance problems. This handbook has now developed into a treatise on public grounds maintenance which TVA has rightly decided to make available for public use.

The volume contains a wealth of practical information on the design and care of roads and public grounds, parking and picnic areas (including practical drawings of all kinds of outdoor furniture, from trash cans to picnic fireplaces), plus a useful chapter on materials specifications. Soil erosion is discussed in detail, together with comprehensive illustrated notes on vegetation and insect control. The volume is a by-product of TVA enterprise that should prove most valuable to landscape architects, highway engineers, and all authorities interested in keeping their natural surroundings pleasantly clean and flourishing.

1952 YEARBOOK OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING. Published by the Society at 1308 Freemont St., McKeesport, Pa. 505 pp. 6 x 9


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<table>
<thead>
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<th>mounting</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>noise reduction coefficient</th>
<th>weight per sq. ft.</th>
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<td>.21</td>
<td>.75</td>
<td>.88</td>
<td>.85</td>
<td>.77</td>
<td>.65</td>
<td>1.3</td>
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<tr>
<td>No. 7—cemented by 1&quot; x 2&quot; wood strips 12&quot; o.c.</td>
<td>.56</td>
<td>.53</td>
<td>.60</td>
<td>.73</td>
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<td>A51-99</td>
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</tbody>
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Unlike some factory-made curtain panels that are sheathed with metal on the sides as well as front and back, and thus set up a heat-conducting sleeve, the Steelcraft unit has an insulated insulating core. There is no inside-to-outside metal contact to cut the efficiency of the 3" glass-fiber insulation. Even the panel's reinforcing web is separated from exterior and interior members by cork and neoprene gaskets. The entire wall surface has a heat loss of .15—about the same "U" factor as a wall of 8" masonry, furred, insulated and plastered. Yet the Steelcraft panel with steel skins weighs 6 lbs. per sq. ft. (3 lbs. with aluminum) as compared to 85 lbs. per sq. ft. for the masonry.

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CONDUCTIVE FLOOR TILE helps prevent explosions in operating rooms

Three years ago hospital administrators and planners were alerted to antistatic construction by some appalling statistics on accidental deaths of patients under anesthesia (AF, Feb. ’50). Today, in many states, laws require that proper precautions be taken in selecting equipment for these hazardous areas to prevent a spark from igniting volatile anesthetic gases. Manufacturers are cooperating by producing explosionproof light fixtures, air conditioners and other appliances. But, as a bulletin of the National Fire Protection Association Safe Practices for Operating Rooms points out, unless static created by body movements can be dissipated where it will do no harm, other safety measures are worthless. Conductive flooring, laid in a bed of conductive adhesive or sand cement with pulverized carbon black (or no adhesive at all) used in conjunction with prescribed clothing, is an essential safety feature in an operating room.

One type of such flooring is the vitreous ceramic pictured above. Installed costs are about $2.50 per sq. ft. Pigmented warm brown, the 9/16" squares make a rich but restful color combination with the manufacturer’s soft green and gray-beige wall tiles.

The terrazzo-patterned floor pictured below is actually vinyl tile and is installed without adhesive over any kind of subfloor. Waf-
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A webbed building block suitable for either cavity or reinforced wall construction has been developed by Brooklyn Architect Morris Lapidus (not to be confused with the noted store designer of same name). The ingenious concrete unit weighs 35 lbs. and is comprised of two 7¾” x 15¾” slabs integrally joined together by two 3” high webs cast 5” from the bottom of the block. Each slab is formed with three insulating cores tapering from ¾” at bottom to ¼” at top. The coned shape of these slots affords good insulation with minimum loss of strength and provides keys for mortar. When the block is used right side up (the top is shown on the left block in picture above) loose insulating material may be poured into the 2”-wide cavity between the faces to bolster the insulating value of the slots. Laid bottom side up, reinforcement can be accommodated vertically or horizontally and the grout is poured into the continuous trough formed between adjacent block. According to the inventor, the reinforced units can be used for bearing walls in structures as high as 12 stories. They also will serve as backup block in semi-fireproof apartment-house construction. Price is expected to be about 25¢ per unit.

Designer: Morris Lapidus, 9031 Fort Hamilton Parkway, Brooklyn, N. Y.

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Manufacturer: The Stanley Works, New Britain, Conn.

Technical Publications p. 240

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Ceco steel joist construction
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**Punched for nailing to wall**

**Remaining strip screwed to break off after grout is set**

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