When You Use

**STRAN-STEEL FRAMING**

for homes, multiple dwellings and other light occupancy structures—

You Have:

- No Fire Hazard
- No Shrinkage Distortion
- No Plaster Cracks
- No Construction Delays
- No Quality Variation
- No Doubtful Loadings
- No Termites or Fungi
- No Collateral Limitations
- No High Insurance
- No Special Tools

Joists • Roof Trusses and Rafters • Studs • Sills • Plates • Headers

**STEEL STRUCTURES, INC.**

Gladstone
7969

9th Street and 9th Avenue S. E.
MINNEAPOLIS 14, MINNESOTA

NEstor 6078

Northwest
Building production is more a part of commerce than you may have supposed.

Managers of business sell ideas and product. Architects sell ideas and procedure.

For commerce there must be advertising and manufacturing. For architects there must be design and engineering.

Making a shelf package for food calls for experience, procedure and esthetics. Making a building package to contain home life or office work requires precisely the same abilities.

Ben Nash has been designing effective products and packages since they first took crackers out of a barrel and labeled the little red papered container "Uneeda Bisquit 5c".

And Ben thinks organically about manufacturing problems in the same way Louis Sullivan tried to teach architects to think about their buildings.

Nor does Ben Nash's designing job stop with creating products and packages. He must find out how to make people want them enough to buy them.

That's exactly our job as architects.

Meet this sales architect - next page
Who is Ben Nash?

Consultant in Product Development

DUPONT
ARMOUR
PEPSI-COLA
U. S. RUBBER
WATERMAN PEN
YORK REFRIGERATION
INTERNATIONAL MILLS
CHILDS RESTAURANTS
LAMBERT PHARMACAL
PHILCO RADIO
JEWEL TEA

The Professional Business of Ben Nash, which he headlines as “A Product PRE-SEARCH” (his patented trade mark), is related to manufacturing business in somewhat the same way that the Architect works with the Building Contractor. The comparison is not exact, as his work is closely related to professional Advertising out of which it grew, but in Architecture we begin to see similar professional subdivisions, for example, store “display fixtures,” “furniture,” “illuminating engineers” and so on.

Ben created the idea of having a trained man in advertising called the VISUALIZER—made this a standard function in all advertising service and received the Gold Medal for this contribution. Like the Architect, he brings to his profession a fine facility as a draftsman and painter of pictures. He had a long schooling in advertising and illustration on the New York World before the days of universal photography.

His present work in Product Development and Package Design was a natural result of twenty years of active business life in every branch of advertising and sales engineering.

With that friend of all outdoors, Thompson Seton, and others nationally interested in boys’ clubs, he was a moving spirit in founding the “Woodcraft League” for boys. This foundation was distinguished from the Boy Scouts in that these boys were obliged to actually produce all their equipment—or in the instance of certain highly technical items like knives, hatchets, and so on, to earn the money to purchase them. Insistence on self-reliance also discouraged club houses, professionally built camps and so on. The enterprises of each excursion were built “from the ground up” and rebuilt for each project, so as to never lose touch with nature and outdoors. The program was a sort of pre-view of the current “courses in camping out” which are now being made a part of regular public grade school curricula all over U. S. A.

Ben is very definitely an action citizen, with many contributions to the public good, the schools and economic welfare associations. He has just published a very fine text book, which is the basis of his teaching at New York University and Pratt Institute in Brooklyn; “Developing Marketable Products and their Packaging.” McGraw Hill Book Company, New York and London, 1945.

We architects trust that buildings will also continue to be really “marketable products.” As a glorified “package” for selling the ideas of mankind and his works, we also hope that buildings will be as wisely and as scientifically “pre-searched” as the other and less important “containers” in which modern life and commodities arrive to serve or please us,—that is to say that “package” which is an automobile, a fountain pen, typewriter, or radio. We have listed an illustrative selection of the half hundred corporations Ben Nash has served since 1905.

We wish to extend to him our cordial thanks and appreciation for his cogent analysis of Architecture as a business. So far as I know—with the possible exception of the “Architects Small House Service Bureau” project which was sponsored and developed in Minneapolis by the Minnesota Chapter in 1921—all previous reviews of the economic structure of our profession at work have been little more than the usual committee discussions and reports, wholly amateur with respect to Business Administration techniques and completely lacking in objective scientific study, or in specialized guidance based on professionally organized experience data. The Architect has really never taken his own advice by seeking outside expert advice for improving his own prospects and procedures. Perhaps that is the reason that the business community, which uses lawyers, engineers, and doctors, often fails to recognize the advisory functions of the architect.

W.G.P.

Northwest
1950?—LET'S FIND OUT
THEN PLAN NOW SO THAT . . .
- YOU CAN GET MORE BUSINESS,
- AND CAN MAKE MORE MONEY.

SEVENTEEN THOUSAND MILLION DOLLARS was the Profit for Business in 1947 over and above wages, salaries, executive bonuses, taxes, and everything. Did you get your share?

TWENTY THOUSAND MILLION DOLLARS may be the U. S. A. profit take for 1948 if the January-March rate is maintained. Perhaps your share will come to you indirectly, by way of taxes . . . on the other fellows' "earnings"?! What do you think?

LET'S LOOK INTO this money-making business. Today we have it, tomorrow you don't. The dollar was a dollar, now it's only 47c. What will it be in 1950! Shouldn't we repair the roof before it starts to rain? Dare we happily drift along in short term prosperity until 1950?

The Business Side of Architecture.
"Presearch" by Ben Nash

INTRODUCTION BY WILLIAM GRAY PURCELL.

ARCHITECTS SHOULD LOOK at their business as the buying public sees it. When during three years as a business executive I occasionally sat with management on the "opposite-side-of-the-table" to my profession and listened to the candid discussions of those who hire architects, the experience was painful, but very salutary.

Charles A. Favrot, Vice President of the American Institute of Architects for some years, told me that the business "panic" of 1893 which forced him out of Architecture and into contracting for 10 years, was really the making of his very successful architectural career. The mellow esthetic atmosphere of the perfumed past no longer pressed upon him. He learned to think and act within the business techniques of engineering, cost accounting, labor management. In 1903 at the age of thirty-six when he was financially able to return to Architecture, it was with a new confidence because he had acquired ability to satisfy the practical demands of business clients. At the same time he had not lost the idealism which continued characteristic both of his Architecture and of the contributions he made to the Institute throughout his career.

So while lawmakers of both Parties in Washington allow economics to drift, giving their first and often sole attention to votes in the next election, architects simply cannot be imprudent. We must plan our 1950 pay checks now. Mr. Favrot's business experience suggests that some practical advice from hard boiled business may not hurt us. Business also has its idealists.

With this introduction let's hear what the dynamic Mr. Nash has to say about what the architect has to offer the public for pay.

ARCHITECT

I HAVE READ THE ARTICLES in the NORTHWEST ARCHITECT on advertising for architects*. I note first the emphasis being placed on the idea "What is the product we architects have to sell?"; and also the question "What media should we architects use?" I have heard similar questions put by manufacturers for years, and it being my professional business to answer them, I have some thoughts for your collective mind. You will be able to sense those that hold merit for architects and to forget those that do not.

My entire point of view in seeking to solve matters of this kind for clients is included in one basic concept:

What is the best strategy to be used?

When I think in terms of strategy then I am forced automatically to recognize change. A strategy of yesterday may not apply today.

As I read the way the architects are talking about advertising and getting clients I seem to sense the absence of a full recognition of change. They appear to be supporting a traditional fixation and they are having trouble with it. In effect they are saying that "this person," or "this group do not recognize the usefulness of architects and we ought to go out and tell them what we are and what we do."

From my experience in watching the alert mind in action of the successful businessman I have noted how he watches for change and flexibly adapts his business operation to meet it. He succeeds, and many outsiders wonder if it were his advertising, or his radio program—or perhaps just his luck! No, the successful businessman succeeded because he fitted his thinking and facilities to current needs. He found out exactly what people wanted of him and he directed his efforts toward giving it to them. And

---

* "Not Advertising but 'Sales'!" Northwest Architect, Volume V, #6, August 1941.
* "Acres of Diamonds" Northwest Architect, Volume VI, #1, September 1941.
in thus giving, the higher calibre businessman provided his prospective customers either something more or something better than they expected.

ALL THIS BUILD-UP is to serve as a background for what I believe is the strategy best suited to architects of today—and yes, I'll add tomorrow, and tomorrow!

LET ME START by characterizing an architect. All through the articles in the public press, and in the national magazines, the word "architect" seems too often associated with some sort of circumscribed activity having to do with building homes.

Is this the goal of the architect? Is he limiting himself and helping to push himself out of continued usefulness by this rigid circumscription? I personally think so. I think he is shutting himself out of the greatest period of opportunity ever presented to those who have the wide-range knowledge necessary to practice Architecture. Notice I didn't say—"who are architects"—I said "who have the wide-range knowledge necessary to practice Architecture."

HERE IS THE ESSENCE OF MY IDEA.

To me an Architecture is "a relation." An architect is a "r e l a t o r." A "relator" (not a Realtor!) would be a trained mind working up out of a problem, toward a solution-in-forms and their mutual articulation.

What an architect did with his specialized talents 10 years ago, 5 years ago, or one year ago is of no consequence. During those days past he had also acted as a relator of functions-into-forms and their mutual articulation.

Perhaps today the relation of the architect to the problems for which he is best qualified, that is to say, as the expert working between Idea and Product, is all changed. I think it is. Maybe the idea of sitting around waiting for clients to build homes with the help of architects is a thing of the past. I don't know. But if I were a group of architects I would sure find out. If I were an architect I would definitely find out EXACTLY what my present relation to the type of problems I could solve. Only when I know this can I then determine what kind of a product or service I have to sell and which is profitably salable. If I don't do this I will either be trying to sell what sold in the past, and doesn't sell today, or I will be floundering around wondering what I ought to sell.

S O HERE WOULD BE MY SUGGESTION.

Since an architect is a specialist who "relates" Ideas and Things, that is to say, a "r e l a t o r" and not a fixed-type specific-performance person, a group of architects, let's say those in Minnesota, should spend time and money, not on advertising but for a survey of their services.

This survey should be designed to do 4 things:

1. To find out exactly how architects are being used today, not how they hope to be used, or formerly were used, but exactly how they are actually being used.

2. If this information is honestly sought it can reveal some useful information. It may show that an architect's relation has increased in value when used in one way or has lessened in value when an attempt is made to use it in the old style way.

3. The profession of Architecture is passing out of the field of "personalized service" and quite possibly his talents are even now being put to fuller and more profitable use in situations where he is an integral part of a large industrial organization; for example, like the corporation counsel, industrial chemist, or even the equipment specialist. Such special type counsellors don't go around trying to create classifiable opportunities for their talents—they have made themselves integrally available to solve the day to day problems; yes, opening to view problems that might never even have appeared for solution if they hadn't been right at hand when the new relations first appeared.

2. Conduct a survey that is so thoroughly done and resultful that a summarized report of all its factors can be sent to every state chapter of architects to show how "change" has affected the architect in the Minnesota territory. Then get each state chapter to conduct a study. With such a series of state studies in hand the findings can be summarized for all architects—and thus point the fruitful and profitable direction toward the future. This study would surely indicate the trend. The trend can then be projected by an expert in sales to indicate the future.

3. Any such survey of the architect's potential field of work should be based on two "type"-questionnaires.

3a. One questionnaire to be sent to every architect in the State. It would ask what "type"-problems he has been requested to solve and what "type"-projects he has been asked to work on in the past two years. What type projects does he expect to be most prevalent in the next two years, and by all means include a question something like the following in order to learn the manner in which things have changed:

"In what respect have projects changed from those of five years ago?" Or "What would you say was the greatest change in the type projects for which architects were asked to co-operate in the past 5 years, or "How would you characterize the change in the use of the architect's talents since the war." This, or some question such as the following usually rates a number of prophetic replies: "In what way do you think the knowledge required for the practice of Architecture will be most widely used 5 years from now?"

3b. Another questionnaire should be sent to every industrial organization in Minnesota.

This questionnaire would be designed to get information as to the way these industries have made good use of architects in the last 3 years and how industry would like to use them in the near future. The questionnaire should seek to learn how these industrial executives truly regard architects and their effectiveness in relation to a given problem. Is it their practice to consider architects at the time of the initial problem or do they wait until they are ready to say "We now need an architect." Is the architect's relation to these persons vital enough or well understood to consider the counsel of an architect at the outset of a problem? I believe the Minnesota architects could get the Industries of Minnesota to co-operate and to give their frank opinions, to learn exactly where the architect fits, as the outsider or possible user sees it—and not as the architect sees it.

3c. Another questionnaire could go to a selected list of individual home owners or average citizens, to find out where they place the architect in their future affairs. Learn whether they regard the contractor or the architect or the project builder as the one who can satisfy their needs. Maybe the average person...
thinks he doesn't need an architect. If this is so, it
would be well to find this out. Many people lack the
imagination to visualize projects from pictures or
even to understand plans. Others lack initiative—or
are timid—or do not know how to organize their
own affairs. It is quite possible, therefore, that a lot
of average persons would rather buy a house already
built because they can see what they are getting. If
this should prove true then it may be necessary for
the architect to change his selling-by-plan-and-picture
and show models the way the manufacturer compre-
ensively sells his machines in the field. But of
course this means an architectural service related to
mass production. No architect could afford to make
models for individual "tailor-made" buildings. The
best fees obtainable would not cover the added ex-
 pense.

4. In support of the questionnaire survey I would rec-
ommend that the Minnesota Society form an investigat-
ing committee. The members of this committee carefully
briefed in advance would call on business executives (not
only those who have business projects wherein an architect
can help, but also those who will be building new houses)
and have a friendly discussion of the many ways in which an
architect can assist in the everyday problems which
confront the businessman regarding expansion, replace-
ments and reorganization. I believe any executive would
enjoy the visit and get some intellectual stimulation from
it as well. Such an informal business conference would
not be purposely to get an order or a commission but to
try to convey to the business man the unusual and wide-
rang qualifications of architectural training and the way
it might be of beneficial use to the as yet unrealized pros-
ccts and potential in the everyday affairs of the man in
business. Let the visit be based on an investigation to see
exactly how the man of business regards the architect and
his present day usefulness. Let this personal visit get the
facts, and tell exactly what is wanted from an architect.

When the survey is completed some very sur-
prising results are sure to appear. It will also be quite
certain to tell what the architect's relation is and what
people want to actually buy from him. Knowing these
two fundamentals the architect can accurately appraise
the following propositions:

That his relation to possible users of his services is better
or worse than he thought it was.

That he should sell exactly what is wanted—and nothing
else, and what this is.

That he should immediately devise ways to improve his
relations, and how.

That his relations can be wholly satisfactory if he offers
and handles his services in a different way than at present
—and the exact way to do it.

And having learned this and then having decided what
is best to sell, he will then know for this time, and for the
future, just what product he has to sell. Knowing this he
can then find the correct, ethical and effective way to
advertise what he can do, because it will be purchased by
the prospects, who are led to give consideration to definite
qualifications useful to them. Advertising is only profitable
when used for something people want—and will buy.

In conclusion may I assure you that northwest
architect is doing a wonderful work in bringing to the
fore the fundamentals of Louis Sullivan, Frank Lloyd
Wright and other creative and intuitive thinkers whom
many persons have never known and some have read and
forgotten.

As I reread these articles I am again stimulated to view
my own problems in their true RELATIONS. Yes, I am
sure RELATIVITY is the word.

As I read all this cogent material and bring to it a
long and varied experience with practical business execu-
tives, I keep saying to myself "How can the man of In-
dustry, or the man who feels he must be a realist, be made
to see the practical rightness of these fundamentals."
"How can men, steeped in the materialistic point of view,
be made to see that profitable gain to themselves, and
progressive good for the future of all men, can become a
reality if these fundamentals are practiced." This, it seems
to me, is the big job.

Many others have made their contribution but such a
little "drop in the bucket" is not widespread enough.

Realizing this I have taken every opportunity when
talking from the platform or in writing articles, to point
out "that rightness plays a handsome profit."

Instead of choosing the angle that—rightness should be
done because it is the right thing to do—I have sought
to promise a return even to human selfishness by using
rightness. This is the ancient pressure found in the whole
process of evolution by which living things came to exist
as we see and work with them.

By this moral strategy I manage to gain attention and
interest—as well as the desire to learn how rightness
can be profitably used. Experience shows that rightness
can well pay its way with a decent margin of safety.

And so instead of moralizing I seek to commercialize this "tool of rightness" and show how it is
available to anyone who wishes to apply it. As a practical
example, after reading the issue containing the story "No
Home, So What?" northwest architect, volume xi,
#2, April-May 1947, which was packed with fundamentals
as to the best method of approach to any problem, I left
my copy with the Director of Product Development of one
of my manufacturing clients. I asked him to read the is-
sue fully, and he and I would discuss it on my next trip.
This businessman is a good thinker and I know will get
an appreciation of the sound point of view. It will help
both him and me to do a better job when carrying out the
product development projects for his corporation. From
this one can see that sound basic principles have a very
wide field of application.

Thus while most of the ideas presented in northwest
architect are necessarily concerned with architecture,
they are at the same time directly related to the develop-
ment of commodities for civilian use—the material things
we live by and live with. Since this is so—and because
this reconstruction era is showing a greater interest than
ever before in the creation and production of "better com-
modities for better living"—I recommend that you inject
some references concerned with the application by archi-
tects of their vital fundamental ideas to the designing and
development of commodities. I believe you will find that
more architects are going to use their training in design,
materials and construction for the designing commodities
—generally called Industrial Design.

northwest architect has a real message to all these
men. This journal can stimulate architects to approach
industrial design problems in a way that the "realistic"
man of industry would never do by himself. Exact and
comprehensive analyses may lead architects to give atten-
tion to opening up new ways to meet the daily needs of
all of us, so that the things about our lives and homes look
better, act better and help us live better.
AN INVITATION!

We manufacture custom-built breakfast nooks, L or U shape, for homes; booths and benches for taverns, retail stores, doctors', dentists' and other offices; waiting room benches for depots, parks, auditoriums, rinks, courts, amusement places, etc. Tables and chairs with above.

These items are quality constructed—fire and stain-proof plastic cover material in a variety of colors, easy to clean, with durable, comfortable seats and back rests.

THE PRICE

There is a choice of Hair Flex or coil springs and Duran Plastics. The price is $1.89 a running foot, less discount.

SALES APPEAL

Houses, when they are equipped with one of these colorful, quality breakfast nooks, have sales appeal. These nooks can be placed in the kitchen or in another room. They add value to any home.

You are welcome to write or phone for further information; but, particularly, we would like to have you visit our office. Our telephone number is Cedar 8398.

A.A.A. FURNITURE MFG. CO.
153 WEST KELLOGG BLVD.
ST. PAUL 2, MINNESOTA
INDEX
NORTHWEST ARCHITECT
LIST OF TITLE ARTICLES
by WILLIAM GRAY PURCELL, A.I.A.
October 1940-March 1948

VOLUME V
#1, Sept.-Oct. 1940 "Building Superintendence"
#2, Nov.-Dec. 1940 "Oh! Doors"
#3, Jan.-Feb. 1941 "More Doors"
#4, April 1941 "Where Do We Eat?"
#5, June 1941 "And They Used To Make Fun of Anoka!"
#6, August 1941 "Not Advertising But 'SALES'!!"

VOLUME VI
#1, Sept.-Oct. 1941 "Acres of Diamonds"
#2, Nov.-Dec. 1941 "Give Yourself A Build-Up!"
#3, Jan.-Feb. 1942 "Beauty"
#4, Mar.-Apr. 1942 "A Porch Is A Porch—Is A Porch!"
#5, May-June 1942 "Nation Builder CARL LARSON"
#6, August 1942 "LOOK AT THE MOVIES!"

VOLUME VII
#1, November 1942 "Dr. Gray Builds a House, 1874"
#2, December 1942 "Mr. Miller's Good Gingerbread"
#3, February 1943 "Back To The Woods"
#4, April 1943 "Medicine Talk"
#5, June 1943 "Billy Green—Haywire Artist"
#6, August 1943 "Through The Looking Glass"

VOLUME VIII
#1, Oct.-Nov. 1943 "What Is Architecture"

(* Six articles by others as noted)
ARCHITECT

VOLUME IX
#1-2, Mar.-Apr. 1945 "Wood in the Modern World"
#3-4, Month Not Listed Lumber After the War*
#5-6, December 1945 "Lay That T-Square Down!"

VOLUME X
#1, Month Not Listed "Architects Relax!"
#2, Month and Year Not Listed "History Was Today"
#3, Month Not Listed "Or Equal"
#4, Month Not Listed "Function of the Architect"

VOLUME XI
#1, Month Not Listed "Appraising Under Current Conditions*
#2, Month Not Listed "No Home, So What"
#3, July-August 1947 "Vacation Number"
#4, Sept.-Oct. 1947 "Many Hands Want Light Work"

VOLUME XII
#1, Jan. 1948 "An Authority,"
#2, March 1948 "1950!?, ... "Let's Find Out"
THE MASTER BUILDERS CO.

Manufacturers Of

POZZOLITH
FOR DURABILITY, WORKABILITY and WATERTIGHTNESS in CONCRETE

EMBECO
FOR GROUTING, CONCRETE RESTORATION, BONDING and WATERPROOFING with NON-SHRINK MORTARS

MASTERPLATE
INDUSTRIAL FLOORS of LASTING SERVICE

COLORED MASTERPLATE
FOR SERVICEABLE, ATTRACTIVE COMMERCIAL CONCRETE FLOORS

OMICRON MORTARPROOFING
FOR MASONRY MORTAR with LESS SHRINKAGE

DISTRIBUTED BY

FRANK P. WHITE CO.
205 GIRARD AVE. NO. MINNEAPOLIS 5, MINN.
Between the Covers

Being a Book Review Department which has the pleasure or otherwise of giving an opinion on some of the latest publications which should be of special interest to our readers.

ANATOMY FOR INTERIOR DESIGNERS—plus How to Talk to a Client—by Francis de N. Schroeder—illustrations by Nino Repetto, Henry Stahlhut and Mario Carreno—published by Whitney Publications, Inc., 11 East 44th Street, New York 17. List $3.50. 69 pages plus stiff cover—9”x10¼” page.

Yes—by all means get the book. The only thing you will regret is that in the attempt to get sufficient “white space” a great deal of the reading matter has been kept too small making it hard to read—despite this fact you will read every word and many of them over and over. The author has presented a factual study of the anatomy as it relates to living and designing in a style peppered with just a dash of subtle good humor to make the absorbing of the useful facts a real pleasure. The illustrations too while putting across the story will bring smiles. Part II which is entitled “How to Talk to a Client” while written more expressly for interior designers is applicable to the architectural profession as well and architects will find many suggestions which if put to use will prove extremely valuable.

Balsam-Wool
APPLICATION DATA SHEETS

YOURS FOR THE ASKING

Unusual applications of Balsam-Wool Sealed Insulation—details difficult to obtain elsewhere—are contained in this series of Balsam-Wool Application Data Sheets prepared by the makers of the original sealed, blanket type insulation. A complete set of these data sheets is yours for the asking. Write for them. *Reg. U.S. Pat. Off.

SAINT PAUL HEAVY DUTY SKYLIGHTS
do the job!

FOR durability, sturdiness, and maximum lighting, Saint Paul Heavy Duty Skylights are giving magnificent service on factories, shops and public buildings everywhere. Made of heavy (18-gauge) Galvanized Steel, Copper or Stainless Steel. Puttyless. All shapes and dimensions. Ventilating or non-ventilating. With or without Saint Paul Ventilators. Wire or write us about any skylight job.

SAINT PAUL CORRUGATING CO.
Phones: GA rfield 4915—NE stor 2255 (Mpls)
South End Wabasha Bridge Dept. NW A2 St. Paul 1, Minn.

CELERTEX
BUILDING PRODUCTS

Insulating Sheathing, Lath, and Interior Finishes
Asphalt Shingles and Roofing Products
Rock Wool Batts Hand-Pouring Rock Wool
Roof Insulation
Hard Board Products
FLEXCELL* Expansion Joint
CEMESTO* The complete wall unit
Celotex Acoustical Products


For complete information consult Sweet’s Files or write:

THE CELOTEX CORPORATION
120 So. LaSalle—Chicago 3, Ill.

Minneapolis Office: 808 Foshay Tower, Minneapolis 2, Minn.
Organizing the Store Front

By Morris Ketchum, Jr., A.I.A., of Ketchum, Gina & Sharp, N. Y., N. Y., Architects

Second of a Series

Being Published in N. W. Architect

The entrance front of a store provides ideal on-the-spot contact between the customers out front and the store inside. As such, it should be designed as a direct expression of its own establishment—of the equipment, lighting, materials, textures, colors and structure of the interior sales space. When so designed, it is better fitted to accomplish its task of keeping the weather out and inviting the public inside.

At the same time, store fronts must be planned for the shopping conditions around them. Those in a city shopping district crowded with sidewalk traffic will be very different in character from the fronts of highway drive-in stores appealing to the motor trade. In either location, stores treated on an individualized basis will again be quite different from those which are planned as integrated units of some larger shopping center.

Whatever form it takes, the store front has a definite, clear-cut job to do:

First, it must catch the eye. Attracting public attention on a street crowded with competing store fronts is not the easiest job in the world. Only a well-organized store front has a good chance to succeed.

Second, it must identify the store. The general impression it gives should spell out the identity of the store proprietor and the character of the merchandise he offers.

Third, as a medium for displaying merchandise, the store front acts as a stage set. The displays it dramatizes will create the urge to buy.

Fourth, the store front should pull customers into the store. From a customer's angle, selling begins on the sidewalk. The plan and character of each store front should invite the approaching pedestrian to follow a line of show windows to the entrance door and on into the indoor "shopping street."

Store fronts are essentially three dimensional posters. Each store front can be as wide and high as the store behind it and as deep or shallow as its designer chooses. Visually, it can vary in depth from the limits set by show windows with closed backgrounds, to those set by the rear walls of the interior sales space.

To act as an effective advertising poster, the store front must have individual character, good balance and composition, distinctive, timely illustrations in the form of displays, and a brief, easily read message expressed by sign lettering. The materials and equipment used in its construction should boldly express the character of the store. Very different facing materials, sign lettering, and show window arrangements will be chosen for candy shops than for drug stores. Again, there should be at least a subtle difference in treatment between a hardware store and a florist shop.

The first impression created by any store may come from a fleeting glimpse as one drives by in an automobile, or while riding in a street car or bus, or else from a closer view while walking along the sidewalk. It has been estimated that a typical pedestrian takes less than 7 seconds to pass an average show window and that fast-moving motor traffic takes only 3 seconds. It is therefore obvious that every principle that will bring and keep attention to the store front must be...
"SIERRA TRIPLEX" RECEPTACLE

New 3 Outlet Receptacle

A new, modern 3 outlet receptacle is now being produced for residential, commercial and industrial use. This receptacle is easily installed in standard boxes and provides safe permanent additional outlets for lamps, appliances, radios, machines, etc. "Sierra Triplex" receptacles have double contacts of heavy duty bronze and are approved by Underwriters' Laboratories. The receptacle and matching wall plates are designed as a harmonizing unit and can be installed either vertically or horizontally. A special flange in the receptacle itself, and plaster ears on the strap, assure a flush definite register. Users appreciate the convenience and safety of this third outlet. Manufactured by McDonald Manufacturing Company, 544 East 31st St., Los Angeles, Calif.

Porcelain Steel "Wallpaper"

Baltimore Porcelain Steel Corporation, Baltimore, Md., has entered the building and construction supply field with the announcement of a new porcelain enameled steel flexible wall-covering. Marketed under the trade name of Mirawal the product is arousing widespread interest due to its easy adaptability to usage in store or home, in new building construction or in modernization.

Of 32 gauge steel which has been porcelain enameled, "Mirawal" is light-weight and easily installed by any type of skilled construction labor. It is so flexible that it can be rolled into coils with a minimum radius of six inches without damage to the material. It is available in quantity and is currently shipped in cartoned coil-lengths of 100 feet in 16-inch widths, thus eliminating the old problem of fitting tailor-made sections into a specific location.

The new product is heat and acid resistant and proof against rust, moisture, discoloration and rodent and insect pests. It is currently available in black, white, grey, ivory, light green and light blue. Yellow, red and dark blue finishes will be forthcoming shortly.

Sprayed

Directly on to any surface—concrete, masonry, plaster, metal, cement and asbestos board, etc.—in any thickness required.

TYPICAL INSTALLATIONS

LAND O'LAKES CREAMERIES, INC., MINNEAPOLIS (Several Installations)
TWIN CITY ORDNANCE PLANT, NEW BRIGHTON
MINNEAPOLIS GAS LIGHT COMPANY, MINNEAPOLIS
BRIDGEMAN CREAMERIES, DULUTH
PAPER CALMENSON CO., ST. PAUL
SWIFT & COMPANY, ST. PAUL
CHAMPION MOTORS, MINNEAPOLIS

ISCO CORPORATION
2102 Wabash Ave. St. Paul, Minn. Nestor 6108
750,000 Houses in '47 Sets Record

The building industry broke all previous records by putting 750,000 single-family houses under construction in 1947, according to an analysis of government construction statistics prepared by the Construction Industry Information Committee.

The 1947 record for one-family dwelling starts, as shown in figures compiled by the Bureau of Labor Statistics, was 24 per cent higher than that of the previous peak year, 1941, when 603,000 single-family houses were started, the Committee stated. It was 31 per cent higher than the 572,000 single-family units started in 1925, which was the peak year for all housing construction.

In addition, 105,000 multiple housing units were put under construction in 1947, a 50 per cent increase over the number started in 1946, according to the Committee.

WOOD CONVERSION COMPANY ANNOUNCES EXTENSIVE PLANT EXPANSION

Plans embracing an extensive plant expansion for Wood Conversion Company became known today when E. W. Davis, the company's president, announced the completion of a new large-capacity steam generating plant at Cloquet, Minnesota. The company, one of the Weyerhaeuser Forest Products group, distributes its insulation, building material and industrial products nationally. Headquarters are in St. Paul, with sales offices in Chicago and New York, while the products are manufactured in Cloquet.

Details of the expansion program were given by Mr. Davis in an interview today. "In addition to the new steam plant," he said, "the Balsam-Wool plant is being enlarged and its equipment expanded to nearly double the present output. Also being erected are a Nu-Wood board machine, a new wood preparation and processing plant, and a new mill to produce pulp for making Nu-Wood products. The size of the Tufflex plant will be expanded to more than double the present output."

Wood Conversion Company began construction of its first production unit in Cloquet, Minnesota, nearly 26 years ago. From the original small plant producing a single product—Balsam-Wool house insulation—and employing less than a score of people, the company has expanded to an organization of national prominence.
Store Fronts
(Continued from Page 12)

put to work. It will take all that a store planner can offer to equal the average stopping power of most show windows—less than 10 per cent of all sidewalk traffic—and to pass the top mark of 20 per cent set by better than average displays.

The merchandise on display, whether shown in a set pattern of show windows or by means of a general view of the interior sales floor, should be framed like a picture by the store front. Never forget that the entire front acts as a stage. Displays, backgrounds, lighting, atmosphere should all combine to create a theatrical setting for the store’s merchandise. Although the picture frame may be permanent, the scenery should be changeable. In order to hold public attention, displays must vary from week to week, must take on new forms and patterns—all within the physical limits set by the store front.

Since bold, easily visible signs and a quick general impression of colorful merchandise on display will be enough to attract fast-moving auto trade, the principal problem in designing a store front is to successfully appeal to the slower pace of pedestrian traffic. Entrance fronts must always be planned for moving crowds. There must be room enough along the store front for comfortable window shopping conditions and an easy transition between street front displays and interior sales space. Intelligent planning is vitally necessary in order to turn the visual appeal of signs and displays into effective pull-in power.

At this point the three-dimensional advantages of store front advertising come into their own. Display space in depth is just as important as display frontage in width. Sidewalk traffic counts show that window shoppers often avoid building line show windows because of jostling crowds. The time has passed when every storekeeper felt that economy of space compelled him to squeeze his store front against the property line. Instead, store entrance fronts are now planned with space for outside traffic. Traffic aisles are just as necessary on the store front as they are on the sales floor. Window shoppers are always on the move. They should be given plenty of elbow room as they are drawn to the entrance door by an attractive line of merchandise displays.

One easy way to accomplish this is to pull the sidewalk itself into the store as a store front lobby. Such lobbies, sometimes called arcades, make the transition from street to sales area a painless one. At the same time, they merge the display values of the interior with those at the store front and help to turn window shoppers into store shoppers.

Where available store area does not permit a full-fledged store front lobby, it is usually advisable to at least provide some elbow room for window shoppers along the store front. This can be done by recessing all or part of the front about two or three feet back from the building line. The consequent loss in interior sales floor area inside will be more than compensated for by the added pulling power of the entrance front.

In crowded city shopping districts where both sidewalk space and display frontage are at a premium there are very real and logical reasons for using store front lobbies, whether shallow or deep:

First of all, they multiply the display possibilities of a narrow frontage. There can be as many as three

(Continued on Page 21)
NOTED DANISH ARCHITECT
WILL ADDRESS CONVENTION

Lars Marnus, famous Danish architect, will present an illustrated lecture covering recent architecture in Denmark and other Scandinavian countries, as part of the program of the annual convention of the Minnesota Society of Architects.

Marnus, who calls himself a "rationalist" in architectural practice, will show both by movies and slides the evolution of architecture in the last 20 years in the northern European countries, particularly as exemplified by the works of such men as C. K. Møller, Helwig Møller and Jens Klint who designed the huge Grundtvig church, under construction for some 25 years. He will also show and explain pictures of the Finnish Airport and Olympic Stadium at Helsingfors, the new radio building in Copenhagen and numbers of schools and housing developments in Sweden and Denmark.

The Copenhagen architect has been travelling and lecturing throughout the United States since his arrival here last November and has visited over 45 colleges during this time, touring under the auspices of the Danish government. His lecture before the Minnesota Society of Architects Convention will be at the Radisson Hotel, Friday, May 21, at 1:30 p.m., and will be open to the public without charge.
The 1948 convention of the Minnesota Society of Architects will provide the opportunity for rekindling the fires of fellowship—the opportunity to discuss and work out solutions of our common problems—and finally and of no little importance a chance to relax, to put away the immediate cares of the office, the routine and humdrum, and enjoy oneself.

This year the convention will be held in Minneapolis and will be a two-day meeting—May 21 and May 22, Friday and Saturday. Everything points to a successful gathering. We are signally honored by having among our guests and speakers, Douglas William Orr, national president of the American Institute of Architects, Paul Gerhardt, Jr., of Chicago, regional director of the Institute, and Lars Marnus, internationally known architect from Copenhagen, Denmark.

You, however, are the most important person on the program—your attendance is essential to the complete success of the meeting. You owe it to yourself and to the men who have given many hours of their time to arrange an informative, instructive and pleasurable convention. So—plan now to get together with your fellow architects on May 21 and 22 at the Radisson in Minneapolis. Remember—you friends will be looking for you. It's your convention only if you attend.

CONVENTION COMMITTEES

General Arrangements
Hal Fridlund, Chairman—Publicity—Speakers
Clair Armstrong—Dance and Entertainment
J. A. Brunet—Dinners—Hotel Reservations
A. O. Larson—Guests
Milton Leadholm—Tickets
Milton Miller—Roundtable Meetings

Attendance
Don Setter—
Roy Thorshov—Minneapolis Chapter
P. C. Bettenburg
Ed Larson—St. Paul Chapter
Otto M. Olsen—Duluth Chapter
Frank Jackson—Minnesota Chapter

Well Known Chicago Architect
and Director North Central States
District A.I.A. Will Be Convention
Speaker

PAUL GERHARDT, JR.
Questionnaire—State of Minnesota
Architectural Contracts

The question has been raised by some architects whether small offices were to prepare these questionnaires since the data seemed to infer that it was only for large projects. The Advisory Committee for the Minnesota Society of Architects and Mr. Van Krevelen, in their meeting to discuss and prepare the questionnaire, intended it to be open and felt the breakdown of projected sizes on the last page clearly opened it to all size of practicing offices since they could indicate the size project they were interested in handling.

The Advisory Committee wishes to advise that it was the intent to open the questionnaire to all Architects engaged in private practice, and to those who might have misinterpreted the intent and who still feel they would like to submit a questionnaire for future work, we suggest they contact Mr. Rudy Zelzer, the newly appointed State Budget Engineer.

There also seems to be some question as to whether or not the State will accept reproducibles in lieu of original drawings for State work. The following resolution submitted by the St. Paul Chapter which covers this quite thoroughly has been accepted by the State:

RESOLUTION

Whereas, according to the Laws of the State of Minnesota all original drawings for architectural and engineering services must be signed by the Architect or Engineer; and

Whereas, it is the present practice of State Agencies, some municipalities and other governmental subdivisions of requiring in their contracts for architectural and engineering services that the original drawings become the property of the Owner upon completion of the work; and

Whereas, it is the policy of the American Institute of Architects that drawings and specifications, as instruments of service, are the property of the Architect, whether the work for which they are made be executed or not; be it

Resolved, That the Saint Paul Chapter of the American Institute of Architects request that the present State of Minnesota standard form for Architect and Engineer contracts be revised to permit the substitution of a set of reproducibles on tracing paper to become the property of the Owner in lieu of the original drawings and that the cost of the reproducibles be borne by the Architect or Engineer. Costs of reproducibles on tracing cloth shall be borne by Owner.

I understand from Mr. Van Krevelen that they have been including this in their contracts and where they wish the Architect or Engineer to furnish original drawings on cloth, this has been specified in the contract.

Paul M. Havens
Secretary, Minnesota Society of Architects

Building Construction Specialties
Materials
HAUENSTEIN & BURMEISTER, INC.
OFFICES
614 Third Ave. So. 245 19th Ave. So.
MA. 4471 — GE. 1382
Minneapolis, Minnesota

FACTORY—WAREHOUSE
245 19th Ave. So.

COPPES NAPANEE
CUSTOM KITCHEN CABINETS

Complete line of base and wall cabinets, also factory-built linoleum and stainless steel cabinet sink tops now available. Cabinets of hardwood, heavy cabinet construction, with wide range of colors available, complete with hardwood ready for hanging.

FREE ESTIMATES

You May Again Specify —

Pryne Kitchen Fans
Parker Medicine Cabinets
Parker Bath Accessories
Kellogg Mann Incinerators
Murphy Cabranettes
Keystone Shower Doors
Inclinator Invalid Elevators

BARTLEY SALES CO.
134 South 10th St. Minneapolis, Minnesota
Phone MAin 5307

Minneapolis Blue Printing Co.
Agents for Keuffel & Esser Co. of New York

Architects and Engineers Supplies
Blue Prints and Photostats

523 Second Ave. South Minneapolis 2

NORTHWEST
FROM A COLLECTION OF ILLUSTRATIONS OF WORRY FREE CLIENTS whose buildings have just been roofed with a...

Nelson's 20-year bonded roof.

Every Nelson 20-year Bonded Roof you specify is backed by a surety bond . . . guaranteeing 20 years of low cost weather protection. During its long service period each Nelson Bonded Roof is inspected regularly and maintained by Nelson built-up roof specialists. Every Nelson Bonded Roof is applied according to carefully worked out specifications . . . and applied under the supervision of a qualified Nelson inspector. Nelson also bonds various types of roofs for periods of 10 to 15 years. Specify a roof that will give your client YEARS of trouble-free service . . . a Nelson Master Bonded Roof.

THE B.F. NELSON MFG. COMPANY
401 MAIN STREET N.E. • MINNEAPOLIS, MINNESOTA
Condensation in Buildings

Part Two

by Richard S. Dill, National Bureau of Standards

Part one published in Feb.-Mar. issue of N. W. Architect

Condensation and Ventilation

Various means have been suggested to prevent excessive humidity in occupied houses in winter, including the use of sorbent materials such as calcium chloride, silica gel, etc., but ventilation probably is most economical and convenient during that season. Condensation can be prevented in any house or building by heat and sufficient ventilation. Ventilation is effective, as previously pointed out, because warm air can carry much more water vapor, pound for pound, than cold air. Consequently, warm air, leaving a house, conveys more water vapor than is brought in by the cold air which replaces it. Air exists in the form of exhaust grills, ducts, chimneys, etc., or even open windows should be near the sources of water vapor so that the vapor can be expelled without undue loss of heat. An open or partially open window in a kitchen or laundry is more effective than one in a living room or bedroom.

Two reasons why condensation is more likely in present-day houses than in those built some years ago are (1) a great number of small houses are now being built and (2) that, structurally, they are more nearly air tight. This is construed to mean that the water vapor liberation per cubic foot of space is greater in present houses and that the infiltration is considerably less. Infiltration can be called accidental ventilation. It occurs due to leaks in the structure, to flues and fireplaces, and to the opening and closing of doors, etc. Such infiltration probably has prevented condensation and its ensuing troubles in many older houses. At present, the tendency is to reduce infiltration because the public is aware of the fuel saving and increased warmth made possible by so doing. However, the indications are that many houses, especially small, new ones, are inadequately ventilated by natural means and that the time has arrived when ventilators of some kind should be incorporated in house designs. By such means harmful condensation can be prevented both on windows and within the house structure. Hygrometric controllers have been proposed, and may soon be produced, which will start a ventilating fan or, more simply, open a damper in a ventilating duct and prevent excessive humidity. Meanwhile, householders should inform themselves about this subject and ventilate at least to the extent that water does not condense on and run down on windows. Modern, tightly constructed small houses, fully occupied, equipped with insulation, weatherstripping and/or storm sash require greater precaution against high humidities than do more loosely constructed ones. (Continued on Page 22)

<table>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature</strong></td>
</tr>
<tr>
<td><strong>Relative Humidity</strong></td>
</tr>
<tr>
<td><strong>Absolute Humidity</strong></td>
</tr>
<tr>
<td><strong>Water Vapor Removed From House</strong></td>
</tr>
<tr>
<td><strong>Enthalpy (Btu/Lb. Air)</strong></td>
</tr>
<tr>
<td><strong>Total Heat Removed from House (Btu/Lb. Air)</strong></td>
</tr>
<tr>
<td><strong>Air Necessary to Remove 1 Lb. Water Vapor from House</strong></td>
</tr>
<tr>
<td><strong>Lbs. Air/Lb. Water</strong></td>
</tr>
<tr>
<td><strong>Cu. Ft. Air/Lb. Water</strong></td>
</tr>
</tbody>
</table>

If a house has a volume of 10,000 cubic feet and an infiltration rate of one air change per hour, which is considered typical, the water removal rate is

\[
\frac{10,000}{14,000} = 0.714 \text{ lb. per hr.}
\]

Then if the house is equipped with storm windows and vapor barriers and is otherwise arranged for a humidity of 45 per cent, the ventilation rate necessary to remove the same amount of water in the form of vapor is

\[
4070 \times 0.714 = 2900 \text{ cubic feet per hour}
\]

The heat loss due to ventilation in the original case is approximately

\[
\frac{10,000}{13.5} \times (70°F - 32°F) \times 0.24 = 6750 \text{ Btu per hour}
\]

The heat loss due to the same cause in the second case is

\[
\frac{2900}{13.5} \times (70°F - 32°F) \times 0.24 = 1960 \text{ Btu per hour}
\]

The estimated saving is

\[
6750 - 1960 = 4790 \text{ Btu per hour}
\]

If the total heat loss of the house is 50,000 Btu per hour for an outdoor temperature of 32°F, the saving amounts to

\[
\frac{4790}{50000} = 9.6 \text{ per cent of the total heat loss}
\]
times the number of show windows within a given width with a recessed front, when the wall of the store is arbitrarily located on the building line.

Second, with a store front lobby, it is possible to create a greater variety of display treatments. In this type of front, for example, there can be show windows on the walls to right and left, one or more table top display cases in the central floor area, additional show windows on the rear wall. As an alternative, the rear wall itself may be completely glazed so as to permit a view of the sales space beyond.

Third, a store front lobby provides the clearest way to extend a hospitable welcome to window shoppers. It affords freedom from the sidewalk's heavy traffic, shelter from the weather and leisure to study the merchandise on display.

In middle of the block locations, sidewalk lobbies will give the stores that use them added dignity and importance, added window shopping traffic. On a street corner, these advantages will be immensely strengthened by the fact that an open lobby can pull pedestrian traffic from both streets by acting as a convenient short cut.

By recessing the store front, it is possible to create corner show windows, even though the store involved is not on a corner location. The width of the store front's open lobby turns its side wall show windows into corner displays visible up and down the street. Like show windows on a street corner, such displays have maximum visibility and attraction.

Store fronts, whether set on the building line or recessed, can be designed either as closed or open fronts or as a combination of the two.

The closed front is the more familiar type. It is like a flat billboard, as wide and high as the store itself, as shallow as the depth of its own closed show windows.

Although the entrance door or doors to a shop of this type may afford a glimpse of the store inside, the closed show windows themselves are planned as miniature theater sets for merchandise displayed at or near eye level, rather than for a view of the sales space inside. Each show window is equipped with appropriate but changeable floor and wall materials, lighting and display equipment, to properly set off its contents. Within the limits set by the fixed design pattern of a typical closed front, such show windows are capable of presenting a flexible and varied sidewalk display.

In spite of their shortcomings, closed fronts can be effective advertising mediums. The shop windows of Fifth Avenue during the nineteen-twenties and thirties, for example, marked the high point in this type of store front display. All that could be done by expert space composition, the best of stage lighting techniques and a gift for creating imaginative advertising themes was done. Within the limits set by a closed front, display directors brought their art to perfection. Then and now, such techniques have the power to fascinate the public.

Closed store fronts, however, are quite limited in scope and flexibility, no matter how well planned their show windows and displays may be. At their best, such store fronts present a dramatic series of glamorous show windows; at their worst, they limit the art of window display to a few formal and not too flexible settings. The closed front will always continue to have its uses, chiefly where privacy or exclusiveness are desirable or essential. It is losing popularity, however, due to the greater display opportunities offered by the open store front.

In the average store, only a limited amount of space can be spared for exterior display from the total available for store front depth, sales floor and service area. Therefore, the number and variety of show windows at the store front is seldom generous enough to display at one time each and every type of merchandise on sale.

Both large and small stores answer this problem by frequently changing their show window displays. This is done not only for the sake of variety but also to permit each sales division to be represented on the store from time to time. With a closed front, this system is a burdensome necessity. With an open front, there is an opportunity to utilize all the life, color and activity of the interior sales space as a store front attraction, thus automatically giving its merchandise representation.

Another powerful influence in bringing back the open front is the fact that today standards for planning and equipping the interior sales space have never been higher. If a merchant must devote a sizable share of his building budget to the creation of an attractive sales floor, it is then an obvious economy for him to obtain a double return on this expenditure—once from its effect on the indoor "shopping street" and once again from its effect as a store front display.

(Continued on Page 28)
Artstone
with exposed aggregate surface finish for facing Slabs, Ashlar, and Architectural Trim Stone.

Available in a wide range of surface finishes and colors for interior and exterior work.

ALSO
Cinder Blocks

American Artstone Company
Concrete Specialists
Head Office and Factory
NEW ULM, MINNESOTA

CONDENSATION IN BUILDINGS

The humidity obviously increases in any building or enclosure in which water is continuously evaporated unless the water vapor is dissipated by ventilation or otherwise. The question, therefore, naturally arises: Why recommend vapor barriers for new houses if ventilation is essential to prevent condensation, whether vapor barriers are used or not? Why not omit vapor barriers and rely solely on ventilation? The answer is that vapor barriers permit maintenance of higher humidity in a house and this is desirable for three reasons. Some persons find low humidities uncomfortable. Glued wooden furniture deteriorates when the humidity is too low and the ventilation required to disperse the water vapor, generated in a house, is less when the humidity is high. This is illustrated by Table 2 which shows that for air entering a house at 32°F, saturated and leaving at 70°F and 30 per cent relative humidity, 14,000 cubic feet are necessary to remove one pound of water, in the form of vapor, from the house.

The figures in Table 2 suggest a water vapor liberation rate on the order of 0.7 pound per hour for a typical house. In some of the older, larger houses, the water evaporated by cooking, washing, etc., is not sufficient to maintain the humidity high enough to suit the occupants and humidifiers are installed to increase it. In small, well insulated houses of the newer type, the water vapor liberation is likely to be more than natural ventilation can disperse and precautions in the form of ventilation and vapor barriers are to be recommended.

HUMIDITY AND HEALTH

The term “excessive humidity” has been used in several places in this paper, meaning humidity great enough to cause condensation in a house or building. It would be desirable, if it were possible, to specify humidity with reference to health, instead of the durability of the house but, except in the case of hospital patients including premature infants, no universally accepted relation between humidity and health has been established. High humidities have been shown to lower the mortality rate and to improve the condition of such infants, and nurseries or incubators can be designed accordingly for them. Normal people inhabit both very dry and very damp regions of the earth and no dependence of health or longevity on humidity has been scientifically established. Occupants of heated houses in cold climates, however, often experience discomfort due to dryness in the nasal passages and throat, especially upon waking, and for this reason many persons desire artificial humidification in their homes. As indicated elsewhere, the indoor humidity in winter is limited by the outside temperature and other factors so that indoor relative humidities of 50 per cent or more, which have sometimes been recommended, are usually impracticable when the weather is near freezing or colder. Professor Yaglou of the Harvard School of Public Health, writing for the Journal of the American Medical Association, concludes that extraordinary humidification of houses in winter is not worth while unless the house is specifically constructed for the purpose. (2) If physiological studies indicate the desirability, future houses may be designed for high winter humidities equipped with multiple glazing and nearly impervious vapor barriers on or near the inner surfaces of the exposed walls.

INSTRUMENTS

For the determination of humidities in buildings, the sling psychrometer is a cheap and effective instrument. (3) It consists of two thermometers mounted on a strip, (Continued on Page 24)
During the past year, the Accrediting Board has completed the task of appraising or re-appraising sixteen schools. All sixteen have been accredited for varying lengths of time. Some of them were new applicants. Others had been accredited in 1945 with the provision that they were to be reconsidered this year, in order to give them time to correct certain “more easily remedied deficiencies, or to allow certain transitional conditions to prove themselves.”

One of the “more easily remedied deficiencies” was, or so the board assumed it to be, the lack of a five-year curriculum. The board feels itself to be on solid ground in taking such a stand. The ACSA has endorsed and promoted the minimum five-year curriculum by a number of official actions over a long period of time. A preponderant majority of teachers and practitioners appear to consider that five years of post-high school education are essential to professional architectural education on a nationally acceptable basis.

The board recognizes the need—indeed, it has invited consideration of the need—for local and special schools which may not find the longer curriculum necessary. It has, however, assumed that all schools aspiring to meet national rather than local standards should follow within a reasonable time the clear mandate of prevailing opinion.

At its 1947 annual meeting, the board took action to the effect that beginning with the publication of the 1949-50 list, no school will be accredited, the completion of whose curriculum involves less than five years of post-high school education. Notice of this action was to be included on the 1947-48 list, and those schools now offering four-year courses were to be so designated.

Eleven of the sixteen schools appraised this year had four-year curricula in 1945. Of these eleven, five already have five-year curricula in operation, and three more have indicated that they will institute them next year.

It may not be amiss to report on some of the trends which this year’s appraisals have revealed. In general, the board’s and the visitors’ findings merely bear out and define the obvious—namely, that the postwar period, far from being a return to any so-called and fondly hoped for “normal,” is actually even more drastically “abnormal” than anything heretofore experienced. Schools everywhere are manfully struggling to keep their footing in the flood of students that has poured in upon them. The new student bodies are, on the average, more serious, harder working, more mature and, everyone assumes, more able than ever before. All of which constitutes at once an extraordinary challenge and a grave danger to the schools. It will take extraordinary efforts on their part to meet the challenge without a lowering of standards. The difficulties involved are the more serious, because, as the board’s
Condensation in Buildings
(Continued from Page 22)

usually of metal, with a handle at one end such that the
thermometers can be whirled in the air. One ther­
nometer bulb is covered with a cloth sock which is wet
with water prior to the operation. Whirling continues
until successive observations show that the thermometer
readings have become steady. This requires a minute
or so. The wet bulb thermometer will read lower than
the dry bulb (unless the air is saturated) and the greater
the difference the lower the humidity. When the wet­
and dry-bulb temperatures are known, the relative hu­
midity, dew point and other properties of the atmosphere
can be found from tables or charts published in various
handbooks. Ventilated wet- and dry-bulb thermom­
eters have become largely obsolete on account of their
inconsistency. The reading of a wet-bulb thermometer
is greatly affected by changes in air velocity when the
velocity is very low, but for velocities of 15 or 20 feet
per second or more, the reading is satisfactorily steady
and reproducible. The sling psychrometer is satisfac­
tory for most measurements in air conditioning work
and mechanically ventilated psychrometers, particularly
suitable for laboratory work, are on the market. In the
latter instruments the thermometers are stationary and
the air is drawn past their bulbs by means of a fan or
blower. The dew point apparatus and various kinds of
hygrometers are used for special purposes.

References
1. “Guide,” handbook of the American Society of Heating
   and Ventilating Engineers.
2. “Physical and Physiological Principles of Air Condition­
ing,” C. P. Yaglou, Journal of the American Medical
   Association, May 15, 1937.
   Building Materials and Structures Report, BMS 103.
8. “Accumulation of Moisture in Walls of Frame Construk­
   tion During Winter Exposure,” BMS 93.
9. “Methods of Moisture Control and Their Application to
   Building Construction,” Rowley, Algren and Lund—Uni­
   versity of Minnesota Engineering Experiment Station
   Bulletin No. 17.
10. “Moisture Migration": A Survey of Theory and Existing
    Knowledge, F. P. McDermott, Refrigerating Engineering
    Magazine, August, 1941.
11. “Permissible Relative Humidities in Humidified Buildings,”
    Close Heating, Piping and Air Conditioning Magazine, De­
    cember, 1939.
12. “Condensation Within Walls,” Rowley, Algren and Lund,

*Available from the Superintendent of Documents, Gov­
   ernment Printing Office, Washington, D. C., at 10 cents per
   copy.
1945 report emphasized, the resources of so many of the schools were inadequate even for their pre-war job. Nor had many of the schools developed effective methods to select the really qualified students for admission and to exclude the unqualified. Some schools even now have no defense whatever against a student flood which, despite their most heroic efforts, is completely beyond their means to cope with, and which there is little indication that the profession can absorb.

All of which raises many and critical questions concerning objectives, means, and methods to which the ACSA and the Education Committee of the AIA will undoubtedly want to give early and serious study.

It happens that the Board has complete data by which to compare pre-war and postwar conditions in thirteen of the sixteen schools appraised this year. What has happened in these thirteen schools may perhaps be considered representative of the changes that have taken place in all the schools. Just a few examples of the data on the factual side may be quoted, if only to define and objectify what is painfully obvious to everyone. Specifically, the comparison is between the academic years ending in 1947 and 1939.

In these thirteen schools, the average number of entering and enrolled students has nearly tripled, and the average teaching budget has doubled. Faculties are half again as large. But drafting space, graduated students, individual faculty salaries, and faculties' practice experience show comparatively slight increases; while faculties' teaching experience shows a definite decrease. The precise figures are:

- Teaching Budgets: 104% Increase
- Average Teachers' Salaries: 36%
- Drafting Space: 23%
- Enrolling Students: 168%
- Enrolled Students: 136%
- Graduated Students: 23%
- Teachers: 47%
- Teachers' Practice Experience: 25%
- Teachers' Teaching Experience: 26% Decrease

The obvious meaning of these figures is that architectural school enrollments have increased far beyond the work space and instructional facilities needed to take care of them.

It may be recalled that the Board's Charter requires periodic examinations of all accredited schools approximately every five years. One of the board's prospective duties is to make plans for the next periodic examination, which has been tentatively scheduled for 1949, 1950 & 1951, to bracket the precise five-year date from the publication of the first list of Accredited Schools in 1945. This will be no small task. It will require careful planning and more funds than the Board now has in sight. The AIA has been most generous and cooperative in providing the major share of the board's finances. A certain amount has come from the fees paid by applicant schools. One of the Board's immediate concerns is that a long-term financing plan can be worked out with the cooperation of all the groups concerned. So far the Board has had no paid assistance of any kind other than for routine clerical work. Practically all of the detailed study and analysis necessary has been done by the Board members themselves. It is questionable if they can continue indefinitely to give the large amount of time needed to do this, and it may well be that paid expert assistance should be included in future budgets.

This report should not close without recording the

(Continued on Page 26)
deep sense of loss, both personal and professional, which the board feels in the death last fall of Sy Marston of California. He was appointed as one of the two A.I.A. members. It is no mere conventional form of words to say that his enthusiasm, wise counsel, and devoted effort helped the board immeasurably in its first efforts. Above all, he became a personal friend whom the individual members of the board will sorely miss.

His term would have expired at the end of this year. To replace him, President Edmunds has appointed Mr. Louis J. Gill, also of California, with whose long service to the profession and the Institute everyone is familiar. The board takes this opportunity to welcome Mr. Gill to its membership.

In this year's inspections, it has been possible to send three-man teams to visit the applicant schools, instead of the two-man teams used in 1945. This in turn made it possible to follow the intent of the board's charter to have each team of visitors include a representative of each of the sponsoring groups—the profession, the registration boards and the schools. Some twenty teachers and practitioners from outside the board's own membership gave generously of their time and effort as members of the visiting teams. They have the sincere gratitude of the board for their much-valued contribution.

The last word should be one of sincere appreciation and thanks from the board to the school faculties who cooperated so hospitably and effectively with its visiting teams to make this year's accrediting program effective.

Roy Jones, President
Modernized Store Fronts


I was asked to speak today about modernizing store fronts. Well, to begin with, let me say I am against it.

In other words, I don’t believe that in the average case store fronts alone should be modernized. Store modernization should be done in one procedure. A store front is only a part of the whole indivisible unit. Interior and exterior have generally, in modern architecture, become so closely connected and interlocked that to design one without the other can never lead to satisfactory results.

The development in store design in this respect is parallel with the development of architecture generally. Traditional architecture has very often handled exterior and interior of a building as independent units. The architect in fact mostly paid the bulk of his attention to the so-called “façade” and the interior somewhat was arranged behind this “façade.” Contemporary architecture has realized that the exterior of a building is only the reflection of the interior.

The same is true in commercial architecture and therefore as I speak today about store fronts, I want you to understand that I don’t advocate the modernizing of a store front as such, but that I just talk about certain problems of store design in general which happen to occur mostly at the front end of the store.

When I was asked to talk at this Store Modernization Show I felt very flattered and at the same time got a little worried about how to organize a talk. Suddenly it occurred to me that it would be a good idea to look into my old school books. In my lecture notes which I took in Vienna in 1922 at the Technological Institute, I found in a short time, to my pleasant surprise, about ten pages entitled "Planning and Layout of Stores." I am translating a few of these notes for you from the German:

"Every store needs an entrance toward the street for the public and in large stores even an exit toward the courtyard. The entrance from street shall be held as narrow as possible. A single door of about 2'3" width will be more than sufficient.

"The most important part of the store is the show window. This should be made as high and wide as dimensions of the store will possibly permit. However, be careful not to use a single piece of plate glass of a larger dimension than about 6' x 6'. It is much better to divide a show window by vertical and horizontal mullions. In the upper part of the show window you may even get nice decorative effects by using faceted small colored pieces of glass. The show window shall be constructed of wood and iron. It is mostly set back 1 to 5 ft. behind the building line. However, there is a new trend to set it even with the building line in order to be more effective. Show windows have to be opened from the outside so that they can be trimmed. For the ventilation of the store a transom shall be arranged above the doors."

"Here end my notes as far as store fronts are concerned, and I have to realize that store design has become awfully complicated lately. So it seems that I will have to base my talk not on what I learned in school but on what I have experienced in my work. If we consider the treatment of that portion of the store which neighbors the street and contains the entrance (you see how I am trying to avoid the expression “store front”), we have to decide at first which of the three basic solutions we want to use:

Solution 1. Show cases or show windows parallel to the street and near the building line, or

Solution 2. No show windows or show cases at all but a glass wall between the street and store, or

Solution 3. Which allows for use of more show windows or show cases than could be arranged along the building line, and which leads to the introduction of an arcade.

There are, of course, possible solutions which combine features of these three basic solutions. Let us say the introduction of an arcade and in addition to it a glass wall between store and interior, or some show windows on the street line and a glass wall between exterior and interior, et cetera.

The question is asked very often as to whether the trend goes toward any of these solutions and I read very often in advertisements that the trend is toward the open front. I would question the existence of any trend of this sort very seriously. I certainly would not recommend an open front for a chiropodist where one could watch the cutting of corns from the outside, or for a high-class jewelry store, or for a beauty parlor, or a so-called “exclusive” store which doesn’t want to turn its inside out. Generally we have, as with people, stores which are introverts and others which are extroverts. The introverts don’t want to expose their insides to everybody. The problem of which one of

(Continued on Page 28)
The open front is so-called because it is visually open. The same metal and glass walls keep the weather out but the closed window backs are gone. Window shoppers are able to see the interior sales space framed like a show case by its own store front.

Aside from adding interest, variety and a view of sales area traffic to the store front line up, open fronts help to solve the perpetual problem of giving complete sidewalk representation to all the store's merchandise. The sales departments immediately inside the glass front act as their own display. Only merchandise from the more remote areas of the sales space need be especially featured in the show windows. This tremendous increase in the variety and scope of street front displays within a given frontage is of great value. One floor shops can be sure of showing most of their total merchandise at one time; multi-floor stores have less trouble in representing all their sales departments at frequent intervals.

When combined with a store front plan appropriate to outside sidewalk traffic conditions and to inside merchandising, open fronts can be more successful than closed fronts in minimizing the apparent physical barrier between a store's exterior and interior. At the same time, they accomplish this at minimum cost.

The open front is a double-purpose front. With this type of store front, no final decision on display policy is necessary nor is management permanently committed to open front displays. If the necessary equipment is provided in the form of removable window backs or curtains, it is an easy matter to have closed show windows whenever a closed store front is desired. For the sake of a varied display, this may happen quite often.

In any store front, open or closed, functional requirements come first. After the plan and the general composition of any store front have been determined, show windows, entrance doors, signs, lighting, materials, colors and textures deserve careful study. Final success will depend on how well they are all integrated as an animated billboard, capable of attracting and holding trade.

In contrast to an ordinary billboard, the store front has three dimensions—depth as well as width and height—and it offers real merchandise instead of a painted reproduction. Best of all, a store front is always on the job—day and night, year in and year out.

The demand for a lot of display space on the outside is very often made by store owners in main shopping sections. The eagerness to get as many show windows as possible often leads to solutions which provide a lot of show windows but no one to look at them. Let me give you a few examples of such store fronts:

There is Type 1, which we will call the "eat-the-cake-and-have-it-too-front." These fronts are built on the store owner's reasoning that he would like to catch all the street traffic he possibly can, but he would not have enough show windows on the street and therefore needs besides that a lot of show windows in the arcade. The result is that the street windows are not quite as big as they could be if an arcade hadn't been built, and the arcade, which is only accessible by a comparatively narrow entrance, remains empty of onlookers. Trimming of all windows is a steady expense and the sales effect is poor.

Type 2, "The Bottleneck," is based on similar desires by the store owner who feels that once he has gotten the window shopper through the relatively narrow neck of the bottle he is caught and can't get out. The window shopper feeling this instinctively, knows better and doesn't go into the bottle. The next species is the "tunnel." The store owner has a 15 ft. wide store but desires 60 ft. of show windows. He therefore reasons that if he has a 5 ft. deep show window on both sides there is still 5 ft. left as passage (which he says is plenty because his bedroom corridor is only 4 ft. in width, and with his wife and four children they can easily manage). If he therefore would make the arcade 30 feet deep he would have 30 ft. plus 30 ft. of show windows and can sell practically as much as a store with a 60 ft. front. It won't work. People won't enter such long tunnels. They get claustrophobia. There has to be a healthy relation between width and depth of an arcade and I would say that this area should be such that in no case would the depth be more than the width. Another species is the "labyrinth." This system is figured out by especially smart people who can provide in an arcade more show window space than anybody else. The result is that even people who have made up their minds definitely that they want to make a pur-
Modernization
(Continued from Page 28)

chase in that specific store, wander around for weeks without finding the entrance door and are found starved and exhausted by the night watchman.

If we are planning an arcade front, let us remember that one cannot sit on two chairs at the same time and that if we want large display areas in an arcade, then we want to make sure that people will enter this arcade. In order to be successful, we have to have a certain minimum length of store front to work with; I would say about 20 ft. Further, we need a certain minimum height so that people are not afraid of entering a kind of underground cave. In order to make sure that people visit our arcade we don't want to give the show away by letting the passerby see the entire display from an unfavorable angle from the street. Arcade show windows should be organized so that the passerby finds his curiosity aroused by a glimpse of the displayed merchandise units from the street and is forced to enter the arcade if he wants to take a real good look at the displayed goods. As a classic example, I want to mention that Lederer store which I had the pleasure of executing with my friend Mr. Ketchum, in 1939. Another possible solution, is an arrangement where the corner display can be seen from street and arcade, but where the rest of the display can only be viewed from the inside of the arcade. In the mild climate of California we have the opportunity of giving an arcade such height that it gets the character of a side street. Shown here is an example of an arcade in which the roof has been left out altogether (Pasadena Grayson's).

Now a few words about the area which most often exists above the entrance to the arcade or above the show windows of a store, a so-called "sign area." Some people seem to think that the principle in putting signs on a store is "The bigger the better" and "The more the merrier." From this way of thinking results what I would call the "literary front," which obviously tries to educate people in the art of reading. This front contains so much lettering that most people would not even notice it if one of the signs on a credit jewelry store would read "Hot Dogs" and the reaction of most people will be "Don't talk too much; you make me nervous." A sign does not consist of the lettering only. It consists of the lettering plus the background and the relation of the two to each other will determine the effectiveness of the sign. A small lettering placed just right into a big sign area made of an interesting material will be often much more effective than a large one which spreads over the entire place.

Repetition in the handling of sign areas is often more effective than large signs; an example of this treatment is the Gallen Kamp store in Los Angeles. To place one word which expresses the necessary information onto a large empty sign area is more effective (Continued on Page 30)
Modernization  
(Continued from Page 29)  

tive than to write the entire inventory of the store on 
the sign. In this respect, good signs are similar to 
good newspaper advertisements which use a lot of 
white space and therefore form a contrast with the 
closely printed page.

Now a word about show window trimming: We 
store designers often suffer untold pains when we 
examine a store designed by us after an opening. We 
find the show window often crowded full of merchan-
dise and manikins. The store manager assures us that 
this is necessary as he has to show everything he has 
in the store in the window. The only thing which keeps 
him from crowding the windows even more is the 
physical impossibility of placing manikins closer to­
gether. We are, therefore, respectfully submitting our 
invention of the "lap manikin" which will improve the 
capacity of the show window by 200% ("patent applied 
for"). Seriously, we believe that over-crowding of 
show windows is one of the most flagrant mistakes. The effect of one piece of displayed merchandise kills 
the other and the result is the opposite of the one 
desired.

NOW New ECONOMY

Modular Brick and Tile brings definite savings 
in designing, estimating 
and construction time 
and costs. Not next year 
... not tomorrow... 
But Today!

More than 70% of the current quality BRICK and 
TILE production of our member manufacturers is 
now Modular.

Write today for Free Booklet, "ABC of Modular Ma­ 
sory." Also ask for Free Ford Modular Triangle. 
Write to Structural Clay Products Institute, Iowa- 
Minnesota Region, Ames, Iowa.

Illustration: Municipal Building, 
Sioux Falls, S. D.

Harold T. Spitznagel, Architect Hedrich— 
Blessing Studio, Photographer

STRAN-STEEL ESTABLISHES 
FABRICATING PLANTS

Establishment of fabricating 
plants by dealers in major cities to 
furnish steel framework for multi­ 
ple-unit dwellings, single homes and 
commercial buildings has been an­ 
nounced by the Great Lakes Steel 
Corporation's Stran-Steel Division.

The Stran-Steel system features 
use of Stran-Steel joists, studs and 
roof trusses which have on each 
side a patented groove into which 
nails can be driven for attaching 
conventional collateral materials. 
Other Stran-Steel members and ac­ 
cessories include channel plates, 
bridding, joist hangers, C-clips, 
brackets and collars. Members are 
available in various sizes and thick­ 
nesses, enabling the architect or en­ 
gineer to keep weight of members 
to a minimum determined by load 
requirements with resulting saving 
in cost.

The framework may be assembled 
either by ordinary carpentry tools 
or welding.

Steel's uniform quality, strength 
and physical characteristics, accord­ 
ing to the manufacturer, insure 
against warping, shrinkage and 
plaster cracks.

Stran-Steel framing has been 
fully accepted by the Federal Hous­ 
ing Authority as a material struc­
turally eligible for mortgage insur­ 
ance. It has also been approved for 
use under the Uniform Building 
Code used by more than 450 cities; 
the Southern Standard Building 
Code being adopted by most south­ 
ern states; the Building Officials 
Conference of America's code, be­
ing promoted for acceptance 
throughout the nation, and by many 
cities having their own code re­ 
quirements.

Included among the cities where 
this service is now available or be­
ing established are Duluth and Min­ 
neapolis, Minn.; Rapid City, S. D.; 
Davenport, lA.; and Madison, Wis.
THEIR PATRONS APPRECIATE THIS SOUNQ-RUIITED ROOM

The Lounge you see here is one of the attractively decorated rooms of The Town House, 1415 University Avenue, Saint Paul—one of many public rooms made more attractive, more pleasant by Vercoustic sound-quieting treatment. Vercoustic is proving its effectiveness, and its value, in cafes, hotels, stores, clubs, offices, schools, hospitals, libraries, and recreation centers.

BECAUSE OF VERCOUSTIC

In new buildings, as in remodeling, sound-quieting with Vercoustic is a profitable investment. Vercoustic, the remarkable plastic acoustic material, has proved its ability to absorb and "dampen" disturbing noises in public rooms... and to improve the acoustical properties. Vercoustic has a noise reduction coefficient of .65. When applied on either old or new surfaces, Vercoustic can be spray painted to complement the color scheme—adding beauty, without reducing sound-quieting effectiveness. Specify this permanent... easy-to-apply... low cost... effective sound-quieting treatment.

THE B. F. NELSON MFG. CO.
MAKERS OF FAMOUS
MINNEAPOLIS • NELSON'S MASTER ROOFS • MINNESOTA
Zonolite Plaster Speeds Construction and Provides Values Found in NO Other Material

In "Pittsfield Village," large Michigan housing project, Zonolite Plaster Aggregate was used throughout. This material provided a lightweight, fireproof plaster of high insulating and sound deadening qualities. The Zonolite plaster was applied over gypsum board lath.

Architects and engineers are interested in the weight saving features of Zonolite Plaster Aggregate. It weighs only 8 pounds per cubic foot as compared to 100 pounds per cubic foot for sand, thus greatly reducing dead load in buildings—as much as five tons in the average house. As it applies faster and easier, it speeds up construction.

For full details about Zonolite, fill in and mail the coupon.

WESTERN MINERAL PRODUCTS CO.
General Offices: 1720 Madison Street N. E.
Minneapolis 13, Minnesota

UNDERWRITERS GIVE ZONOLITE PLASTER 4-HOUR FIRE RATING

In recent test by Underwriters’ Laboratories, Inc. 1 inch of Vermiculite* Plaster on metal lath used as protection for steel floor and structural members, received 4-hour fire rating, the highest rating awarded any material. Chart shows results and maximum temperatures reached. This construction is the lightest, least expensive and thinnest fire protection ever to withstand this test.

*Vermiculite is generic name for Zonolite.

Check Coupon and Mail Today for Details

Check Coupon and Mail Today for Details