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# NORTHWEST ARCHITECT

JULY-AUGUST, 1954

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VOLUME XVIII

NUMBER FOUR





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# NORTHWEST ARCHITECT

IN HONOR OF THE FIRST CITIZEN  
OF THE OLD NORTHWEST TERRITORY

**FREDERICK BARAGA, S. J., 1797-1868**

of La Pointe, Wisconsin, Bishop of Marquette, Michigan

*"Friend of The Chippeway Indians"*

**O**NE HUNDRED and ten years ago Baraga's "Dictionary of the Ochipwe Language" was printed in the Slovenian city of Liubliana in what is now Yugoslavia.

In its introduction he writes:

"THIS, I think, is the first and only Ochipwe grammar and dictionary that was ever published in the United States. It was rather a hard work to compose it; I had to break my road all through. Writers of other grammars avail themselves of the labors of their predecessors and, like the bee, collect the honey out of these flowers of literature, leaving the dust behind. I had no such advantage, there was nothing previous to mine. It is the judicious opinion of Mr. Henry R. Schoolcraft, who has done and is still doing much for Indian history, 'that the true history of American Indian tribes and their international relations, must rest, as a basis, upon the light obtained from their languages.' This is true: and to obtain the light from such Indian languages, grammars and dictionaries will supply the best helps. And finally I wish to do a service to the philologist, to whom it affords pleasure and learning to compare the grammatical systems of difficult languages."

H. W. FRIDLUND, A.I.A., Editor  
FRED MILLER, JR., Editorial Production  
C. J. LORETZ, Business Manager  
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For more about Father Baraga  
please turn to page 40

Official Publication Minnesota Society of Architects, Sidney L. Stolte, St. Paul, President

EDITORIAL | John Jager, A.I.A. W. G. Purcell, A.I.A.  
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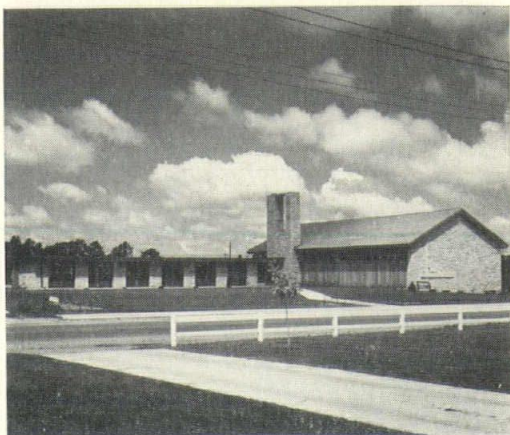
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Publication Office: 2642 University Ave., St. Paul 14, Minnesota

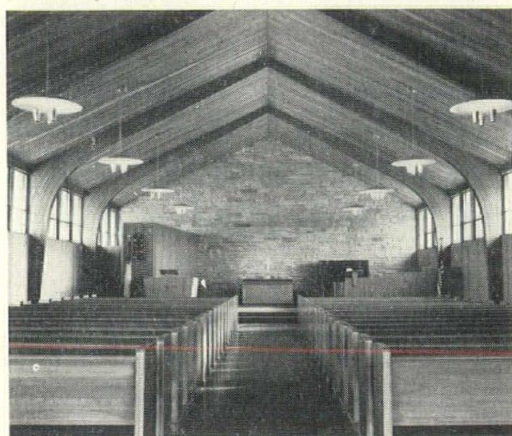
ARCHITECT

VOLUME XVIII  
NUMBER 4 **1954**

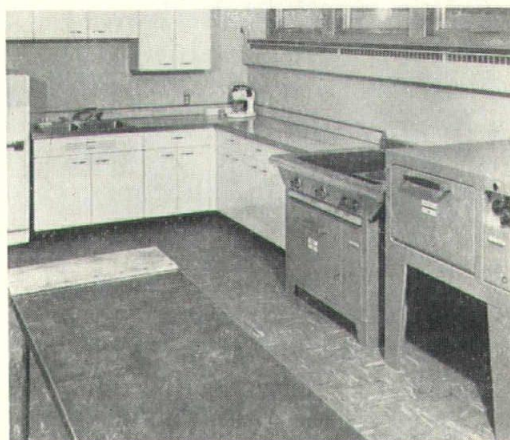




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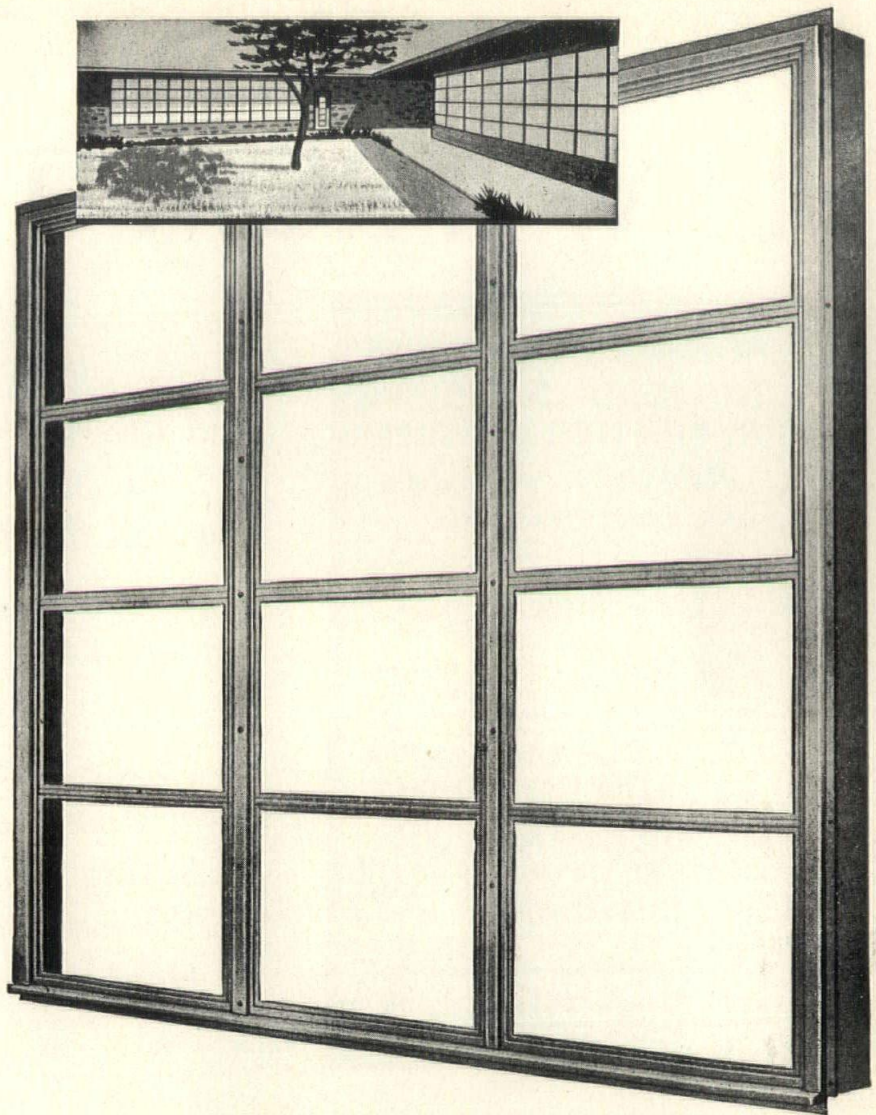
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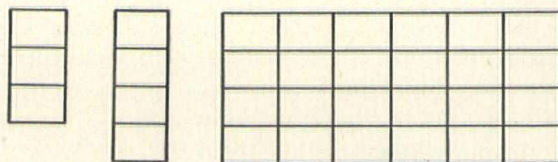
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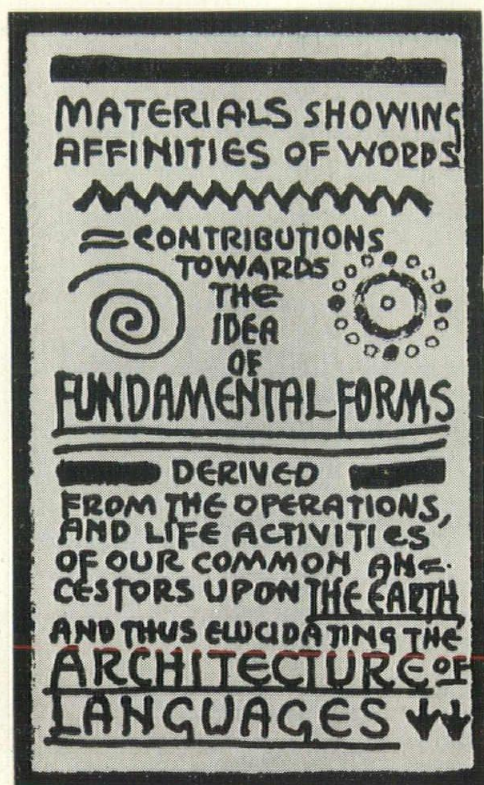
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# ORNAMENTS OF SNOW BLEW FROM THEIR LIPS



JOHN JAGER  
1923

BY WILLIAM GRAY PURCELL, A.I.A.

THE BUILDING ARTS and the Speech Arts all suffer from any attempt to capture them on paper. The American Indian teepee was such a fugitive art. It was a perfect dwelling which fitted the materials, necessity and emotions of its owners. Its architecture was poetry. The birch bark canoe was also a work of genius — the genius of the Algonkian people.

The Ojibway language represents a total integration of culture in sound and meaning. At the same time all the other arts of this people, dance, drama, song, retained their honored places. Writing and picture making did not intervene to confuse the clean washed sound trails of speech made between people. There was mystery but no obscurity. All went as far as they could together; no intellectualism, no aristocracy, no pretense of a personal knowledge unshared. The language was marvelously organized into a perfect instrument for transferring living thoughts from the mind of one man to others who were skilled in listening. But aside from memory, the need or ability to record the sounds, the words, or the sense for later review was never provided. This speech art had to be made anew for every message that left lips seeking a response in kind.

*Honor be to Mudgekeewis!*

*Henceforth he shall be the Westwind,  
And thereafter and forever*

*Shall he hold supreme dominion  
Over all the Winds of Heaven.*

*Thus was Mudgekeewis chosen  
Father of the Winds of Heaven.*

*Gave he North Wind wild and cruel  
To the fierce Kabibonokka.*

*He it was who sent the snowflakes*

*Sifting, hissing, through the forest  
To the lodge came wild and wailing,  
Heaped the snow in drifts about it.*

*Song of Hiawatha*

This piece is to give you some idea of one of the most beautiful and most competent of all the languages of man. No wonder Longfellow wanted to capture its treasure. Lest you think that my views may be colored unduly by the Ojibways I knew and the bright days I spent in their company under the sooting pines, near the silvery birches, on the sky-blue water, I better lay aside the odor of the forest and become a reporter.

+ + +

FREDERICK BARAGA, a Jesuit Missionary of whom we shall say more, was born in Mala Vas, Yugoslavia, in 1797. He lived most of his working life at La Pointe, Wisconsin, and spoke eight languages. He says that when the philosophic discussions between himself and his clerical brethren of Lake Superior reached a point where it was difficult to express ideas with precision, they did not turn to the academic languages which stem from Jerusalem, Greece, and Rome, but turned to the Ojibway language as the one speech which could render delicate shades of meaning with a point and poetry possible to few others.

This seems all the more surprising when we find that the Sioux, who were their nearest neighbors to the west,

NORTHWEST



managed to survive for untold ages with a language which was exactly the opposite. For all their contact with the Ojibways, mostly in war, the Sioux never felt the impulse to improve or extend their own vocabulary with words and grammar readily available in Ojibway. There were always bi-lingual interpreters and women captured in war who became wives and mothers within the Siouan tribes. This infiltration must have gone on for thousands of years with no appreciable effect on either language.

For example, the Ojibways have a highly developed grammar, versatile sentence structure and a very large vocabulary with hundreds of words not found in English. It is some kind of comment on the heirs of Shakespeare that as yet we have no need for such words. A large number of Ojibway words are labels for family relations. The Siouan tongue has less than a thousand words, and these must be accompanied by continuous use of hand sign-language and gestures to put the meanings across. Of course most of us make much use of gesture, but this is more in the nature of a running accompaniment than of an added definition or idea transfer.

\* \* \*

**M**OST SCHOOL CHILDREN are familiar with the names and nouns to be found in "Hiawatha" and we shall try to get a few of them out and away from "the book" so you can enjoy them with a forest ear.

The cycle of the seasons produces charm the year around, unending entertainment for the unimportant people that like to enjoy the world by immediate contact. The first snowdrop blossom is welcomed by most people either by chance or by newspaper, and Emerson wrote a poem about the purple Rhodora whose impatient blossoms can't wait for Spring to provide it with leaves.

But for me the most moving herald of winter's end is to look out on the lake which only yesterday was a plane of gray ice and see its surface come alive again with dancing waves and sweeps of colored breeze, trails bright and dark, patterning its fresh blue mirror.

One walks to the sandy margin, sees the season's first little woolly rolls of foam at the water's edge, hears

the tiny swish and slide of wave on wet sand, the little tapping of the wavelets on hollow boat strakes or stranded flotsam.

The Indians loved these things more than we do. We have no name for symphonies on the lee shores of inland lakes, but the Indians do have such words. One such word is Muh'-dway-oush'-ka. It is a sound picture, a four word poem which speaks about the little slappings, and rifflings, and soft scour of those tiniest baby wavelets . . .

On the pleasantest of shores,  
Just below the bluejoint grass,  
In between the plopping of the frogs,  
The occasional fish splash out yonder.  
Muh'-dway-oush'-ka, mirroring murmurs.

Let's turn back the years. There on the other side of life's Camp Fire sits Mrs. Bosquet, our Chippeway friend who knew and loved Father Baraga in 1840, when she was a little girl on the Apostle Islands. These are scattered off La Pointe in Chaquamegon Bay, opposite the Indian reservation at Bayfield, Wisconsin, on the South Shore of "Gitche Gumme"—"big seawater." The French Voyageurs renamed it Lake Superior. We will ask her to pronounce for us, Chippeway words known by all American school children.

"Please say Red Squirrel, Mrs. Bosquet."

The red squirrel?—"A'-ji-da'-mo"—you hear it with your Longfellow, Hiawatha rhythm, ears. But hear her again, it now sounds more like "A-Chit'-a-Moh," staccato, just like the scolding squirrel says it on his branch.

You remember Mishi-moqua, the big black bear? Mrs. Bosquet says it very heavy, ME'-sha-MUH-qwah (soft). This is quite the opposite to the one she says for "red deer," into which she speaks a bounce and furtiveness—Wa!-WASH!'-kish—a word full of brush and leaves, soft, warm, smooth sides for future moccasins, and flashing white tail, to fool the wolves.

There are so many charming conceits in this beautiful language one hardly knows where to begin. Let's take "wa" which is always a syllable related to speech, of animal, man and even of inanimate things like the murmur of pines, crack of winter ice, water waves and

**C**HIPPEWAY GRAVES at Gordon, Wisconsin, established as Gaudin's Trading Post about 1856.

GIFTS FOR THE SOUL were placed in these little dwellings. The tiny door-ways, usually with porches, made provision for the revisits of the Spirit as a bird. One sees here how the best hopes of all peoples great and small, press upon "building," to produce "architecture" and "poetry," to find expression in the first unfolding of ornament.

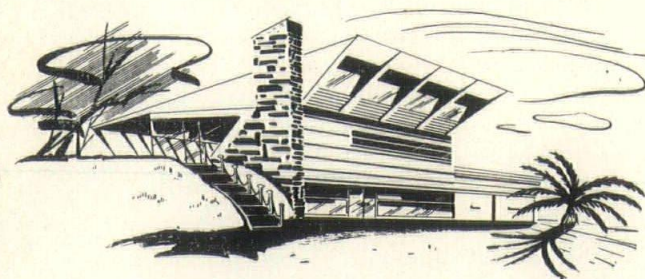
IN THE BACKGROUND ENCLOSURES may be seen the log fence posts; adzed square they are given tallness; pointed and topped with the hand axe, they are shaped in love. Something within presses up to be hand-said beyond the call of duty, a vision is forecast of "things to come." Courage is offered the sons of men, here and now, and in their "Happy Hunting Grounds" over yonder. Such Algonkian grave houses, of other materials, long ante-date the coming of Christianity.

W.G.P. Photo

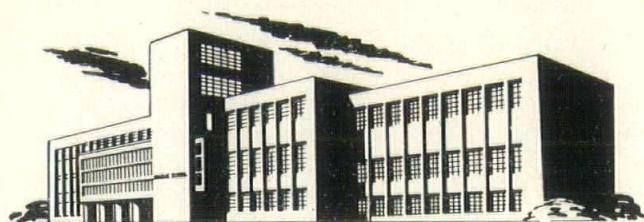




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flowing brooks. Doubling, "Wa wa" makes the word for wild goose and bursting into laughter as "ha ha" is combined with an outdoor water-word in Minne-ha-ha, for a famous water fall.

As we noted above "Muk'-qwa" is the black bear — "muk" is black "wa" his talk, possibly not his growl but his mystic "talk." The bear was close brother to the Indian, the most nearly human of the animals and he was very wise. What the bear totem said was always important. In Wa-wa(sh)-kish for the deer, perhaps the "wa" is the buck's snort of alarm which scares the herd and loses the hunter both his dinner and "mocassins" for all the family. Furtive "sh" sounds as in "(wa) sh," and "(ki) sh" for deer are also found in the word for sand hill crane, the "schú-schu'-ga." If you've heard a crane lift on the wing from a reedy pond you know where that name came from — say it slow! But "wa" goes for people-words too. Muk-wa/da/a-cou'-ne-ah means "priest," "black (robed)-talker" in "the church." A-cou'-ne-ah means the church service not the building.

Twish-ke-wa is the little northern sand plover, or "tip up." Chippeway makes a sound movie of the bird. His fluttery walk, like no other bird, is "twish" and his unusual plaintive cry "ke"-wa. So from all this "wa" the white man finds Indian talk handy, says, "Don't wa at me!"

**W**HEN PEOPLE meet a new language their first wish is to count. In these simple words we have a very interesting view of how the Indian thinks.

### COUNTING IN CHIPPEWAY

one	.....ba'-shik
two	.....ne(ch)
three	.....ne'-swe
four	.....ne'-win
five	.....nah-nun
six	.....go-(t)wa'-swe
seven	.....ne-(sh)wa'-swe
eight	.....(s)wa'-swe
nine	.....shong-(q)wa'-swe
ten	.....me-(d)wa'-swe

Let's have a careful look at some of these digits — "fingers!! — an appropriate word in this instance. First off, "wa" equals talk, "wa-swe" equals "talk-for-counting" — that "(s)" is just a little ornament tucked in to make it sweet in the mouth, as are (t) (q) and (d).

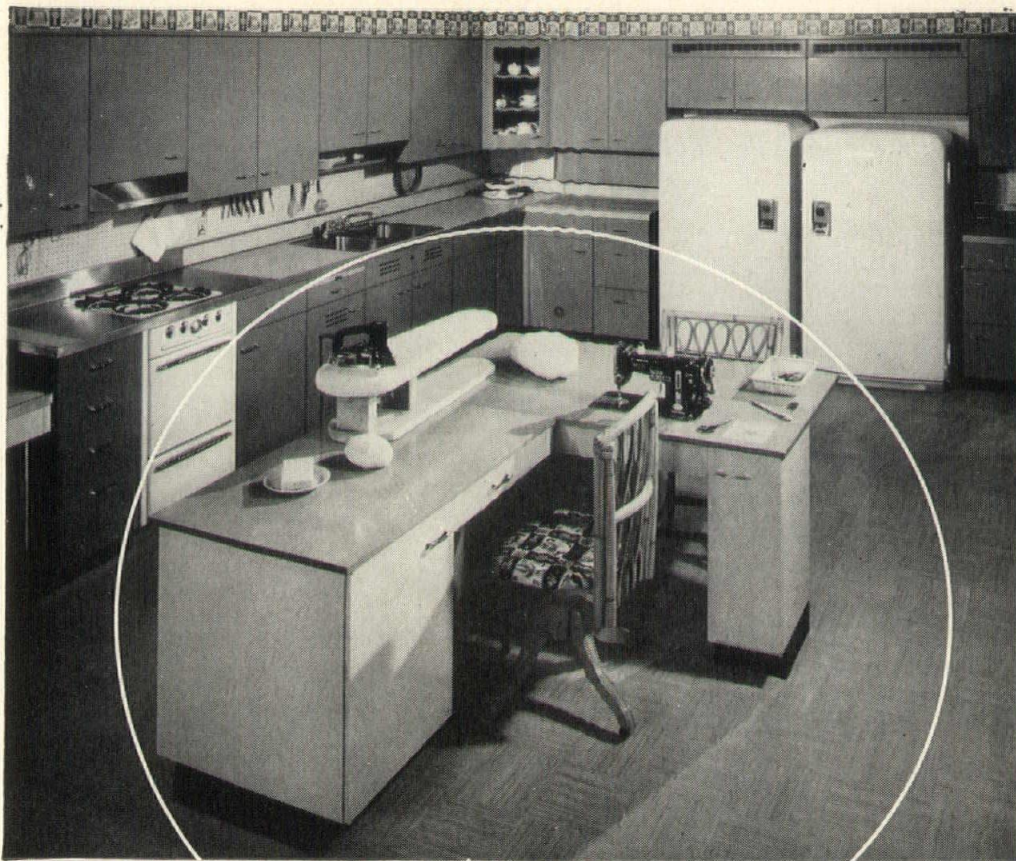
For example take "eight," which is "(s)wa-(s)we. Chippeways feel the sense of this number and are saying . . . "talk about a number! — here you have it, "swa-swe," and all our counting fingers in it; our good old *eight*!" They honor eight; set it off; "tell" back from it for *seven* and *six*, while nine and ten are "told-off" on beyond eight. Of course ten now becomes important for its-self, that is to say, *ten*, me-(d) wa'-swe, its sign-language token is both fists. On their two fists hang all the "teens." Me-(d)wa'-swa/ah-she/ba'shik equals eleven; me-(d)wa'-swe/ah-she/ne'(ch) equals

(Continued on Page 44)

NORTHWEST



St. Charles exhibit at the A.H.E.A. convention.  
New clothing construction unit in foreground.

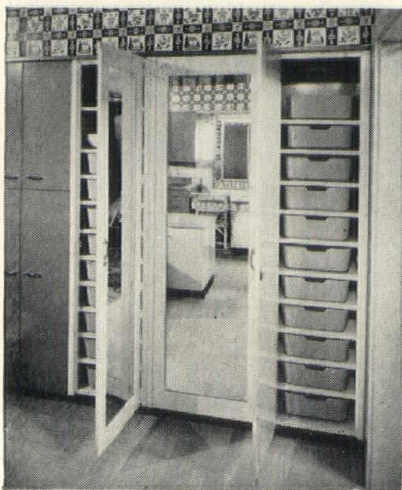


## ANOTHER *St. Charles* FIRST!



### TOTE TRAY UNITS

Other St. Charles equipment for the clothing classroom includes wardrobe units and tote tray units. These may be used separately or, with mirrors on doors, may be grouped to make fitting area as shown below. Grooming area is also available.



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## New Clothing Construction Unit Organizes Work in the Clothing Classroom

This compact unit adapts, for the clothing classroom, the same basic principles—smooth flow of work and convenient locations of materials and equipment that are found in the St. Charles foods classroom. Focal point is the sewing machine which drops into the counter when not in use. To its right is storage for attachments and a file for reference material. The depression on the surface holds pins and scissors. Drawer at left holds tracing supplies. Tracing board is suspended on slides below drawer. Cupboard at left holds tote trays. There is storage on other side for skirt board and other pressing equipment, including asbestos lined compartment for steam iron and additional tote tray storage. Fold-over leaf, which covers machine when not in use, opens out to provide counter space for pupil doing hand sewing. Three-panel jointed Masonite cutting board fits over top providing cutting surface 43" x 66".

Over a year of research has gone into the production of this newest addition to the equipment offered by St. Charles for the homemaking classroom which includes unit kitchens for the foods room and storage units for the laundry. All St. Charles equipment is available in choice of twelve colors, an important aid in making the classroom homelike and appealing.

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## Mrs. Carter Invites the Ladies

Greetings to Auxiliary Members:

Plan now to accompany your architect to Rochester for the A.I.A. State and Regional Convention on October 28, 29 and 30.\* This will be one you will not want to miss, a wonderful time to greet old friends and meet new ones.

Some delightful activities have been planned to entertain the ladies with the unusual opportunity to see behind the scenes of the famous Mayo Clinic as a special inducement.

One of the main purposes of our organization

is the advancement of the profession of architecture by promoting friendship and unity among the members and I feel that attendance at the Rochester convention is a step in that direction.

You are all invited—Auxiliary members, those we would like to include in Auxiliary membership, the wives of Producer Council members and all ladies who are guests of the convention.

I look forward to seeing you there!

*Eleanor C. Carter*  
State President

## Special Convention Features Developed For the Ladies

The local committee on arrangements was pleased when the general committee decided to try a few different ideas this year—first, starting with a “name” speaker at the Thursday noon luncheon in order to get the convention under way earlier than usual and then shifting the main speaker to Friday noon in place of the annual banquet.

One of the main attractions at this convention will be the tours for ladies and men through the Mayo Clinic buildings. In order better to understand and appreciate this outstanding medical institution we have invited Slade Schuster to speak at the Friday luncheon, which is arranged to include the ladies. Mr. Schuster is the senior member of the administration staff of the Mayo Clinic and also a member of the board of governors of the Clinic and a member of the boards of directors of the Mayo Association, the Kahler Corporation and the Franklin Heating Station. His intimate knowledge and thorough background of the institution, combined with his presentation, provide a highly entertaining and informative discussion which will interest not only the architect and Producer Council member but also all of the wives.

In view of the early start on Thursday, we hope you get here on time but we're afraid of a mad dash, if you are driving down and leaving the Twin Cities about

11 or 11:30, to get here by 12:30 for the first of the luncheons for men. We hardly expect that both members of one family can make the Thursday noon luncheon so we have scheduled the first women's event for a 3:00 o'clock tea in the Art Center. There will be an exhibit there too. If you do come earlier you could find some delightful spots to eat.

Some years ago at the national convention in New York the entire ladies' program just about collapsed and in Milwaukee at the regional there really was no ladies' program at all. We were rather curious about this and we concluded that the ladies would rather be free to do and see what they liked rather than be pushed around too much by a formal program. So, Friday will be just visiting day with perhaps one special ladies' tour through the Rochester Dairy where more milk is processed than in any other milk plant in the entire country. Local stores worth seeing are Massey's, Estess, China Hall (good china and glass), Saily's (imports), Dayton's new esoteric store and all the Kahler Hotel Arcade shops, all downtown. Out on Miracle Mile Donaldson's and for a beer and sea food snack you must stop at the Pub and on the way back stop at Westphal's Trick Shop and spend some money foolishly to take home some “corny” trick. Just to have Art show you this junk is fun. This, too, may be the last chance for the golfers to play a round of golf on a “foreign” course and Soldiers' Field and the Country Club offer the facilities.

What do you think of having the Friday night “affair” a dinner dance with cocktails but no speaker? Well, we're going to try it.

Saturday morning, while the men are attending to the serious business, you ladies can pack the grips and get all set to check out but before you go you will have to finish off your serious and important business of the auxiliary. This luncheon will take place at “Hollands” of Rochester. Really Newt Holland does have the kind of a place you wish you would have ready access to always. His private dining rooms on the second floor are very attractive.

Look—the next day is Hallowe'en and this is Centennial year in Rochester. Maybe the detailed arrange-

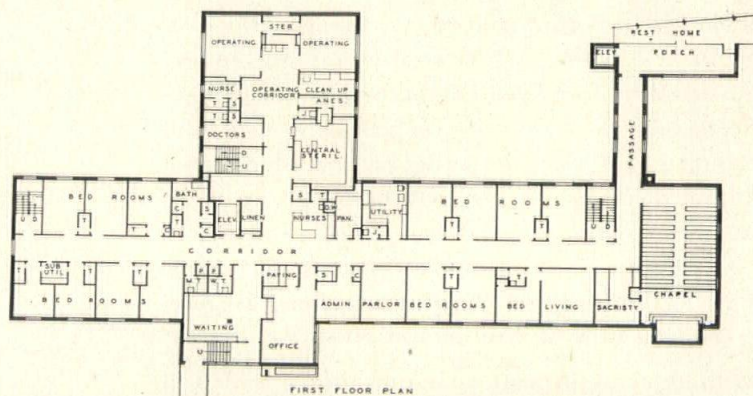




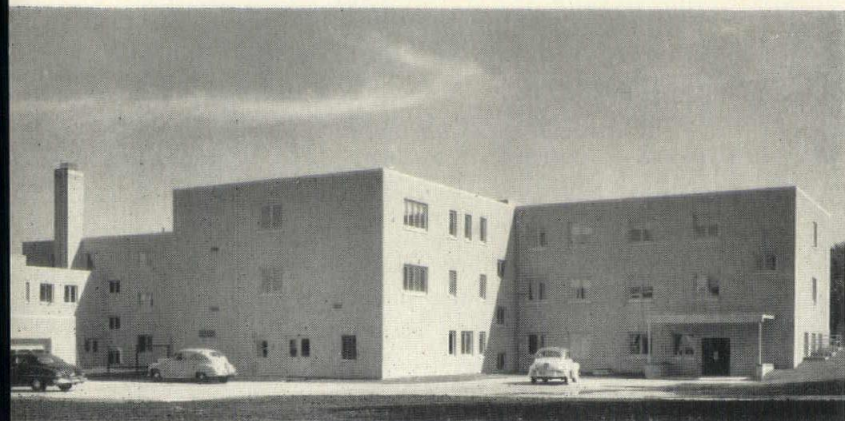
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St. Francis Hospital  
Shakopee, Minn.

Hubert H. Swanson  
Architect



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*The Auxiliary Committee*

ments could include the black cat motif or long beards, long skirts and/or long buggy whips. Anyhow—see you in Rochester, October 28, 29 and 30. . . . *Your Local Committee.*

## Convention Program In Gel Stages

As the ladies' program shaped up the general program for the Rochester A.I.A. convention was in the gel stage. Speakers had been contacted but exact times and definite subjects were not completely worked out. Committeemen said that the program was developing very well and the theme of the convention, "Role of the Specialist in Architecture," was being well worked into all phases of the program. Complete details of the program in its final stages will (barring accident) be published in the next issue of *THE NORTHWEST ARCHITECT*.

One definite commitment of importance was that of Ralph Rapson's acceptance of the role of moderator for one of the panels to be held. Mr. Rapson will be more than welcome in this role as he is the new head of the School of Architecture at the University of Minnesota, a story on that being included elsewhere in this issue.

For those who did not see it or who may have misplaced it, we are repeating here the tentative program outline for the convention. Features of this program, naturally, are subject to revision as circumstances dictate but it definitely shows the many attractions which will make it worth each architect's while to attend the meetings. The program—

### Thursday—October 28

10:00 to 8:00—registration, Kahler, Windsor Lounge or Mezzanine.

12:00 to 2:00—lunch, You're on your own.  
2:00 to 4:30—meetings of boards, committees, seminars in Kahler's Royal, Coach, U-Club Solarium.  
3:00 to 4:30—Ladies' tea, Mayo Foundation House. Kahler Solarium or Art Center.  
4:30 to 5:30—tours of Medical Science Building.  
5:30 to 6:30—tours of Mayo Clinic's New Building.  
6:30 to 8:00—cocktails, Kahler's U-Club, individual drinks.  
7:00 to 9:00—buffet supper, simple chafing dish, Kahler's U-Club.

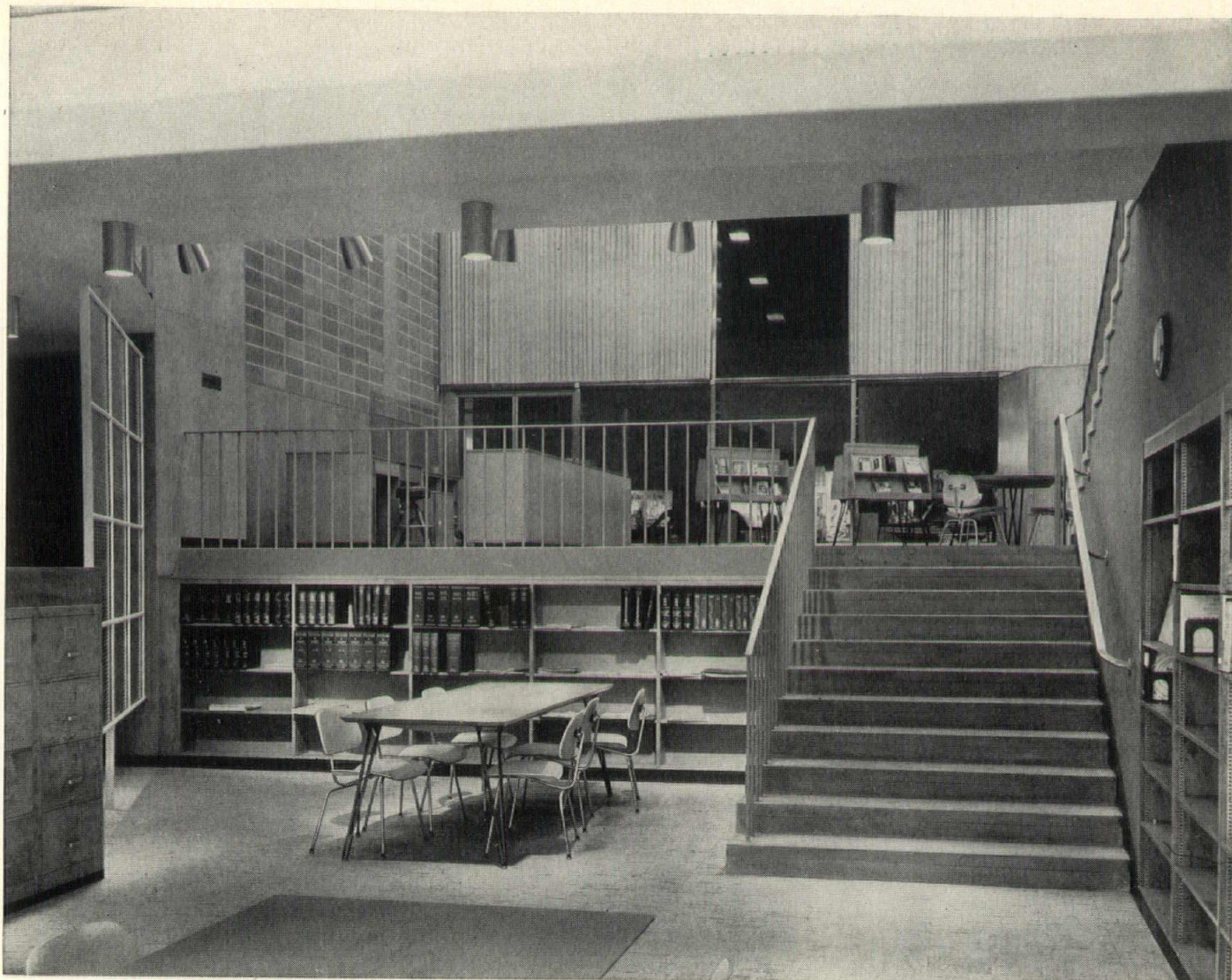
### Friday—October 29

8:30 to 12:30—registration.  
9:00 to 12:00—meetings in Kahler's Solarium, U-Club, Royal and Coach Rooms.  
10:00 to 11:30—ladies' tour of Dayton's Store, Art center, Historical Society, etc.  
12:00 to 2:00—luncheon, Kahler Royal Coach Room or Elizabethian Room, with main convention speaker, ladies to be included as guests.  
1:30 to 3:00—ladies' style show at Rochester G & C Club by Rochester merchant or merchants. (Alternate—Include women in main luncheon).  
2:00 to 4:00—meetings in Kahler's Solarium, U-Club, Royal and Coach Rooms.  
3:00 to 4:00—bus tour.  
4:00 to 5:30—tours, Medical Science Buildings.  
5:30 to 6:30—tours, Mayo Clinic's New Building.  
7:00 to 8:00—cocktails, Rochester G & C Club.  
8:00 to 1:00—dinner dance in Rochester G & C Club, serving from 8:00 to 11:00, dancing from 9:00 to 1:00. Note: no speakers, no magicians, no acrobats . . . on with the dance!

### Saturday—October 30

9:00 to 11:00—meetings in Kahler's Solarium, U-Club, Royal and Coach Rooms.  
11:00 to 12:00—annual meeting, place to be designated.  
12:00 to 1:00—men's luncheon.  
1:00 to 2:00—annual meeting (finish).  
12:00 to 2:00—ladies' luncheon and annual meeting in Holland's private dining room.  
2:00 to —tours, Mayo Clinic.  
2:00 to —tours, State Hospital.  
2:00 to —tour, Franklin Heating Station & Subways.





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The handsome Western Apartments building in Billings, Mont., designed by John W. Maloney, A.I.A., of Seattle, Wash., is a local plaster landmark. It is a good-sized job, involving 45,000 yards, it's the first building in town with two-inch solid plaster partitions and it's the first local structure where the plaster was machine-applied.

This six-story and basement building is of reinforced concrete construction. Vermiculite plaster was applied one-half inch thick directly to the concrete on exterior walls and ceilings. The two-inch solid partitions have three-quarters of an inch of vermiculite plaster on each side of long length gypsum lath. The partitions were braced with 2 x 4's until the scratch coat had set. One end of the 2 x 4 was braced against the floor, the other end was placed half-way up the lath.

The finish throughout is sand float except in kitchens and bathrooms, which are lime putty. A large part of the basement was also plastered. The plaster was applied by the crew of Frank Evangelisti, largest plastering contractor in Billings.

Although this was the first machine-applied job the

## Western Apartments in Billings, Montana

crew had done, they had no trouble and work moved along at a good clip. As much as 3,500 yards of scratch coat was applied to partitions in one day and the entire job was finished in about ten weeks. The building was erected by the Hitz Construction Co. of Billings.

From all indications, machines for applying plaster have become a permanent part of the construction picture. When the first plaster pump was introduced five years ago, its primary purpose was to enable the lathing and plastering industry to compete more effectively on a time-and-cost basis with other interior wall finishes.

Later it became apparent that the pump had other possibilities, for example, machine-applying lightweight

*(Continued on Page 60)*





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C. O. Field, Minneapolis, general contractor.*



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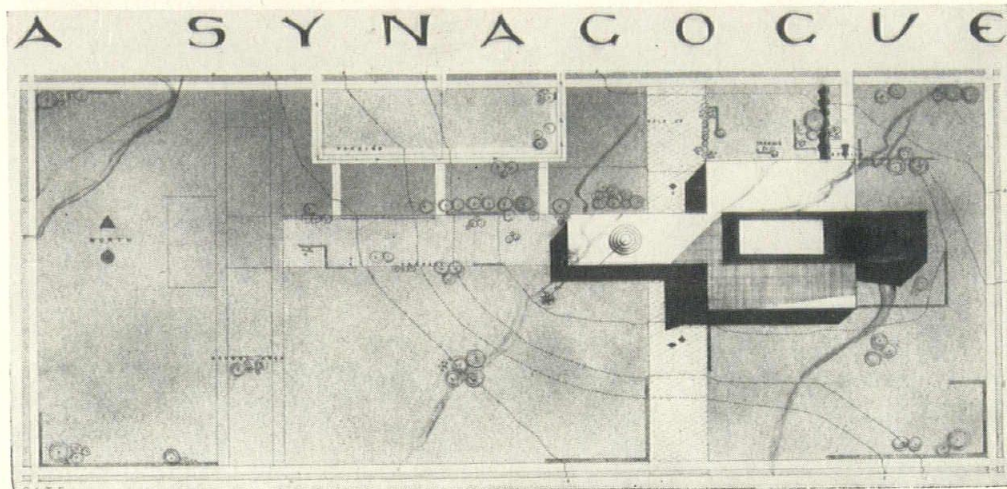
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# A PROGRAM FOR THE DESIGN OF



*(Editor's Note—The first part of this thesis has been deleted of necessity because we do not have space to print it. It deals with background religious materials which are summarized in the concluding paragraphs of that section, which appear as the first part of our presentation of the thesis.)*

## CONCLUSION AND SUMMARY

The synagogue has been defined and it is the house of the people. It is where they congregate to pray, to perform the traditional ritual of their holy days, study their religious laws and together celebrate some of the rites that mark each individual's way of life—coming of age (13), marriage, and death (yahrtzeit.) The synagogue houses no symbol or image possessing supernatural power. It contains no element for obtaining divine intercession in human affairs. It recognizes no authority vested in a priest or a synod. It is subject to no organization save that established within its own congregation.

The voluntary groupings developed in the past century (in order of religious adherence to law) are 1. Orthodox—Union of Orthodox Hebrew Congregation; 2. Conservative—United synagogue of America; 3. Reform—Union of American Hebrew congregations.

Each synagogue is the reflection of the faith and understanding of its congregation. All over the world the congregations show a diversity of practice and practices, degree of holiness and yet have *one common* respect for the laws of the Torah, which is the word of God, resting in the sanctity of the Ark. The study

of the Torah remains the most important religious commandment.

In the case of the proposed synagogue here, the eventful end is for a well-paid staff, from Rabbi to custodian. To finance such a large undertaking and maintain low operating costs most of the necessary services will be donated by the various members to the best of their ability; for example: teachers, janitorial services and administration. The congregation has the services of the Rabbi and a number of teachers from the old building which will aid a great deal. The idea of a community co-operative spirit promotes interest and a sense of belonging among the congregation which has begun to lag these past few years.

The proposed synagogue, then, will be a contemporary solution to the problem, while modern-day scientific and technological advances in methods and materials seem to ask for a plastic performance for a new architecture, the synagogue must remain unprofaned as a form of a house of God and a sanctuary dedicated to His service.

**Thesis—1954**

**Submitted by Stanley  
Fishman to the Faculty of  
the School of Architecture,  
University of Minnesota**



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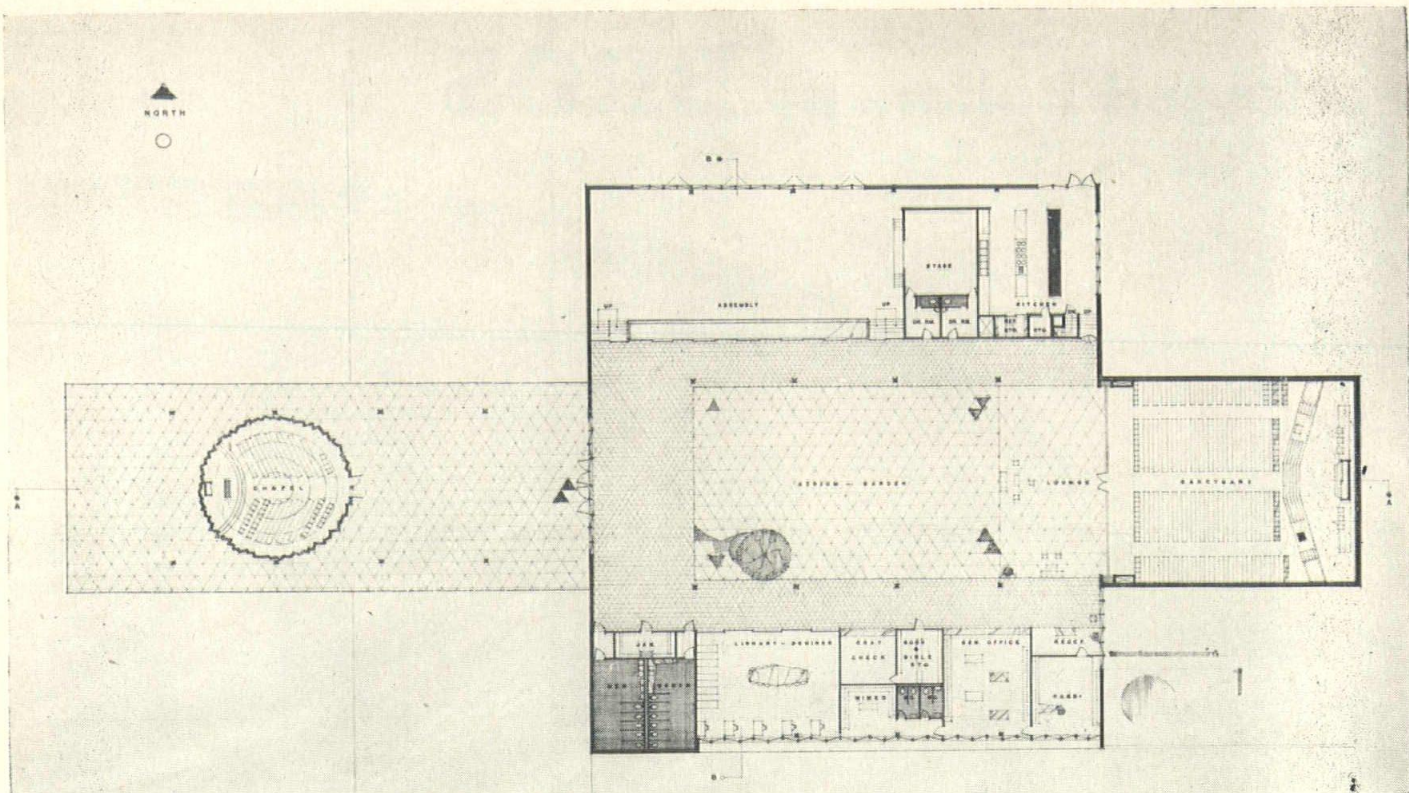
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## CONSIDERATIONS AND CONCLUSIONS

### \* \* \* SITE

Zone	NEIGHBORHOOD	IN	IN	IN	IN
7	Highland (S. of Randolph-W. of Lexington)	.0%	12.0%	26.8%	29.3%
4	Midway (Randolph to Univ. W. of Lexington)	18.0%	29.0%	28.0%	26.9%
3	Hill (Dale to Lexington-Univ. to St. Clair)	28.0%	30.0%	21.9%	21.0%
3	Rondo (Rice to Dale-Univ. to Pleasant)	10.0%	8.0%	6.3%	6.5%
2	Lowertown	12.0%	5.0%	3.5%	3.1%
1	West Side	31.0%	12.0%	7.7%	7.9%
3	Other (East side S. St. Paul, N. of Univ., White Bear)	1.0%	4.0%	5.4%	5.3%

These statistics show conclusively that the greatest number of Jewish families reside in the Highland Park area of St. Paul. The most significant factor of the above statistics clearly indicate the movement away from the center of the city, the west side area to the Highland Park neighborhood. A heavy percentage of the people in this influx has been made up of younger families rather than older families and future statistics will surely indicate a continuance of this but perhaps at a slower rate.

It is in the Highland Park area with which the proposed synagogue will rest. The statistics show that the Midway area has also received many Jewish families, and reasons for choosing Highland are as follows:

1. There is a large number of young families living in this area presently unaffiliated with a synagogue

## The Plan

who, if they joined one, would have to travel at least five miles to the nearest one. This is not even considering the three hundred families who are affiliated with the present synagogue group, who are planning to build. The present group would welcome the addition and the present building would allow for this increase and for the future.

2. The group residing in this neighborhood would welcome a new synagogue since it is mostly young married couples and their families that have little chance of participating in activities due to present long distances they must travel. This fact alone may increase attendance at weekly and Sabbath services which over the past twenty years have diminished to the point that a great amount of energy is being expended in an effort to eliminate this discrepancy. . . . The impact of the automobile is felt there to a great degree for transporting members to and fro is very important as the use of the auto shows that pedestrian transport is not a major factor in determining the location of the synagogue. The attendance is mainly dependent upon private transportation and, to a lesser degree, on public transportation. However, the ease with which private transportation and public transportation are available will definitely have a bearing on weekly and Friday night Sabbath services.

The specific site in Highland Park is bordered by Ford-Parkway on the South, Pinehurst on the North, Howell on the East and Kenneth on the West. The site was chosen because it is accessible to those in the Midway area in St. Paul and in the Minneapolis Minnehaha area as well, plus the important fact that it is in geographic center of the Highland neighborhood.

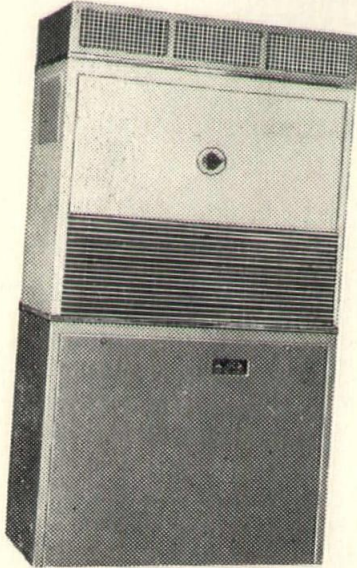


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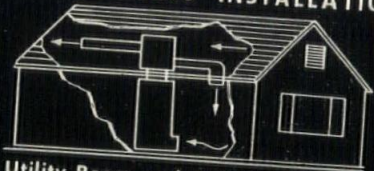


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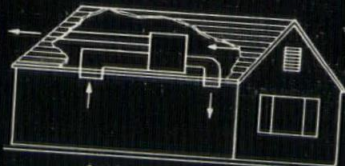
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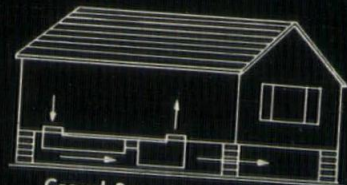
#### 4 SPACE-SAVING INSTALLATIONS



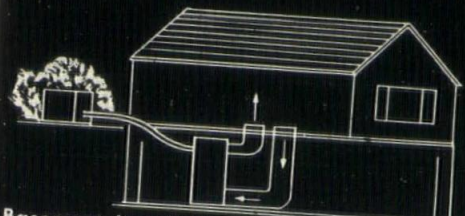
Utility Room and Attic Installation



Attic Installation



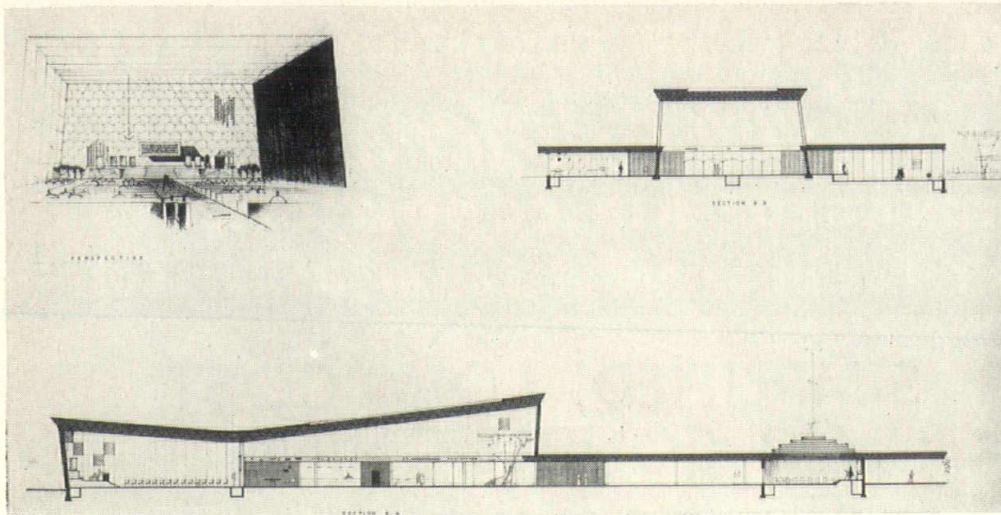
Crawl Space Installation



Basement Installation Compressor Outside

ARCHITECT





## SECTIONS

If all the members of the congregation left their homes simultaneously to go to the synagogue, even those at the outer extremities could arrive within ten minutes by private auto.

It is also advantageous because all indications of population shifts in the future will be directly around this area, insuring a secure future for the members. The site is also good in that it is located just off a main thoroughfare on three quiet streets.

Across Ford Parkway to the south is a vast plat with one small building, a small branch library, contemporary in design. There is a view to the southwest and, since the site is on high ground, it commands a long beautiful view. The site is easily reached by public transport.

### TEMPLE WORSHIP SPACE (Approximately 4000 sq. ft.)

The fixed seating capacity for regular Sabbath services is 400, with expansion provided for during the high holiday services. With the expansion, seats will number 1,200. The Temple's first function, of course, is its worship. Following this, there are a variety of other, lesser, functions, like weddings, Bar Mitzvahs, lectures and musicals, to name but a few.

The necessary elements which must be included in

the temple are Ark, Eternal Light and Bimah (pulpit and reading desk).

### ACOUSTICS

The acoustical considerations in a large space create quite a problem, even though the building may be structurally successful. Poor acoustics can be avoided if this problem is considered at an early stage of design. For example, a space with 2,000 fixed seats needs no electro-acoustical system.

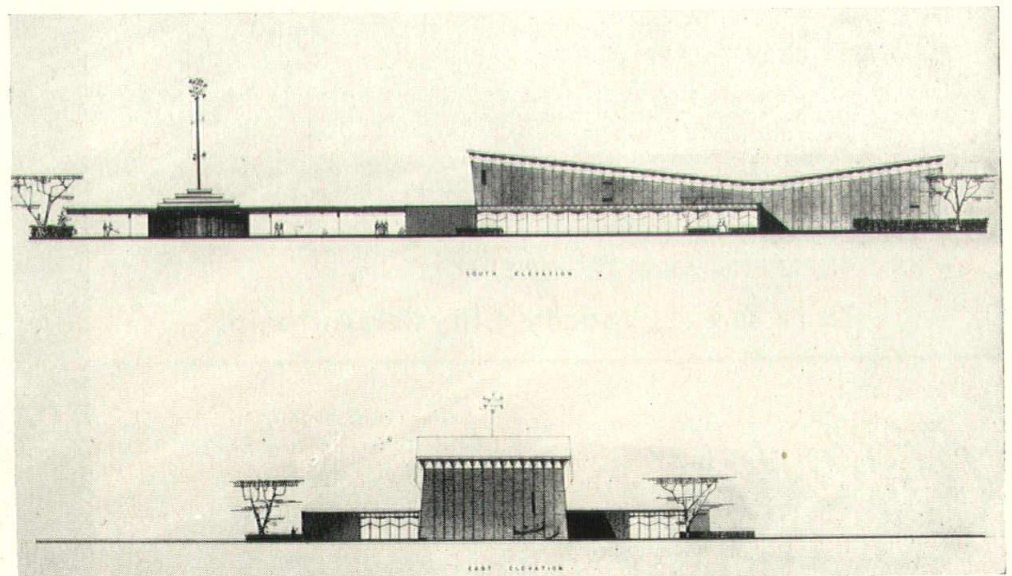
The acoustical problem is made more complex by the fact that on the high holidays expansion from 400 to 1,200 seats is necessary (the volume of a space is directly proportional to the reverberation time.) Also significant to note, is that the various types of goings-on require special acoustical considerations, from a speaking voice to musical recitals (reverberation time then varies from .8 to 1.6). If then, acoustics are considered in the design stage, the use of corrective materials largely will be avoided as the sole means of control.

To achieve good hearing in a large space, three things must be accomplished:

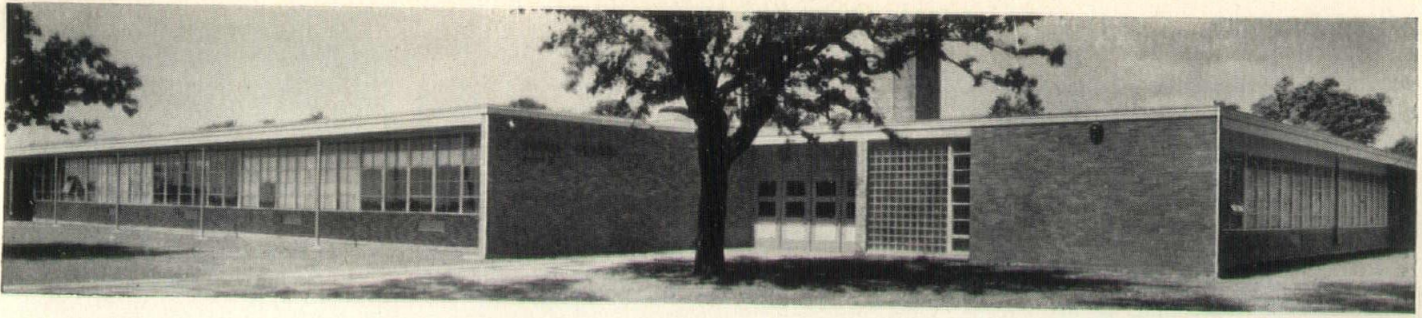
1. Shape and size of the space determined, and its effects.

*(Continued on Page 47)*

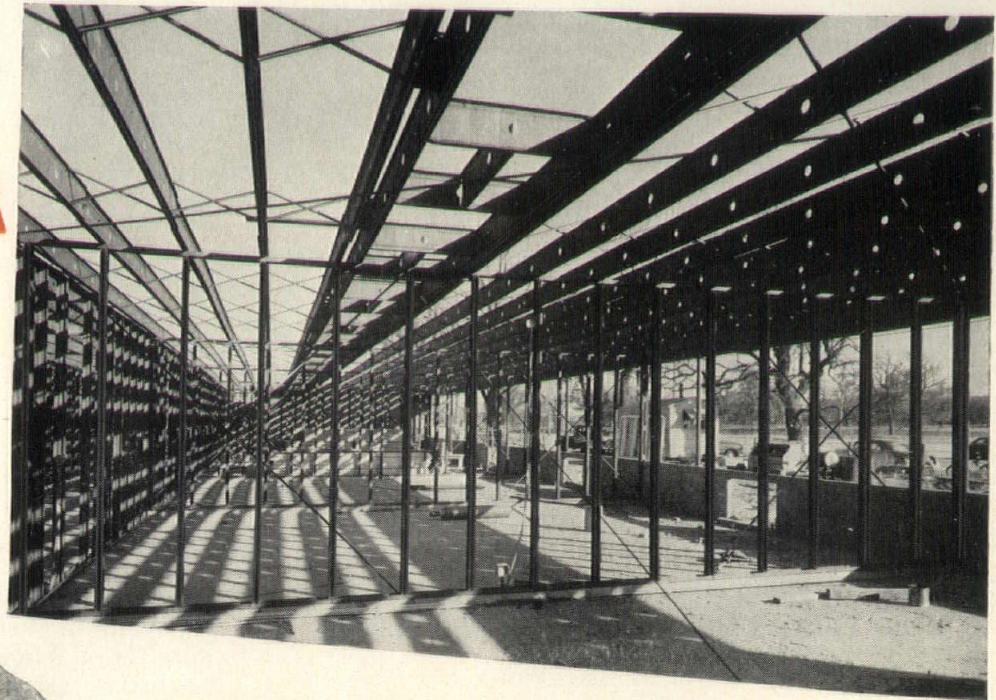
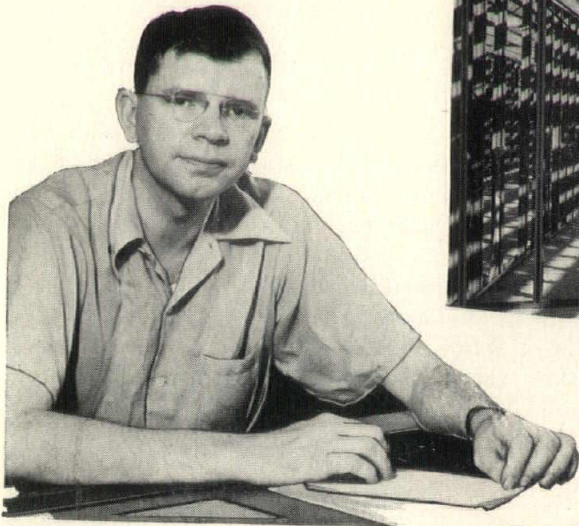
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H. B. CROMMETT, *Architect*  
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## Rapson of MIT to Head Minnesota "U" Architectural School

Ralph E. Rapson, who will become head of the University of Minnesota's School of Architecture this fall, is a well-known architect whose latest work was that of co-designer of the new United States embassy in Copenhagen, Denmark.

Mr. Rapson succeeds Roy C. Jones, who retired after years of service to the school of architecture in 1953. During the interim a faculty committee under the chairmanship of Winston Close of Minneapolis has conducted the work of the school.

The \$1,000,000 modernistic embassy in Copenhagen will serve as a central point for U. S. activities in that country. In addition to the embassy it will house the Foreign Operations Administration, press and film sections, a library and auditorium.

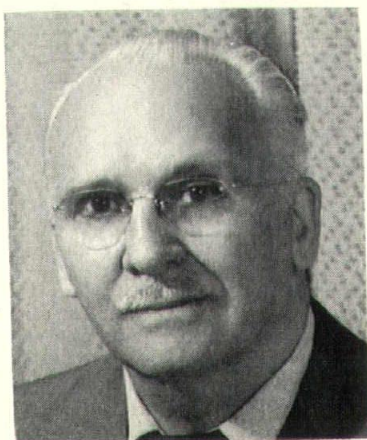
The new school head has been on the architectural faculty of the Massachusetts Institute of Technology since 1946. He won the Parker Medal for Distinguished Building Design in 1951 and has won some 10 other architectural competitions. He placed first for the William and Mary College festival theater and fine arts building and was second in the National Association of Home Builders competition.



Mr. Rapson

### TUSLER RENAMED CHAIRMAN OF A.I.A. HEALTH & HOSPITAL COMMITTEE

Minneapolis Architect W. H. Tusler has been re-appointed chairman of the American Institute of Architects' health and hospitals committee, according to



Mr. Tusler

word received from national A.I.A. headquarters. His term is for one year.

Mr. Tusler is a principal of the firm of Magney, Tusler and Setter, well known for its work in the hospital and related fields of construction. The committee he heads is made up of one representative from each of the 12 regional associations within the A.I.A. setup. Mr. Tusler also is a past regional A.I.A. director for the Northwest area.

### A.I.A. NAMES MODULAR SUBSCRIBERS THANKS THEM FOR AID

The subscribers who have helped make possible the development of the A.I.A. Modular Co-ordination Program were named recently by the institute and thanked for their aid in this now well developing program.

Among those named were the American Institute of Architects, Indiana Limestone Institute, Kimble Glass Co., Libby-Owens-Ford Glass Co., Pittsburgh Plate Glass Co., The Producers Council, Inc., and Structural Clay Products Institute.

"Universal adoption of modular measure throughout the U.S. building industry could not be achieved overnight," the committee's report stated. "This is because it impinges on all who have anything whatever to do with dimensioning, such as draftsmen, construction foremen, even material salesmen. So widespread is the scope of this advance in construction practice that its universal adoption can be expedited only by a well-planned and very broad educational program serving all those concerned . . . Certainly, accomplishments achieved thus far by the A.I.A. secretary for modular co-ordination have been outstanding."

A variety of activities are enumerated by the progress report as having made possible impressive achievements in five fields of endeavor. Although greatest stress has been placed upon services to architects and draftsmen, the committee's statement calls attention to other groups with which the secretary for modular co-ordination has worked—contractors, architectural educators, manufacturers and others.

"(Modular Measure) works to the benefit of every organization connected in any way with the construction industry," the report concluded, "and it is reasonable to expect every such organization to support . . . modular sizes and dimensions. . . . Many subscribers . . . have been investing in the program merely as a

(Continued on Page 27)



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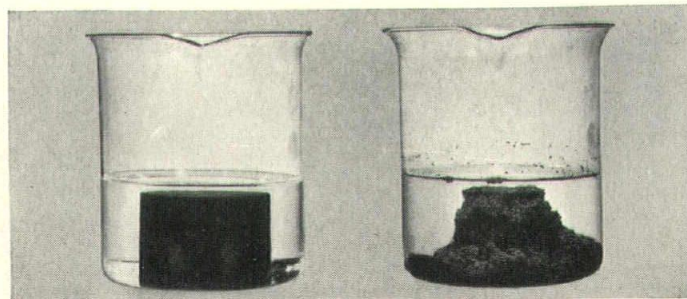
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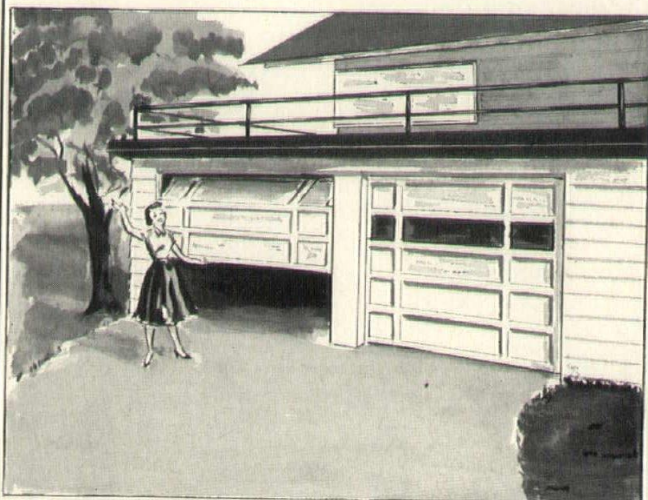




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Wood sections shall have stiles and rails of vertical grain Douglas Fir, hardwood dowelled and steel pinned, water-proofed glued. Rails to extend full width of door. Panels to be of three (3) ply laminated fir  $\frac{1}{4}$ " exterior plywood manufactured by the hot plate process with phenolic resin glue.

## HARDWARE

Hardware shall include safety torsion springs on a continuous shaft across full width of door, rustproofed aircraft type cable (chain not permitted), rollers having a minimum of ten (10) ball bearings  $\frac{1}{4}$ " diameter with both inner and outer races of hardened steel (use of roller shaft as inner race will not be permitted), bottom corner brackets mortised under bottom of door and of sufficient height to be secured across both rail and stile. Doors over 12'6" wide shall be additionally reinforced with suitable horizontal trusses to prevent sagging when open. Doors over 16'0" wide shall have suitable support to prevent sagging when closed.

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sound way of encouraging the building industry to (do) a better job. Each of these subscribing organizations undoubtedly weighed carefully the merits of modular measure before coming to this decision . . . The (AIA) Modular Co-ordination program is today a proved means of advancing a proven development in construction technology."

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Landscape architects are eligible to take a current U. S. Civil Service examination for positions paying from \$3,410 to \$10,800 per year. Those qualifying in the examinations will be eligible for appointment in various federal agencies in the capital and throughout the country; there are also some appointments to be made in the territories and possessions.

Certain educational and experience qualifications are required although there is no written test in the examination. Details and added information can be obtained from the U. S. Civil Service Commission Branch Office, Post Office and Customhouse Bldg., St. Paul 1, Minn. Ask for Announcement No. 409.

**MULTI-STORY VENTING** of individual apartment space heaters in buildings presented a problem finally solved by special stacks which have risen as high as eight stories. Primary use so far has been in resettlement buildings where the economy of individual gas heaters was important over use of a central heating plant. The Gas Appliance Manufacturers Association conducted research on the problem and obtained the information which was the basis for a manufacturer's designing the first stack. First installation was in a 64-apartment building and the vents operated well. Interesting side on the problem is fact that flue gases resulting from combustion of 1,000 cubic feet of natural gas in heating service weigh approximately 2,400 pounds. Heat energy must raise this through the stack.

**REMEMBER . . . Rochester in October.**

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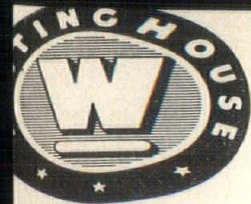
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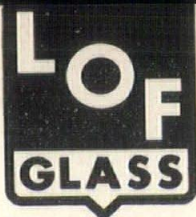
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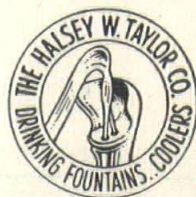
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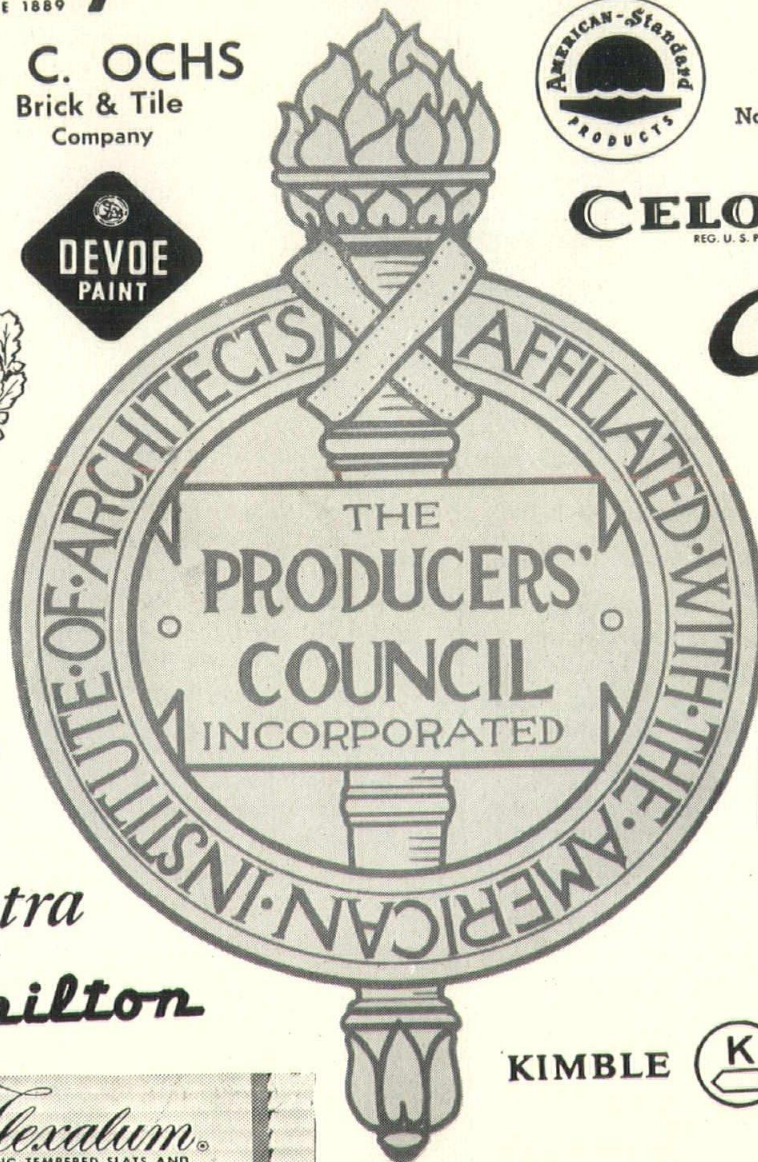
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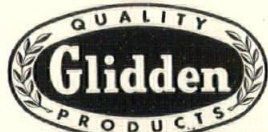
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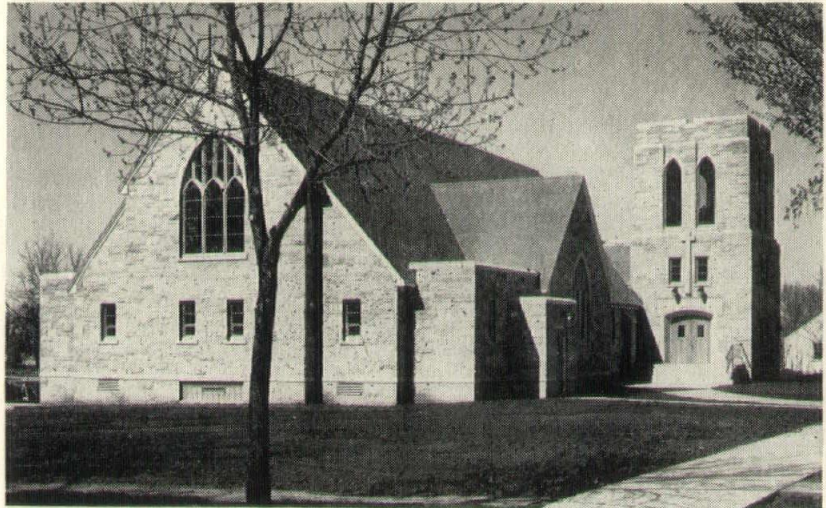


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# F.Y.I.

(For Your Information)

## DUAL INSTALLATIONS SOLVE VENTILATING PROBLEMS AS MINIMUM COST, JENN SAYS

Dual installation of wall and roof air exhausters solves most of to-

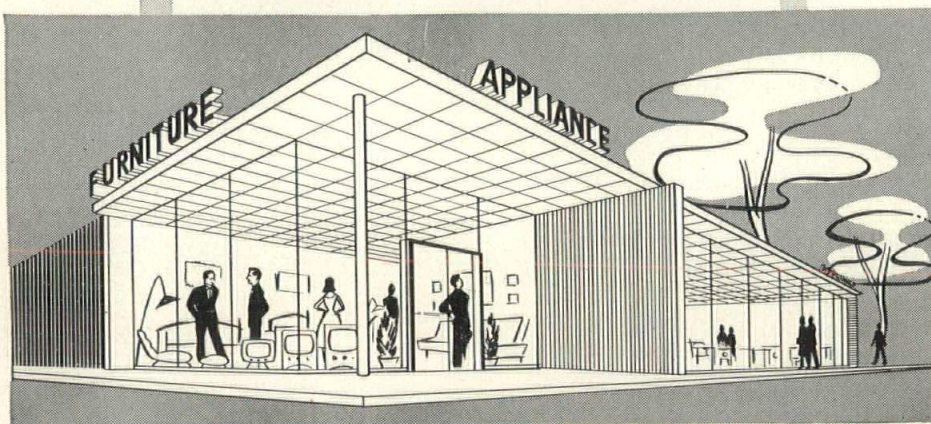
day's ventilating problems at a minimum cost, Louis J. Jenn, air exhauster designer and president of Jenn-Air Products, Indianapolis, recently pointed out.

"By adapting two types of exhausters throughout the structure, wall exhausters where the structural makeup of the building prevents going to the roof and roof exhausters where they can be spotted immediately over the desired areas, savings up to 35 per cent in labor and material can be affected," he said.

Most buildings to be ventilated today were constructed before the time of air exhausting studies, Mr. Jenn said. Consequently the problem is one of fitting the ventilation methods and equipment to the building rather than making the building conform to the ventilation.

Jenn-Air makes both types of exhausters. They are of the low contour, button-type whose design is intended to blend them into the building. The exhausters are made of spun aluminum, are package-complete, require no extra parts for installation, which is simply done, are long lasting and fireproof.

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## BELL & GOSSETT PROMOTES PATTERSON TO V-P

Ralph A. Patterson, general sales manager for Bell & Gossett Co., Morton Grove, Ill., makers of heating and cooling equipment, has been promoted to vice-president. He will be moved to New York to open a new Bell & Gossett office there to serve that area.

## BRUNSWICK SCHOOL FURNITURE DESIGNER WINS GOLD MEDAL

The Gold Medal of the Industrial Designers' Institute has been awarded to Dave Chapman of Chicago for his creation of the new Brunswick line of school furniture.

The emphasis in recent years on group participation, visual aids, learning-by-doing and similar educational methods has created a need for a type of classroom furniture

NORTHWEST

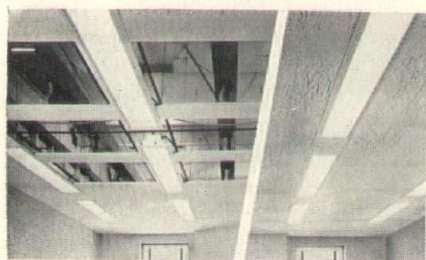


that is highly flexible, the award notation said. Mr. Chapman and Brunswick's own designers met this need with a line of movable units that can be stacked, nested or grouped.

This furniture is distributed in the Northwest by Hauenstein and Burmeister of Minneapolis.

#### AIR DIFFUSER DESIGNED FOR USE WITH CELOTEX CEILINGS

The Linear Multi-Vent Panel, shown in our illustration, is being placed on the market by The Pyle-National Company for use in heat-



Vent panels in place, with and without the regular ceiling materials.

ing and cooling and ventilating in conjunction with Acousti-Line Ceilings made by The Celotex Corporation.

Multi-Vent's flush perforated panel eliminates all protruding air outlets and grilles. Its low velocity air delivery does away with discoloration of adjacent ceiling blocks and reduces maintenance costs. A flexible, compressible tubing connects the vent panel with the air duct and this eliminates costly sheet metal fitting on the job.

Added details on the diffuser can be obtained from the company at 1334 N. Kostner Ave., Chicago 51.

#### BUILT-IN TV UNITS AVAILABLE

A line of television sets designed to be built in has been put on the market by Hoffman Radio Corporation. The sets have 17 and 21-inch screens and are complete except for the detached speaker, which is a separate unit. Details can be obtained from the company at 3761 S. Hill St., Los Angeles 7.

ARCHITECT

#### HALDEMAN-HOMME IS NEW NAME OF HALDEMAN-LANGFORD

Haldeman-Langford, Inc., St. Paul firm which specializes in school and institutional equipment, folding and other types, has changed its name to Haldeman-Homme Mfg. Co.

W. W. Haldeman, president of the firm, at the same time an-

nounced that J. E. Homme has been named vice-president and general manager of the company. He succeeds W. R. Langford, who has retired from the firm. Mr. Homme has been with the company since 1946.

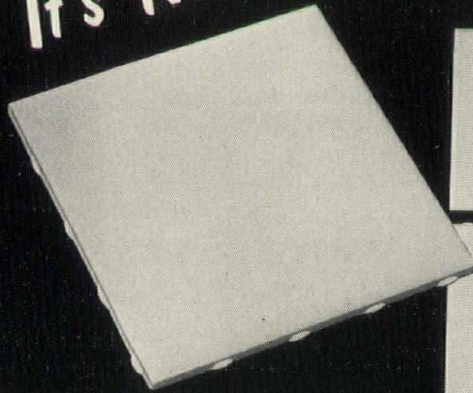
#### NEW USE FOR OLD PENCILS

The architect's old pencils now have a new lease on life and a new

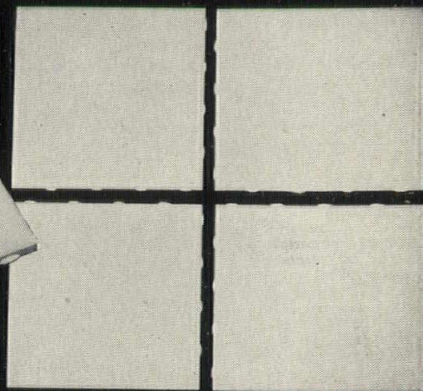
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**DESIGN** — Spacers are designed to withstand rough treatment, and so that maximum grout can be forced into the joint. Space-Set tiles can be set with a string if a wider joint is desired.

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## ACOUSTICS

By **LEO L. BERANEK**

Acoustics Laboratory, Massachusetts Institute of Technology; Bolt, Beranek, and Newman, Inc., Cambridge, Mass.

467 pages, 6x9, 12 illustrations, \$9.00

THIS BOOK offers a modern approach to basic acoustical theory and emphasizes practical application—in design of rooms, auditoriums, work places, factories, audio equipment, etc. The treatment gives complete coverage of acoustical techniques in high fidelity reproduction, noise control, and audio communication. It contains valuable data for use in new product development, reduction of room noise for improved output in factories and offices and all applications involving problems of sound propagation. This work is a thorough guide to effective practice in acoustical engineering.

With labor and office workers today demanding pleasant acoustical environments to work in, more and more architects are wanting to increase their understanding of acoustics. This book meets the demand for a well-integrated, practical treatment. It covers basic aspects: wave propagation in the air, theory of mechanical and acoustical circuits, radiation of sound into free space, and properties of acoustic components.

Separate chapters deal with microphones, loudspeakers, and horns. The book presents important NEW data on noise-reduction and psychoacoustic criteria, and many other important aspects of acoustics.

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| 7. Direct-Radiation Loudspeakers       |   |

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career in aiding needy children in their schooling. A "Pencil Please" campaign is now under way to collect as many millions of used pencils as possible.

Sponsor of the drive is Save the Children Federation, a 22-year-old group dedicated to aid of children of all groups. In connection with the drive it was pointed out in some areas twigs, coal lumps and dirt are

used for printing and writing early children's endeavors.

Pencils should be sent to "Pencils Please", 1721 Park Ave., New York 35, N. Y.

## CONSTRUCTION COMMITMENTS CONTINUE ON NEW RECORD LEVELS, DODGE REPORTS

First-half-1954 totals and commitments for June, latest reported, in building construction contracts continue at all-time record levels, according to the F. W. Dodge Corporation. Total construction awards for the 37 "eastern states" was \$9,251,149,000, up 17 per cent from the same period of 1953.

Minneapolis-St. Paul and area records were being set at a similar pace with the Minnesota-Dakota-northwest Wisconsin total of \$276,890,000 being 44 per cent above the same period in 1953. Minnesota's total of \$198,458,000 was 39 per cent above the six months in 1953.

Certain trends were reported in the construction field by George C. Smith, Dodge economist. He reported:

1—A continued strength in residential construction and a strong leaning toward single-family dwellings as opposed to multiple-family housing.

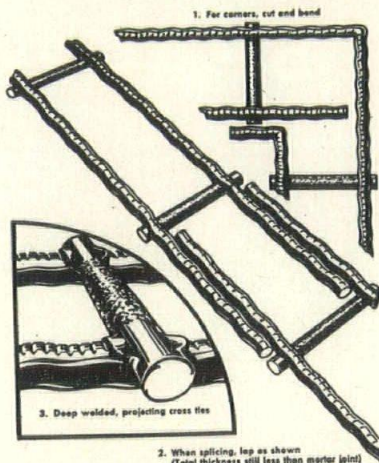
2—A sharp drop in awards for manufacturing facilities, at least offset by an upswing in commercial construction awards. Result was a net increase in this dual category.

3—Continued growth in school construction as a major building facet.

The economist pointed out that the high level of activity in the construction field meant good conditions in the many allied fields of manufacturing and business.

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## Porcelain Enamel Curtain Walls to Get Expanded Use

A growth in use of porcelain enameled curtain walls for future buildings is seen by E. X. Tuttle, A.I.A., and reported in a recent speech before one of the eastern chapters. He said in his introduction that Alcoa and Reynolds foresee a marked increase in their building products markets during the coming years and the reason is laid to expanded use of metal wall panels.

"I have been asked to talk about porcelain enamel curtain walls," Mr. Tuttle said, "but almost everything that can be said about that subject can be said about metal panel walls in general. Both ferrous and non-ferrous metals can be given a porcelain enamel coating and the only known satisfactory method of applying a permanent color, other than gray, to steel or aluminum is that of porcelain enameling and, in the case of steel, enamel is probably the most satisfactory corrosion preventative.

Porcelain enamel is glass. Glass is manufactured and while in a near molten state is plunged into cold water, where it shatters into fine particles. It is then milled to a powder called frit. This powder is mixed with clay and water to make a paste which is applied to metal by dipping or by spraying and is then placed in a kiln and fired at temperatures ranging from about 1000 to 1900 degrees F. The result is a thin glass surface fused to the metal. This is an exceedingly simplified description of a highly developed chemical and physical process involving the introduction of numerous chemicals and pigments and precisely controlled timing and temperatures.

Many of us recall so-called "granite" pots and pans and kitchen stoves that cracked and crazed and chipped, especially when used as drums. But that kind of material has gone the way of flour paste, "isinglass" and 2000-mile tires.

Today some porcelain enameled metals can be bent around a one inch rod and can withstand shock tests that will cause bricks or concrete to spall. Light gauge metal is being enameled and rolled like newsprint. Porcelain enamel has

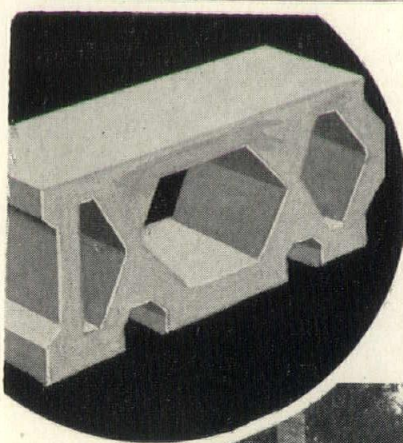
all the weathering qualities of glass . . .

I want to impress upon you my opinion as to the place of porcelain enamel in curtain wall development. It cannot be used alone; it is the means of giving protection to black iron and color to other metals. If one is satisfied with some shade of grey, and it is often a reasonable color to use, aluminum or stainless steel are both long lived exterior wall materials.

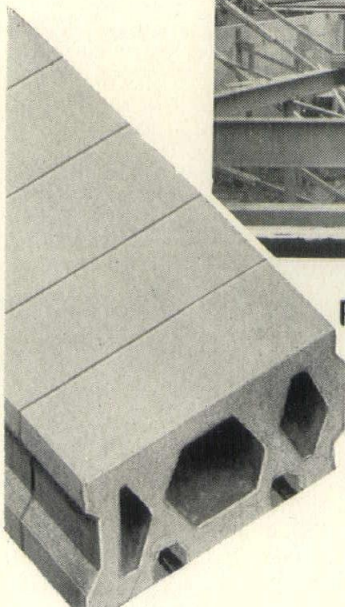
I think most of you will agree with me when I say that metal exterior wall surfaces, along with the automobile and television, are here

to stay. The stage of their development, however, is only just past the "California top stage." Though there are numerous exceptions, metal, to an important extent in major buildings, is used somewhat in the manner of paint over standard masonry walls.

Rockefeller Center exhibits cast aluminum spandrels between stone piers backed with standard masonry. Concrete blocks back up the glass between window heads and sills in the United Nations Building and there are a number of buildings around the country that have been sheathed in metal panels

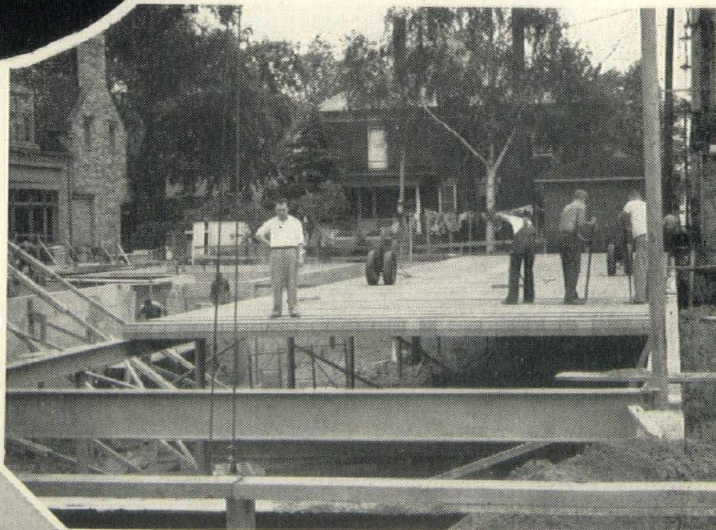


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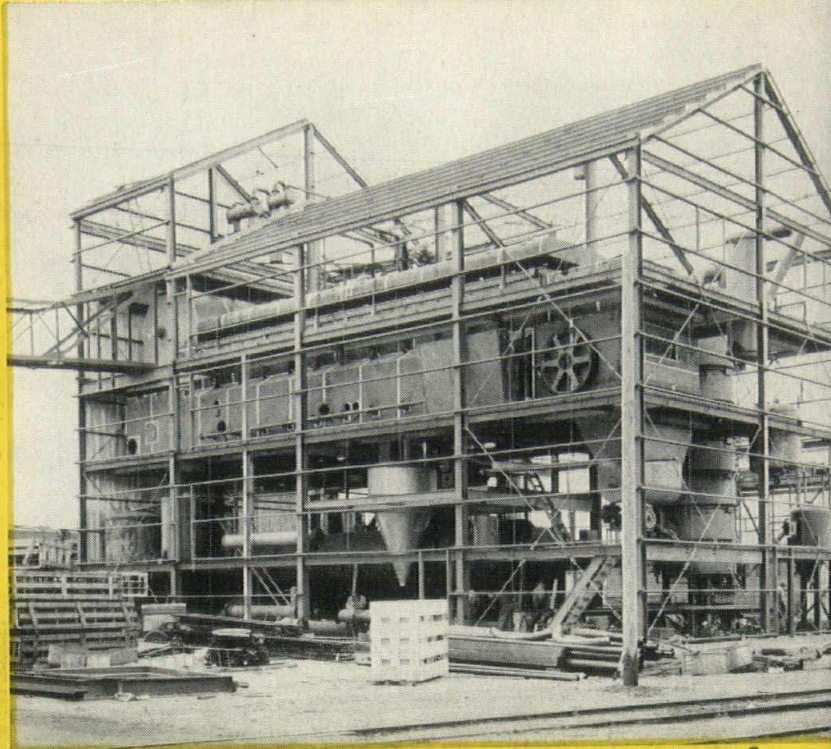
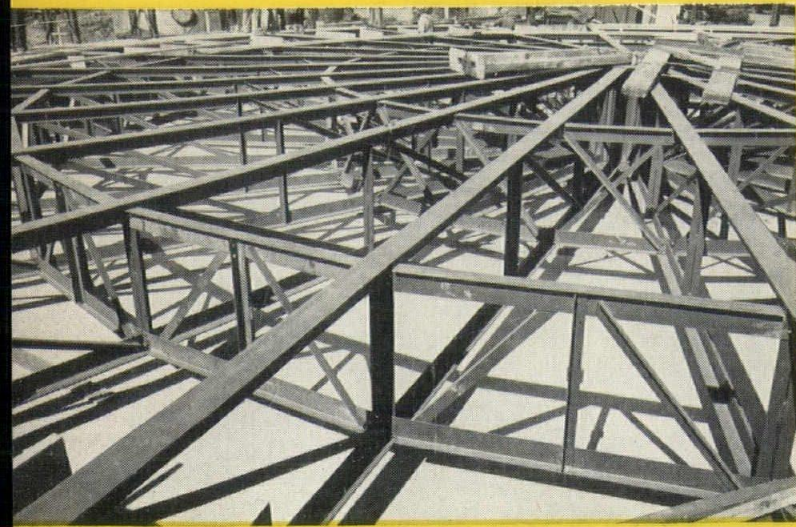
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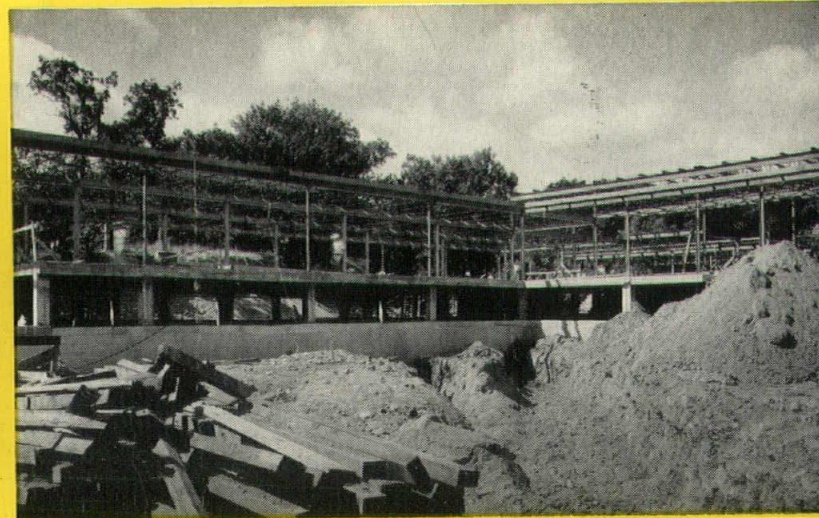
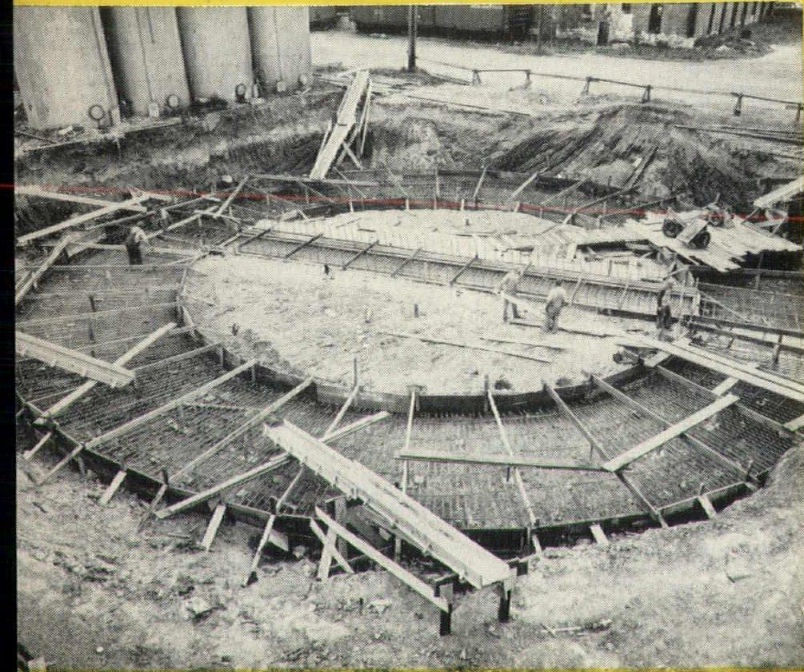
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# *They're all going up*



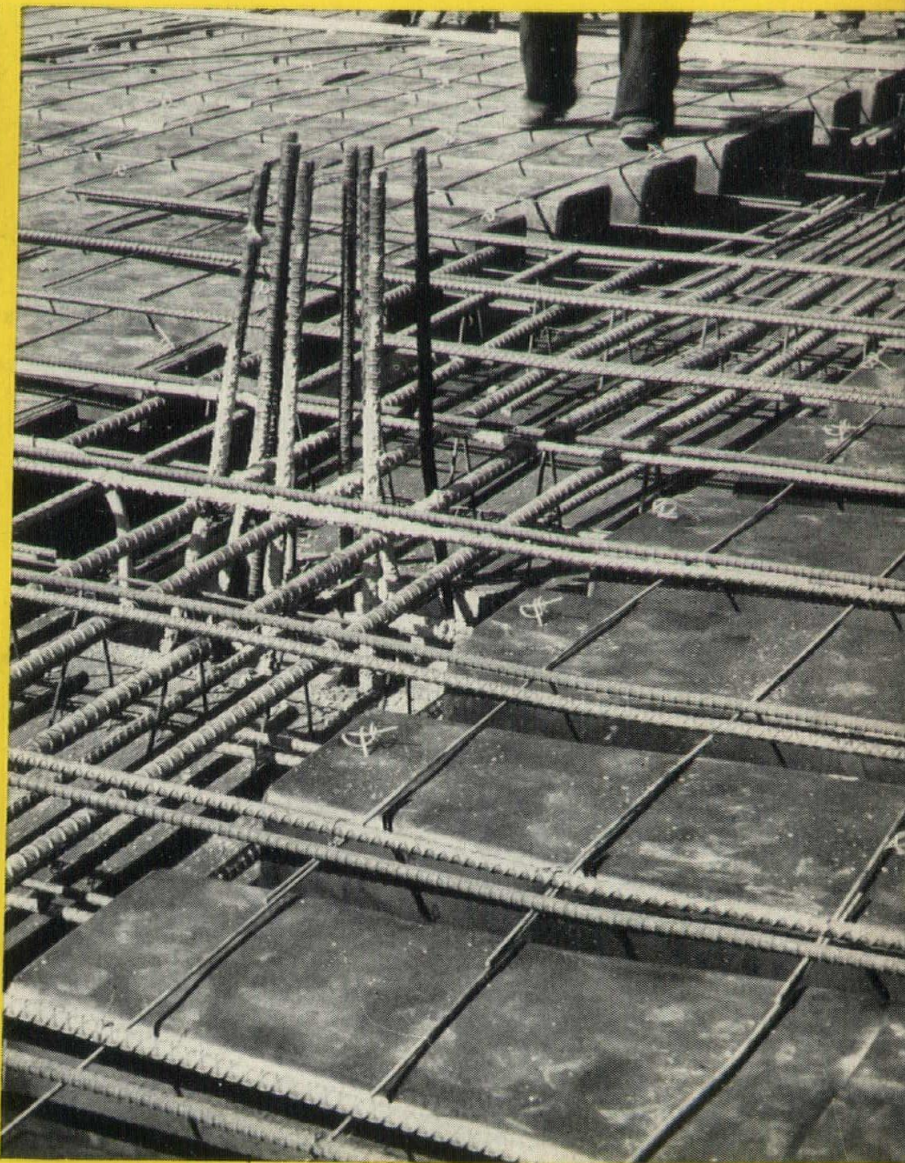
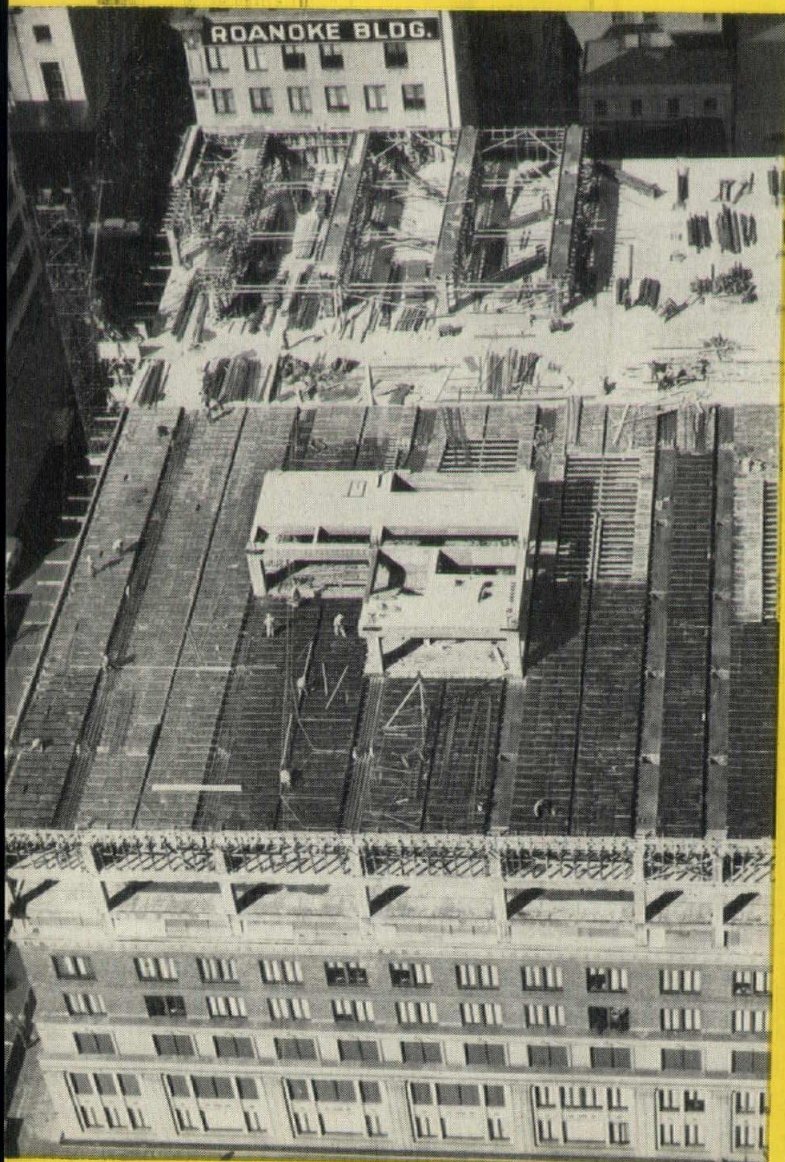
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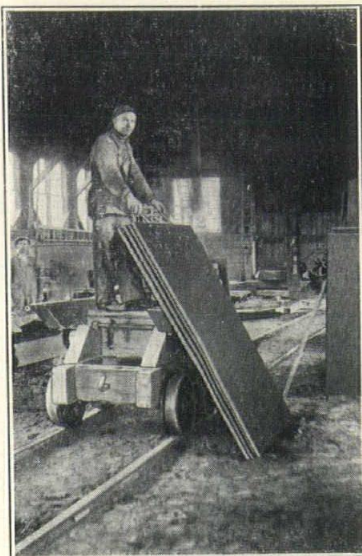




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applied to masonry in much the same manner as tile.

Harrison & Abramovitz and their courageous client have, in Alcoa's Pittsburgh office building, made a contribution which very possibly adumbrates the direction that curtain wall design will take and give some real expression to our present-day skeletal type of building. . . .

Its light weight metal skin, which looks like metal, is wrapped around the frame like a cloak and the light aggregate fireproofing sprayed on the inner side of the skin resembles a kapok lining. Since I am supposed to be discussing porcelain enamel, I can say, here, that if Alcoa had wanted to introduce color, it could have enameled all the exterior surface of that building. Interestingly, the designers have installed hundreds of square feet of experimental enameled aluminum panels on walls of the open top floor terrace.

The application of and the need for light weight curtain walls is not confined to any one category of buildings. In some form or other and with varying degrees of success they have been applied to factories, laboratories, schools, stores and other retail facilities, houses and a variety of institutional buildings. They are probably as generally applicable to buildings as plumbing fixtures which, interestingly enough, are usually surfaced with porcelain enamel. To the present time, by far the greatest use of exterior metal walls has been for industrial buildings and particularly one-story buildings.

Mahon, Robertson, Armco and others are forming steel or aluminum sheets which can be installed with or without insulation and inner lining to provide a light, weathertight and attractive wall. This same type of wall has been used to a limited extent on schools and commercial buildings.

The ill-fated Luston Corporation developed an ingenious system of porcelain enameled panel construction suited to modern production methods and placed its faith in an extruded plastic caulking strip. These panels are still being manufactured and one of the largest porcelain enamellers in the

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country, Porcelain Steel Company of Connersville, Indiana, has had the foresight to continue the development work where Lustron left off. Though these panels are being used principally for gas stations now, that use may be the laboratory for the development of a more successful curtain wall system.

I believe we are nibbling at the edges of a curtain wall design problem with an occasional probe at its center. With the exception of the factory nearly all metal panel uses are special cases. We cannot afford to design and build special dies for each school or store we build but the demand for a multi-purpose panel and its attachments is so pressing that I feel sure the building industry will find the means to accelerate its development. I have reason to believe that a co-operative move is afoot to implement this acceleration.

The most important practical consideration in the use of metal exterior wall units, it appears to me, is that of their jointing. Several curtain wall systems are admirably suited to plain surfaces without many openings but introduction of windows and doors and other openings or breaks in the plane presents weathering and conduction problems which have not been satisfactorily solved or, at least, economically solved. The application of architects' and engineers' ingenuity and your co-operation with manufacturers can assist materially in the development of good joint design.

Fire code restrictions, which in some areas require a 4-hour rating for spandrel walls, place an expensive burden upon the use of metal curtain walls. There is an astonishing inconsistency in a code which permits almost unlimited use of glass in a wall but requires a 4-hour rating for a small spandrel wall. Some code improvements have been made and it is to be hoped that these restrictions will not seriously retard the logical development of metal walls.

I would like to outline briefly and broadly a few of the exterior metal wall units that are available, all of which can be enameled if desired and if reasonable quantities are involved.

Cast aluminum spandrels, as used in Rockefeller Center and set in masonry.

Rolled or stamped stainless or black steel spandrel panels set in metal frames, as exemplified in the U. S. Steel Building in Pittsburgh.

Aluminum or steel faced panels having a honey comb paper core set in frames and attached according to your own design, as used on the General Motors Laboratory.

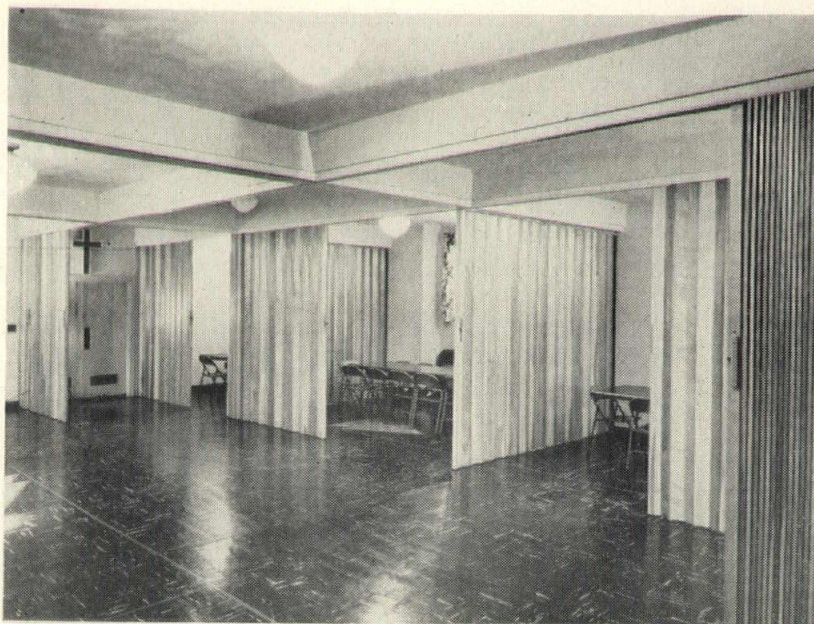
Partially metal glazed sash ap-

plied with sash installation techniques, as used at 99 Park Avenue, New York, and to be used on the Statler Hotel in Hartford, Connecticut.

Mall Micata, a concrete backed enameled steel unit, tongued and grooved and clipped to a concrete or steel frame.

The Lustron type unit, having its own attachment and framing method.

Perhaps the best known and certainly the most used is the fluted



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type of unit manufactured of asbestos protected or galvanized steel, stainless steel and aluminum in a variety of sections. Attachment methods for these units have about become standardized.

Most of the aluminum and steel companies, and often in conjunction with enameleders, have devised units for particular projects and all are willing to co-operate with you to develop a unit for your particular purposes.

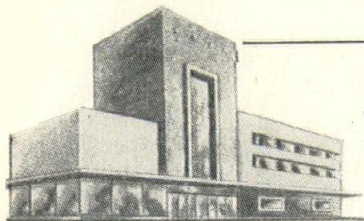
I want to finish with some re-

marks about the peculiar architectural possibilities of porcelain enamel.

A couple of years ago our well known New York colleague, William Lescaze, was engaged by the Porcelain Enamel Institute to study curtain wall design and I think the results of his studies are a definite contribution to the subject. Perhaps the most intriguing outcome of his study was a pair of water color sketches of a hypothetical building having porcelain enameled

exterior surfaces. One indicated the repetitive use of units of the same size and differing only in a very few varieties of abstract color patterns. The other demonstrated the possibility, by use of standard units specially surfaced in colors, of creating a moving or growing type of design over the entire exterior surface of a building.

I do not propose to stimulate an argument regarding the logic of such design but rather to bring to your attention the design possibilities of colored porcelain enameled building units, possibilities limited only by three dimensions, and an infinite variety of colors, patterns and textures.



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## SPECIAL INSTALLATIONS DEALT WITH IN FIVE LIGHT- ING FOLDERS

Luminous Ceilings, Inc., has released a set of five new folders dealing with the special lighting problems of drafting rooms, office buildings, stores, ticket offices and banks. The five are available on request to all architects who write for them to the company's home office, 2500 W. North St., Chicago 47.

The folders are well illustrated with pictures of typical installations which parallel those of the practicing architect. They are of file size, easily kept handy for reference.

## EIGHT-FOOT FLUORESCENT TUBE ANNOUNCED BY SYLVANIA

Eight feet long with a light production above any previous standard type is a new fluorescent tube just announced by Sylvania Electric Products, Inc. The rapid-start, high-lumen lamp produces light at the high efficiency of 70 lumens per watt, the company's engineers reported.

The lamp is of standard cool white color but other colors are to follow. It's rated life on 3-hour cycle is 7,500 hours. It works best in well-ventilated fixtures, its makers pointed out.

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Inspect this display of 61 different Artstone colors exposed in 1938 for weathering observation at roadside in New Ulm's industrial and railroad district.

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## LUMINAIRE DESIGNED FOR LOW BRIGHTNESS CONTRAST INTERIOR LIGHTING

A new Arealux luminaire, shown here, has been put on the market by Lighting Products, Inc., Highland Park, Ill., for use where a small, wide-area fluorescent fixture is desired, such as in schoolrooms, libraries, stores and offices.

This LPI Arealux, Series 164, is 35¾ inches wide but only 5 inches deep. It can be surface mounted or suspended, can be mounted singly or in rows or side-by-side. Lengths available are 4, 6 and 8 feet.

Complete spex, etc., can be obtained from the company.

## COFAR FIREPROOFING GETS FOUR-HOUR UNDERWRITERS' RATING

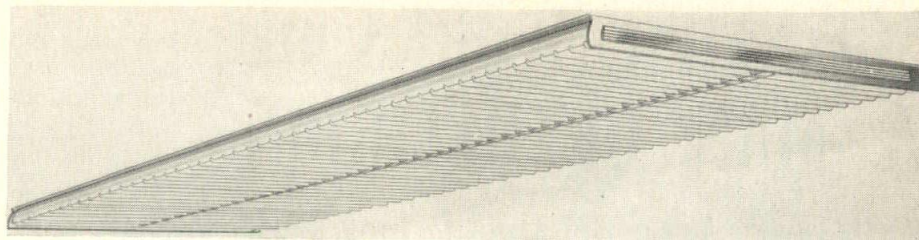
Successful passing of the Underwriters' Laboratories' four-hour fire rating test by a new, low cost method of fireproofing Cofar concrete floors has been announced by J. D. Rosebrought, Granco Steel Products Company sales manager.

The method is application of vermiculite acoustical plastic directly to the underside of Cofar sheets, the announcement said. Cofar is a corrugated steel sheet which acts as form and reinforcement for concrete. It was developed and is made by Granco.

"This means," the release said, "that architects can now provide, at low cost, maximum fireproofing as well as acoustical treatment and good appearance in this type of construction." The method also is said to provide additional headroom, the gain estimated to be as much as 12 inches.

The test slab was of 4½ inches of sand-gravel concrete poured on a 24-gauge corrugated sheet of Cofar. Vermiculite acoustical plastic, ½-inch thick minimum, was then sprayed on the underside of the Cofar. A supporting beam was also fireproofed with a 2¼-inch layer of vermiculite on metal lath. The slab was loaded to 75 pounds per square foot and the test run, at the end of which the slab was being subjected to 2,000 degrees. Then a 45-pound fire hose stream was applied to the assembly for 7½ minutes. The following day the test assembly stood up under a loading of 150 pounds per square foot.

ARCHITECT



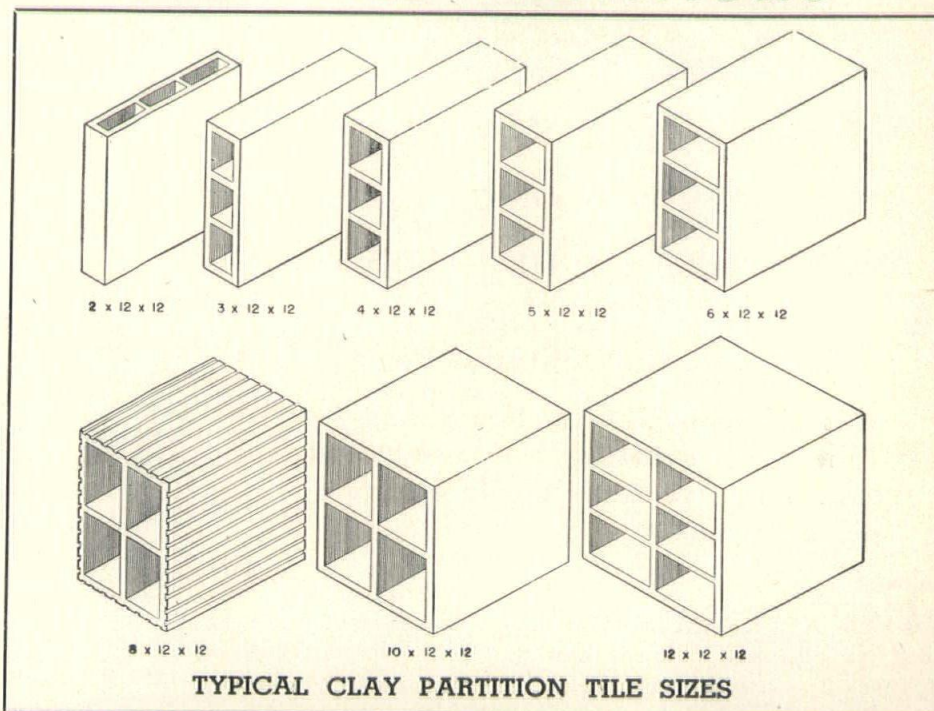
## POPPY SEEDS AND BARLEYCORN

You know it as an inch and in the Bureau of Standards they have a very scientifically measured space for the unit. But years ago—oh, go back to the XVI Century—they had

a different build-up for the inch. In those days the always constantly sized poppyseed was a small unit (made up of 12 hairbreadths) which in turn when laid four across, make up a barleycorn and when you put three

(Continued on Page 53)

## It Pays In Every Way To Specify CLAY TILE PARTITIONS



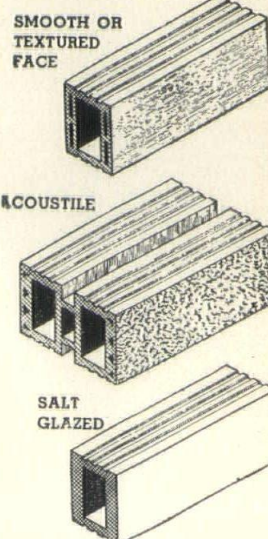
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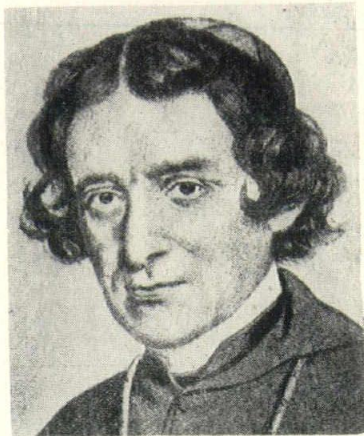
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# SCIENTIFIC WORKS OF A MAN OF RELIGION

## Religious Acts of the Same Man



### *Frederick Baraga*

1797 — 1868

#### MISSIONARY TO THE OJIBWAY INDIANS

##### Notes on Our Editorial Page

This Biography is taken from studies by John Jager extending over many years. Please turn to Editor's note at end of piece on page 43.

**T**O APPRECIATE the beautiful character of Baraga one has to meet him under all the circumstances and activities of his life, in forest and city, seeing hardship, furthering scholarship. He earned the diplomas of many Colleges of Science and the Arts. He never refers to one of his honors. He perfectly mastered five languages in word and script, but went about with the modesty of an illiterate. You should know of his skills:—

AN EDITOR of calligraphic handwriting, producing, often by campfire or in canoe, manuscripts for twenty-five scientific books, so exact that they excluded all errors by typesetters in distant lands who could expect no proof corrections.

AN ARTIST of the compositional vignettes and genres of book design and typography, many of which are preserved and to my opinion would be, in themselves, worthy of an article in *NORTHWEST ARCHITECT*.

A TECHNICAL CRAFTSMAN not only able to evaluate the materials going into equipment, tools and buildings in the wilderness, but who, with tools in

hand taught his Chippeway apprentices the arts of log building construction. His log church, now over one-hundred years old, is still in use at La Pointe, Wisconsin. It's Carniolean character in design represents a Balkan log-building tradition in architecture that is continuous back to pre-Roman times.

The interior of this church has mural paintings by Matthaeus Langus, his artist friend of student days. These he brought back to America from a first revisit to his native city of Liubliana. These treasures of Art and Architecture have now been well preserved, as interesting cultural Americana, by Bishop Thomas Walsh, of Duluth.

BARAGA was also an AGRICULTURIST who planned the first experimental gardens in Minnesota at Grand Portage, about the year 1835. From this Indian center the art of summer and fall crops spread over the entire northwest. The Owen-Whittlesay expedition (U. S. Geo. Survey 1847-51), could not get any food for their canoe trip in the impoverished Fox Indian camp at Fond-du-lac in Central Wisconsin. To go forward with their exploration of the St. Louis River and that vast area Northwest of Lake Superior which includes Lake Vermilion and the waters of the Arctic Divide, which flow into Hudson Bay, they had to go first to the more advanced Chippeway tribe at La Pointe who had been educated by Baraga. Here the Indians equipped them for the long journey.

Whittlesay says in his report dated August, 1848, that at Grand Portage, on the North Shore, he found Indians raising potatoes at the old Hudson Bay Trading Post which had been abandoned thirty years before.

**B**ARAGA was indeed a man far ahead of his time in Minnesota; it takes 100 years to appreciate him. If a Spaniard he would doubtless by this day be at least a candidate for Sainthood. But being from a nation whose borderlands were still too much occupied by the slowly receding eastern "Orthodox Greek" Christian church, which had centered in Constantinople for a thousand years and more, Baraga was persecuted by the Hansenites, now all but forgotten, and so with rare Christian devotion he chose to carry on his life work in peace, 5,000 miles from the theological battles of the century of the Seventeen Hundreds.

Baragas ethnologic studies recording traditions and manners of Otchipwe Indians are literature imperishable. He published them in the Slovenian language, printed by Joseph Blasnik of Liubliana, in 1844. These works were distinguished by his own most beautiful typography and book design. They were shortly reprinted in French and German. This aroused a great interest for the American Indians in Europe and thus Baraga was enabled to raise funds for his further publications on the Otchipwe language. His best known work in English is a jewel of Indian linguistics:

"A Theoretical and Practical Grammar of The Otchipwe Language." Detroit, Michigan, 1850, 12 mo—pp. 576. Motto: "*Breve iter per exempla longa per praecepta*," QUINTILIANUS.

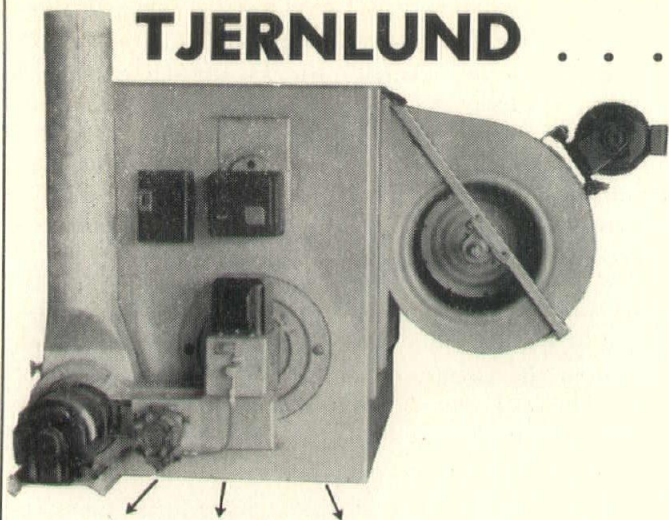
(Continued on Page 42)

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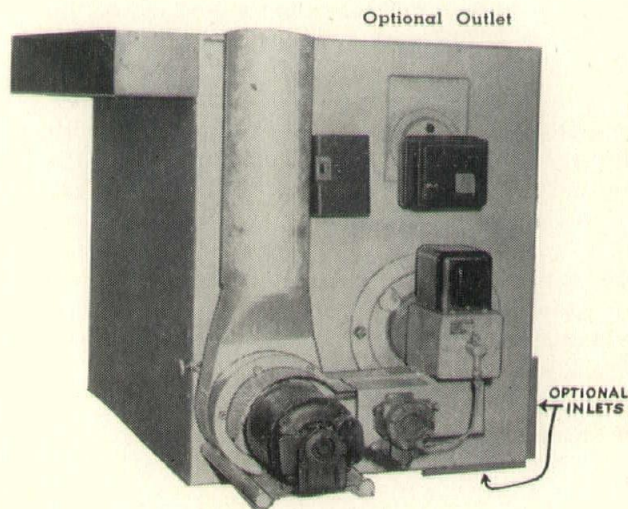
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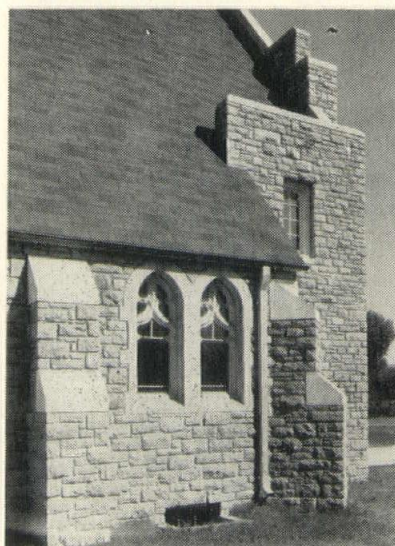
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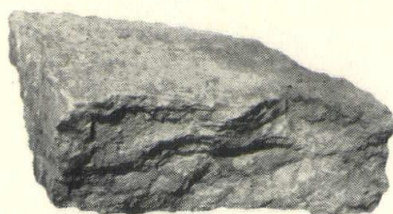
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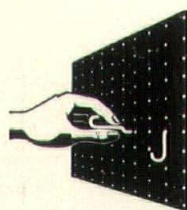
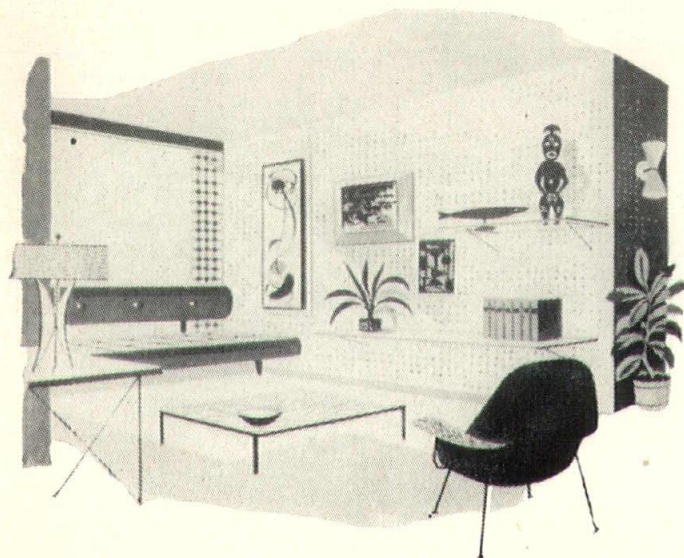


**A**ERICAN INDIAN LINGUISTS who dare to penetrate into etymology of the Indian genius are very rare. There are some 165 dictionaries of Indian tongues. Unfortunately these leave the philosophical background of the language unexplained. And yet their authors, because of lack of scientific approach, never worried to explain, for example, through what development of age-old human genius, rests the analysis of the long Ojibway word "bi'-gwa/kam'-i/gi-bid'-ji-gan'-i/ke-wi'-ni/wug", but just reported to posterity that it means "peasant." But there were, and are not now, peasants or even remotely such a concept in North American cultures. Try to imagine what poetry and natural perception is buried in the compositional flow those of 29 letters; what definitions, experiences, and from what relations to nature and to man, this "word" came into being. Living answers to such questions are what the over-civilized and abstractionated peoples of the near future will need for refreshment of their streamlined spirits.

Baraga, did not care for praise and recognition. He has been dead for 86 years but time will make him shine as the immortal recorder of the American Indian.



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He was the pupil of the greatest linguist and linguistic research man of the XVIIIth Century, Yarney Kopitar who wrote "Glagolita Clozianus;" a rare copy of this huge, quarto volume rests in the Congressional Library, Washington, D. C. Kopitar was Librarian of the Imperial and Royal Library in Vienna. One of his most valuable books published in 1808, is a Slovenian grammar, in which for the first time he discloses the interrelated foundations of all European linguistic science.

Beside his grammar of Ojibway language, Father Baraga published in Cincinnati, Ohio, in 1853, his seventh Ojibway work of the twenty-five Baraga volumes on record in the Congressional Library, "A dictionary of the Ojibway Language, Explained in English"

Part I, Ojibway-English..... 420 pp

Part II, English-Ojibway..... 1662 pp

In this work Baraga elucidated for science some Indian words with synonyms in his Slovenian mother tongue. To one of his friends, Dr. Leon Voneina in Ljubliana, Baraga wrote concerning this dictionary . . . " . . . with it I expected to render a strong and lasting service to our Indian missionaries who are spread over three dioceses, so that with the help of so abundant a dictionary they will be able to learn quickly and easily this extraordinary, but very exact and beautiful language . . ."

**F**ATHER BARAGA came from Europe as a young man, spent his entire life in America and here he died. He was made a Bishop in 1860 with his Seat at Marquette, Michigan, on the South Shore of Lake Superior. His work in both religion and science has been well known in Europe for a hundred years and yet is almost unknown by those of us to whom he gave so much.

*COMPILED in appreciation of Frederick Baraga S. J. 1797-1868 of La Pointe, Wisconsin, Bishop of Marquette and first citizen of the old Northwest Territory. From data to be found in the archives of*

JOHN JAGER, A.I.A.  
Editorial Associate

WILLIAM GRAY PURCELL  
Collaborating

## BIBLIOGRAPHY

**THE HISTORICAL and BIOGRAPHICAL** literature and records on the **CHIPPEWA INDIANS** are very extensive, and almost untouched by scholars. The half dozen items available for preparing the several accounts in this issue of **NORTHWEST ARCHITECT** are listed below.

"LONG'S EXPEDITION," narrative of an expedition to the source of the St. Peter's River in the year 1823 by Stephen H. Long, Major U.S. Territorial by William H. Keating, two volumes, Philadelphia. Congressional Library.

"CAREY," 1824. 460 pages with illustrations and Chippeway Indian vocabulary in appendix. California State Library 917.7 K25.

"COLLECTIONS OF THE MASSACHUSETTS HISTORICAL SOCIETY," Vol. 10, second period, Boston 1823, reprinted. Little and Brown, Boston, 1843; a chapter on page 135 and following, giving a comparative vocabulary of the various dialects of the Delaware languages together with the Winnebago or Nipagon language. Language study for comparison continued to page 160. California State Library 974.4 M41C20.

"TRAVELS IN NORTH AMERICA BY CARVER," published in Dublin in 1769. 510 pages. Chapter 17 from page 387 to 412, very

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full account of the Chippewa and Souan languages. California State Library 917.8 C33.

"TOUR TO THE LAKES," a report on the Chippeway Indians by Thomas L. McKenney containing a vocabulary of the Algonic or Chippeway language, published by Fielding Lucas in 1627 in Baltimore. Language data is found beginning on page 487 and material will undoubtedly be found in the body of the book. Congressional Library.

"DISCOVERY OF SOURCES OF THE MISSISSIPPI RIVER" by Schoolcraft, published by Lippencott Gramco and Co. in Philadelphia, 1855. First Expedition in 1820; Second Expedition in 1832. 596 pages. Page 430 and following. Chapter 20 concerned with Indian hieroglyphics, picture writing, language and history. California State Library 917.7 S37D.

"AMERICA NEEDS INDIANS," by Iktomi-Lila Sica. "The World's Worst Book." 425 Pages—many illustrations. Copyright 1937. Printed by Bradford-Robinson, Denver. Price \$7.00. The most astonishing and original of books—very useful.

"DESCRIPTION OF A WILD LANGUAGE," by Schoolcraft. North Americana Review. 1825-1826.

#### CREDITS AND RESPONSIBILITY

THE DIVERSE NOTES, made during many years and assembled here in honor of Mr. Jager and his pioneer researches in behalf of the American Indians have been carefully checked.

My necessarily brief account of the CHIPPEWAY LANGUAGE is accurate to the best of my knowledge. However, none of the writings in this issue are offered as a definitive exposition of the material dealt with. Such a treatise would be far beyond the possibilities of this JOURNAL, and impossible under the research procedures available to me.

I am solely responsible for the selection and editing throughout. Corrections will be cordially welcomed. Lists of books, articles in magazines and personal experience records are much

desired. Address William Gray Purcell, "Westwinds," 3201 Barhite Street, Pasadena 8, California.

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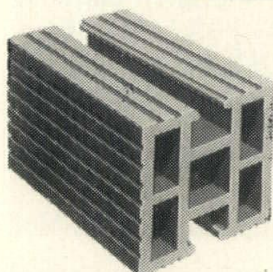
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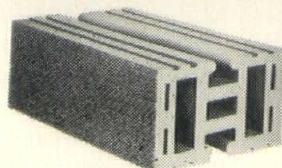
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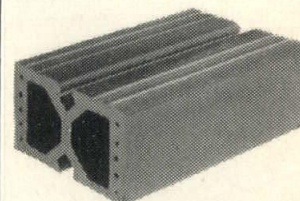
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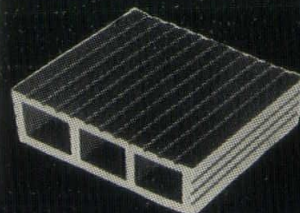
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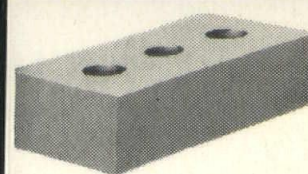
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## Ornaments of Snow

(Continued from Page 10)

twelve. Having run out of hands they leave off "tell" ing and take to arithmetic.

**N**OW LOOK at seven which is ne' (sh)-wa-swe. As we would think it, *seven* would naturally be one less than eight, just as the Romans had it, IX one less than X, equals nine.

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But you will say, should not that "seven" then be "ba-shik" one-less-than-eight, because "ne-ch" is "two" and two-less-than-"swa-swe" would be *six* not *seven*. Well, not by Indian logic as we shall see.

When we figure in arithmetic and algebra with the "Arabian" system of numerals our written symbols are

**"LANGUAGES  
ARE THE GREATEST AND MOST  
ENDURING MONUMENTS OF  
MAN; THEIR EDIFICES BEAR THE  
MINUTEST ARCHIVES OF OUR  
UNCHRONICLED ANTIQUITY. LIKE  
ARCHEOLOGISTS WE HAVE  
TO OPEN THEIR JUVENILE GRAND-  
EUR AND DISCOVER THE PHILO-  
SOPHICAL MEANING OF THEIR  
PRIMITIVE AGGREGATE, RESTING  
ALMOST UNOISCERNABLE IN THE  
COMPOSITION OF GRAMMATICAL  
AND ORTHOGRAPHICAL FUNCTIONS  
OF THIS DAY"**

**"EVERY HUMAN-  
BEING IS A CARRIER OF THE  
REMOTEST TRADITIONS OF HIS  
RACE AND OF RACES COMPOSING  
THE LANGUAGE HE IS SPEAKING  
THROUGH THE MEANS OF SUCH A  
LANGUAGE."**



visualized as an order, for example, a row from left to right, 1 2 3 4 5 6 7 8.

So we say,  $8 - 1 = 7$ .

The Chippeway Indians had little need for figuring with the written signs which we call numbers. They were very much concerned with the workings and qualities of the practical objects for which written numerals stand in stead. They made a "tale" of *objects* related to some practical need. They saw a row of eight men of various sizes and ages, or eight fish of various kinds and sizes. Wishing to discuss the one next to the end they pointed to it, said "that second man or the second fish from the eight-end of the row"; plainly "the second" (2 idea) *from 8 equals 7*, not 6. So that is how they came to name seven as "ne-(sh) wa'-swe," "two below eight, rather than "ba'-shik-(sh) wa'-swe," *one* below eight. You see "eight is already there as *first*" in the order of their practical immediate interest.

When we deal with complicated calculations by means of numeral tokens we are necessarily focusing on the written symbols. The Chippeway on the other hand, having little or no need for complicated arithmetic, does

NORTHWEST



not think of having lost "1," or "2" any "number" of his war party. He has lost Da-in-da, the Bluejay, second man to himself, 8 — "2" = 7!, ne-(sh)wa-swe. We think the same way. We say "That guy was worth any ten on the team."

The Chippeways had a "tale of the years" with a name for every year from 1530 until the 1870s which recorded the most important event of each year. This was all carried in memory with songs, stories and history clustered around the potent year-name.

And so it was with numbering, with the "telling-off" of skins, or fish caught or deer seen. Counting was a kind of "(ba)-mo'-zy," a walking, on the forest path of time, more a quality record of the caravan of days and moons. Sunset and moon-rise were the time clock.

These people were "wild," free, nothing in "the book" everything right in their hands.

**T**HE OCHIPWE have a word for eyes of animals, birds, for all meaningful small openings. But all words describing any part of the human body begin with syllable "o." Human eyes are "o-ski'-sik." This word runs through all the Algonkian languages virtually unchanged from the Blackfoot of Montana, to the tribes of Massachusetts, whom the Pilgrims knew in 1620.

Indian children, with their brown tanned skins and their big brown eyes, were very attractive to the Pilgrim women who had brought along few children, 1 girl and 5 boys to be exact. It was no time at all

before the Pricillas picked up the pretty Indian words. Those naughty little Indian eyes; what a word those Indians had for that, "o-ski-sik," how cute. "O you little skeezics" they cooed and thus "skeesiks" like many another Indian word became part of the new American language. Another Algonkian "o" word, common today in American speech comes from the Indian word for nose, "o-josh." This was really a funny word for any tongue; got associated at once with all the ancient sign languages, all the story metaphor and "the short" for the biblical christian name Joshua. From this, today's "don't josh me" got a three way backing of humor, with the Indian's nose still in the act.

In English we naturally think and exchange ideas with sound and sense related to Greek and Latin by a long and still living tradition. In Chippewa we have to move into a totally new relation between the sense content of any intercommunication and the kind of language tool they built to serve their needs.

The really dramatic paradox here is that we have a very highly developed and polished language which, none the less, had never been fixed in writing. And another feature strange to us is that Chippeway is composed to a very large extent of what we might classify as "slang;" while at the same time Chippeway is a speech of deportment and form, a polite language of deference and respectfulness.

What we hear in our American language as "you said it," "'At 'a boy," "on the beam," "step on it,"

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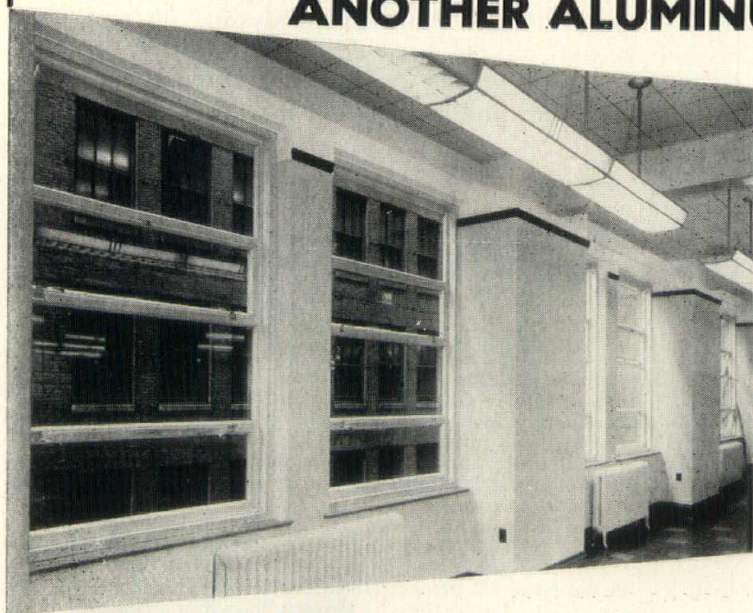
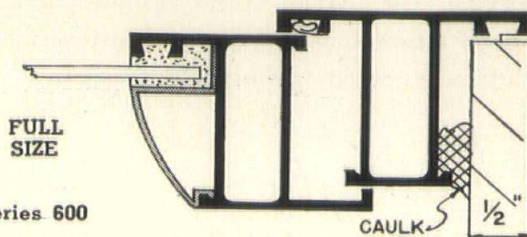
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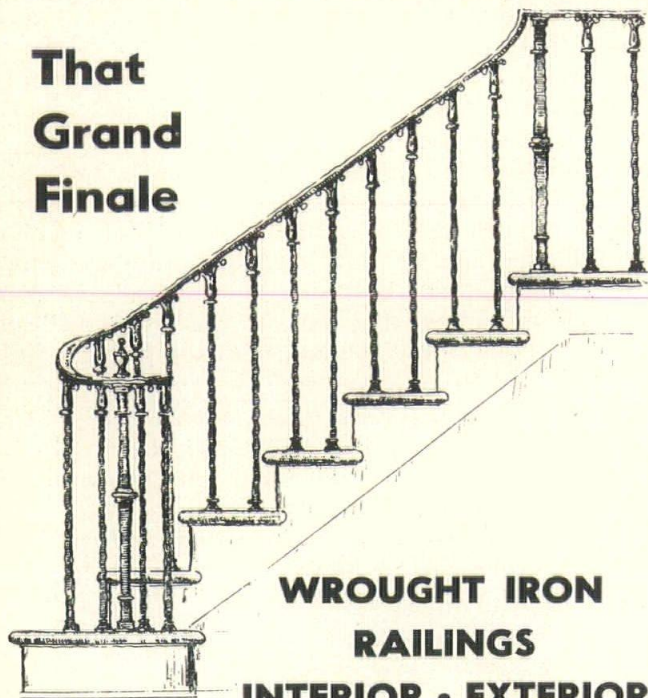
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is for us really our attempt to break talk free from paper, to take it out doors and "let 'er ride." Imagine the fun of tossing, howling, pushing, tusseling with talk that never has been confined; speech plus gesture in which you had all the freedom you could make use of; a language that is *all* "short-hand," *short-talk*, where the phrases can be continually recharged with new and subtle meanings and which reach saturation in the simplest syllables.

When one says a thing in slang, something "slung off," you think of words that are at least a little undignified, low down, rebellious to well ordered languages. Meeting the Chippewa language we need a new word for phrases that are wild and free. It is fun to talk a free speech. French of all the Romance tongues has been the least capturable by spelling. The Frenchman really loves to speak his language perfectly, poetically, and dramatically.

WHEN YOU READ, as I hope you will soon, the beautiful poetry of "Hiawatha"—now in good favor again even with the critics—you will have to put your spoken language into its hunting clothes, put a lot more wild life into some trial saying-out-loud of the poem and its Chippeway words. Television eyes and radio ears can never unravel for you the "song" which is Hiawatha, without some chance to hear an Indian speak it, to hear him chant his own language. But if you try to say aloud this word-music, *that* will do *something* to make it come alive for you. No poetry was ever "written." Poetry was not made to be looked at, but to be heard. Printed poems, like sheet music, are only the musician's "score" by which he can reproduce the beauty of the melody and it's sense. So it is with all the magic of sound which is born to flower and fruit from the marriage of sound and meaning in nature and in man.—W.G.P.

#### MEANING OF WORD CHIPPEWAY

##### Ojibway or Otchipwe

*What does this word mean?*

THE KEY syllable "Chip" or "Jib" is the word we meet in Missis(sippi), even the double "pp" is retained here. "Sibi", "Sippi", "Sebe" means river. "Way" is found as a part of many words, getting into print as wug, wag, weik, walk, wa, wn, and other forms. It means "tribe", "folk", "clan", "herd", flock. "Chipp-e-way" is the pick up and write down of the sound by careless American ears and spelling. They missed the "O", which as a prefix is only partially articulated. This "O" is a starter-sound for all words for parts of the human body, perhaps something like our dative-of-interest—that is, the "as-for-me" speech parts.

So we have "O-jib-way" equals "We-river-people." Which starts a lot of questions? Plainly the "big" (misch) river, is the Missi-sippi. But in 1600-1800 Chippeways were East and North of that area. The Sioux were on its head water. In 1840 (about) in the naval battle of Minnetonka—fought in birch-bark canoes—the Sioux drove Chippeways far to East. Mrs. Bosquet, age 7, saw that battle and in retreat passed our Island Lake in Bayfield Co., Wisconsin. The reader can carry on from this point, or go back and find out what put the Sioux far West, as plains Indians, after about 1850, as they had also been in very ancient times. W.G.P.

October is THE Month—see page 12.

NORTHWEST



## A Synagogue

(Continued from Page 22)

2. Keep in mind the sound absorptive qualities of the material to be used as interior finish.

3. The possible need for an amplifier system should also be considered.

The study of large rooms tends to indicate that shape and volume are the basic criteria in which to achieve excellent acoustic results. These studies show that room proportions are from 1.4 to 1.0 and 2.0 to 1.0 in length and width respectively, and give a good starting point in design. With these proportions, it should be borne in mind constantly that excessively high rooms should be avoided. Too low a ceiling is also bad, since it cramps the sound.

Actually, the ideal acoustical shape of a large space would be as Eero Saarinen once wrote, some kind of a cone where the listener sits at the pointed end of the cone. Oddly enough, the best acoustic shapes are the worst for seating arrangements and circulation. There seems to be no ideal acoustical shape and the acoustical problem should be looked upon as subordinate to the architectural and functional problems. Saarinen went on to say that there are millions of perfect acoustical solutions but only one of them is the best answer to one particular problem.

The volume of space we are concerned with here

amounts to approximately 120 to 130 cubic feet per seat or, in the temple area, a total of 48,000 cubic feet see chart in *Arch Forum*, Sept., '49, which shows the reverberation time to be from .9 to 1.5; to bring it in the range from organ music to speech optimum reverberation time would then be 1.2.

The reverberation time is directly proportional to the volume of the room and to the loudness of the originating sound. The height of the room increases the volume, thereby increasing reverberation time and causing direct reflections from the ceiling which can be damaging. Concave or curved surfaces are bad acoustically for they tend to focus the sound energy in definite regions, thus producing echos or sound images.

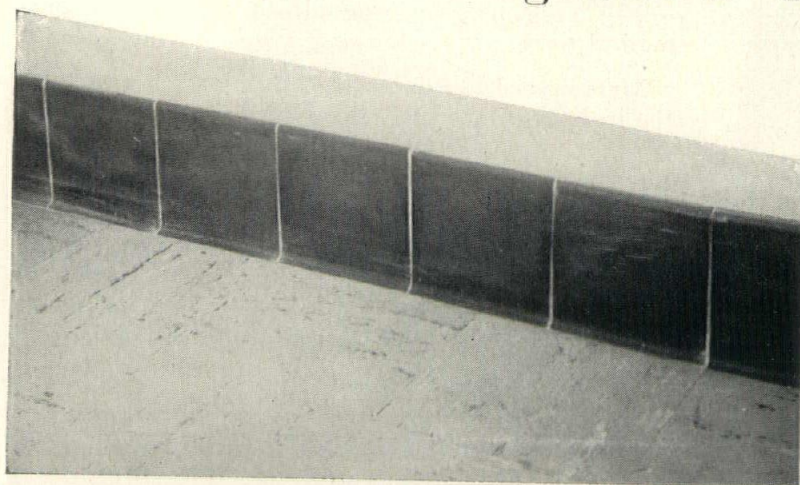
Curved walls have the same effect. The radius of ceiling curvature should always be considerably less than the height or greater than twice the height; anywhere between bad conditions exist. The forms which seem to be most pleasing to the eye are the worst acoustically.

In a large space where there is to be no electro-amplification, the best speaking place is the altar, and the worst is along the axis at a distance from a wall, as, for example, from the chancel steps. Wide auditoria are difficult for speaking, since they create sound shadows. In this case, electro-acoustical distribution should be used.

General acoustic information, rules of thumb:

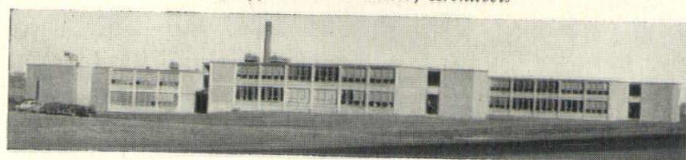
1. The enclosure must not permit more than a 50

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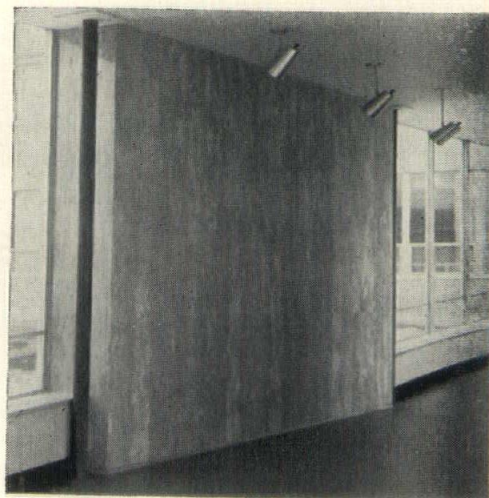
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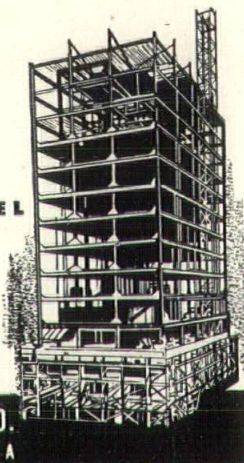
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feet of travel distance between direct and reflected waves.

2. Sound waves will not reflect in precise relation to the angle of incidence unless the reflecting surface is at least twice as wide as the wave.

3. Since the volume decreases with the progress of the sound wave, it is a good idea to reduce the vertical cross section toward the rear in very large areas.

From this, then, it is seen that an organic form is perhaps the most logical architectural expression of good acoustical engineering. To achieve uniform audibility throughout the space, these things must be done: Diffuse all sound waves emanating from the source. Do this by the use of surface contours in walls and ceiling (convex forms are excellent). If the length of the wave is less than two feet, the surface contours must vary in size and depth. If they are more than two feet, apex of contour elements should not be more than 10 feet apart.

Should sound be directed to the listener by the shortest distance? Parallel lines here aid in avoiding interferences. High frequency should clarify speech and give music its brilliance.

Low frequency waves are essential for volume and body in both speech and music. They are less offensive as interference. Waves of similar phase combine to produce amplification. Resonance produced by materials vibrating at same frequency as sound waves in manner of percussion instrument—a. hard rigid materials resonate to the low frequency tones; b. wood vibrates to widest range.

This resonance, for example, is essential to good musical tones.

**Materials:** Draped porous fabrics tend to absorb the high frequencies. Resilient materials, such as carpeting or upholstery, absorb the middle frequencies. Stretched membranes absorb the lower frequencies.

**Lighting:** From the viewpoint of the congregational function of the plan and design, the lighting must be clear, bright, white and general, for the chief object of wareness is the sense of the whole congregation by each member of it. All lighting considerations should involve mood and visibility. There should be adequate

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natural light supplemented by artificial light for daytime services and adequate artificial light for nighttime services. Special cases of lighting involve the eternal light over the Ark to emphasize it. Special activities such as weddings may require special lighting considerations. Lights within the Ark show its interior to the congregation, to achieve and effective a focal point.

Direct and indirect lighting fixtures may be used in conjunction with natural light to obtain the desired atmosphere. The direct fixtures may be low brightness sources for reading purposes; indirect fixtures add enough light (5 to 10 ft.-candles) to the general area, with rheostat control for these lights for various purposes.

These lights give just the light for the congregations access and egress. Natural light should be brought in in such a way as not to be in a 45-degree angle to the line of sight toward the Ark, since the Ark areas are much dimmer. This is difficult to handle, since the light required to read by should aid rather than detract from the Ark area.

Design considerations include that 1. all illumination beyond 30 foot-candles requires fluorescent luminaries; 2. installation of fluorescents costs from three to five times as much as incandescents; 3. only indirect fluorescent lighting compares favorably with indirect incandescent lighting from the standpoint of effectiveness; 4. direct fluorescent is cheaper to operate than indirect incandescent. There is little difference in

indirect fluorescent and incandescent.

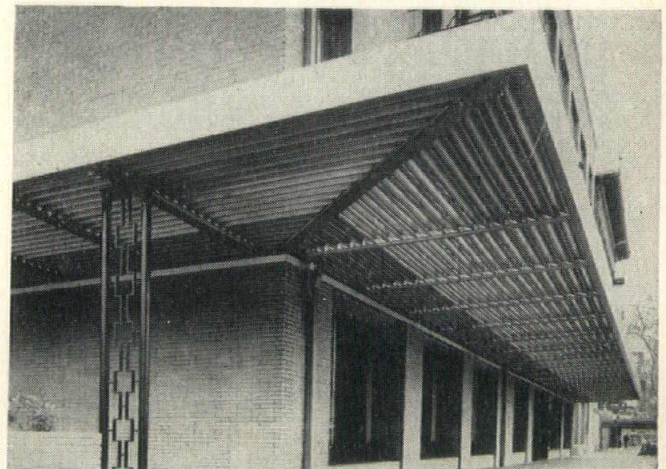
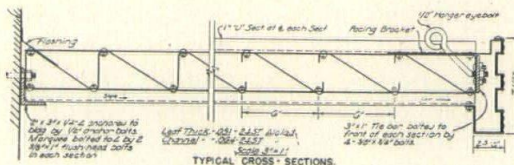
As each member enters the worship space he wants to be able to see the ushers, steps, aisle, row, seats, exits, wife's glove on the floor and, most important, the prayer book in his hand. To design an auditorium is to determine seating area within the limitations and to establish a position (not shape, as opposed to acoustical considerations) of walls and shape of floor therefrom.

The limitations are as follows: 1. the horizontal angle polychromatic vision (no movement of the eye) is CA 40. degrees; 2. the horizontal angle to the center line at which objects at podium cease to bear relationship to other objects on the podium and background is approximately 60. degrees; 3. the vertical angle beyond which ability to recognize standard shapes falls off rapidly is approximately 30. degrees; 4. especially in a synagogue, where group action is of the essence, occupants of all seats are usually related to the going-on when seats are orientated properly. This may necessitate curving the rows of seats. Center line of curative is located on the center line of the auditorium approximately the depth of the house behind the stage; 5. no one person should sit directly behind another, unless more than one row apart; vary the widths in either row (non-parallel walls are an aid); 6. aisles, large center aisle necessary for weddings etc., radial aisles best for seating.

Depth of space factors: 1. visual acuity, details of people more than 50 feet away are not recognizable;

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2. capacity, last rows within 50 feet of Bimah and Ark; 75 feet may be allowed but it is bad, especially in a synagogue although details of facial expression and gestures are, perhaps, not as important to see as, for example, in a theater.

Summary thus far: Visibility limits and capacity determines depth. Capacity is a function of depth and width, increasing the width increases the capacity.

Lighting: The three major functions involved in synagogue lighting are visibility, decoration and mood. Light for visibility in the worship space must be adequate for the member to find his seat and read his prayer book. It should be distributed with a minimum of shadows and preferably be from concealed or low brightness sources installed in the ceiling, light passing through small holes in a curved ceiling. An even distribution at a relatively low level of intensity (3 to 5 foot-candles) is desirable. White light is best. Under this light, area may seem dim.

Decorative lighting is part of the decorative scheme in itself, and by means of that which it illuminates, it establishes the character of the house by: 1. illumination of walls and ceiling, balanced background lighting, intensity less than audience area, color chosen to give desired quality to walls and ceiling color; 2. highlighting of focal points in the decorative scheme like objects of art, wall hangings, etc.; 3. decorative lights (chandeliers, etc.) may be concealed direct sources or indirect cove lights.

*Down lights are for visibility.*

Natural Light — Summary: Natural light sources, as well as artificial light sources, should not be within a 45-degree angle in the line of sight or the eyes will adapt themselves to the brighter areas in contrast to the dimmer. Desired focal point is the Ark. An indirect source should thus be used. This problem also exists in classroom lighting, since in the case of a synagogue the congregation is constantly reading from the prayer books. The best light for the hall is the sun. At night the light sources should be concealed so as to provide a calm, even lighting, bright enough for comfortable reading.

## SEATING

In a hall of worship the focus of attention and awe is directed toward the Ark. The elevation of the Ark and Bimah should be such that all the congregation, even those at the extreme rear, can observe the ritual performed. The occupants of all seats in the Temple are oriented visually toward the Ark, a central Bimah allowing the grouping of seats around it for the congregational service. This creates the problem of grouping about the Bimah, at the same time allowing all seats a visual line to the Ark.

Staggering the seats in the hall does improve the visibility of each congregant, though only for individual seats and not pews. Individual seats are made in stock sizes with interchangeable backs and slots to allow adjustments for staggering. Pew seating gives more seating within the space since it can allow only 18 inches per person.



To allow good sight lines to the objects the floor can be made to assume the shape of a dish. This does not allow much flexibility, though, for expansion. The other alternatives are to raise the Ark and Bimah high enough for all members to see adequately (at least 30 inches).

Many problems in the floor design occur in planning a synagogue: 1. during high holiday services, expansion to the rear is necessary and the sight line situation becomes quite a problem; 2. any thought, then, of continuing the dish shape to the expansion space, which then would solve the sight line problems, would be impossible. The expansion space is unusable for any other function, such as dances, banquets and similar events. 3. a dish shape could be used with a balcony for expansion but is this economical for use only twice a year?

A conclusion, then, from the above points can be drawn in that "flat" floor seating must be used, with the Bimah raised at least 30 inches off the floor (including the Ark and platform). The most distant seat should not exceed 75 feet from the Ark for purposes of observing details and facial expressions.

The United Synagogues of America recommend 32 inches between rows of seats and 20 inches for each person's seat. Side aisles should be at least 3 feet wide and a large center aisle of at least 5 feet in width provided. In continental seating distance from seat to seat is 45 inches and minimum number of seats is 24. In American seating, the distance from seat

to seat is 30 inches, minimum. The code requires not more than 13 seats between 2 aisles and not more than 7 seats between aisles and walls. Code also states that each person is to have a minimum of 18 inches in pew type arrangement.

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The large assembly area for all intents and purposes is an all-purpose room. It is a space where almost any type activity will be performed. Some of them are meetings, banquets, card parties, carnivals, weddings, Bar Mitzvahs, movies, plays, raffles and fund raising campaigns. Lighting and acoustical considerations should be as well planned here as in the worship space.

In this space a stage will be provided for Sunday school performances, operas, variety shows, etc. The stage will be 35 x 20 with a curtain and lights adequate for various performances. Storage for folding chairs and tables will be under the stage.

#### **TWO DRESSING ROOMS** (Approximately 160 sq. ft.)

The dressing rooms will be equipped also with individual toilets and lavatories. This space allows performers and others to assemble and make ready for their stage entrances.

#### **KITCHEN** (Approximately 605 sq. ft.)

This kitchen has direct access to the assembly for serving banquets, refreshments after meetings, parties

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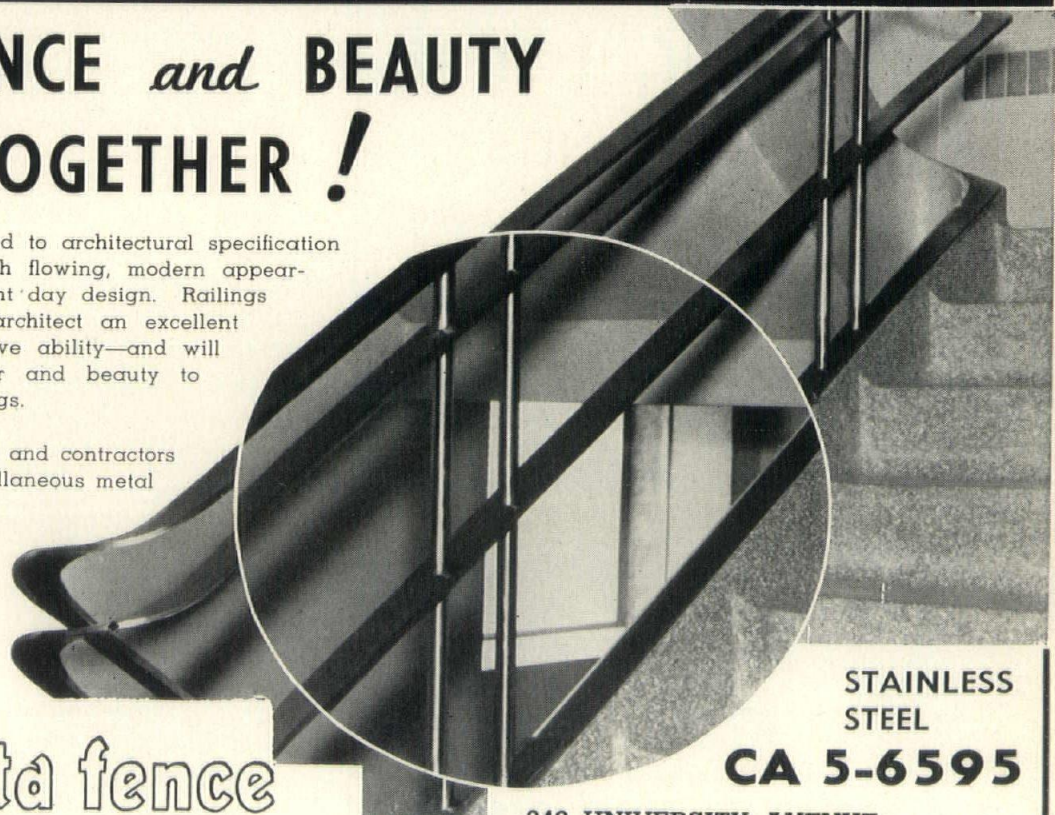
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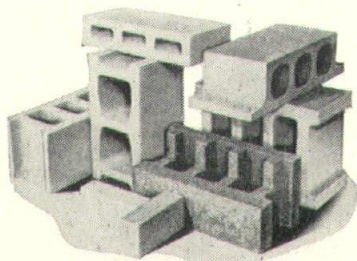
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and especially wedding dinners. This kitchen can be used by private caterers for wedding receptions, dinners and Bar Mitzvahs, etc. In some cases, a buffet serving operation may be used when the other methods are not needed. The kitchen should be completely insulated and ventilated so no offensive odors permeate the building and so that when dishes and such are being washed no noise or other disturbances will detract from services or other functions going on at the same time.

#### Kitchen facilities:

1. Cook's table 7 feet long, 3 feet wide and 3 feet high; a work table and butcher's block 8 feet long, 3 feet high and 3 feet wide; a serving table and salad table 15 feet long, 3 feet high and 3 feet wide with a serving shelf and tray slide.
2. A double sink (pre-rinse) compartment with counter 4 feet, 6 inches long, 2 feet wide, 3 feet high, and dishwasher unit. Shelving over counter and sink.
3. A three-range unit stove with 10 burners and ventilation hood over it.
4. A refrigerator unit, 2 feet long, 2 feet 6 inches wide, 6 feet high with 5 compartments.
5. One water cooler, 2 feet, 6 inches by 2 feet by 3 feet high.
6. Three large coffee urns with cup warmer below.
7. A counter 12 feet long, 3 feet high and 2 feet wide with drawers and cabinets below and shelves above.
8. Two pot sinks, dessert table and ice cream box.

Kashrus is the custom of not combining foods of milk products and foods of meat products in meals and of using separate dishes, pots and pans for these food-stuffs. This synagogue will, of course, observe this custom in the kitchen, which effects only the amount of cupboard space. This would double the normal amount of the kitchen to 640 square feet.

There will be cupboard space for dishes, pots and pans and tray space. Within the kitchen there will be a linen closet, storage room (150 square feet) for produce and canned foods, etc., and a cart storage alcove for storing tray carts.

Service Area: a service area is to be provided for the delivery of food, fuel, and supplies for the entire synagogue. In conjunction with this area, a refuse area is to be provided.

Atrium-Garden: This space will function as a place where people can gather before and after services, a place for waiting for coats being checked and for friends. During high holidays services expansions will be into this area. This space can also be used for the services of Succoth, when the out-of-door atmosphere is needed.

During most of the year this area will be used as a lobby with lounge chairs and sofas. Religious exhibits, trophy case and bulletin boards for future activities can be located here. Somewhere within this area there is to be a storage space for skull caps and



bibles before entry is made to the temple proper.

This space will also be used for serving refreshments after the Sabbath services.

Toilets: Men's toilets will contain three water closets, two urinals and three lavatories; women's toilets, four water closets, a powder room and three lavatories.

Check room: The check room should have a capacity of 400 coats with five coats per lineal foot or eighty feet of hanging space. This room will have a regular attendant during High Holiday Services and other equally large activities.

Heating and ventilating equipment rooms: The boiler room will be approximately 10% of single floor area. A radiant heating system, in conjunction with a vulcan convection system, will be used in the temple, atrium and assembly rooms, the water to be circulated at 110 degrees fahrenheit. Ventilation is to be provided to these areas by ceiling ventilation distribution system. In the kitchen adequate ventilation and heating will be provided by hoods over the stoves to prevent excessive condensation, humidity and odors. The heat and equipment room will contain two hot water boilers, automatic and oil fired, and a year round air-conditioning system.

Janitor's facilities and rooms: Located near the service entrance there is to be a space for janitor's office with shower, water closet, dressing space and lavatory. Within this office is to be a work bench and space for extra equipment and he has the opportunity to keep a check on equipment, schedules and general running and upkeep of the synagogue. In

addition to this, there will be a small janitor's closet with slop sink, storage and ventilation of rags, mops, vacuum cleaner and other cleaning equipment.

**TWO GENERAL STORAGE ROOMS** (Approximately 200 sq. feet). This space used for storing of accumulative equipment and additional storage, etc.

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## BIBLIOGRAPHY

### BOOKS

- Jewish Art in European Synagogues* .....George Loukomski  
*Pictorial History of the Jewish People* .....Nathan Ausubel  
*Origins of the Synagogue and Church* .....Dr. Kauman Kohler  
*The House of God* .....Desider Holislier  
*Dura Europus and its Art*.....Nukhail Ivanovich Rostovtser  
*Open Timber Roofs of the Middle Ages*: .....Raphale Brandon  
*The Excavation at Eura-Europus* .....Yale University  
*Ancient Synagogues in Palestine and Greece* .....Eleazer Lipa Sukenik  
*Mohammedan Architecture in Egypt and Palestine* .....Martin Shaw Briggs  
*The Muslim Architecture of Egypt* .....Creswell, Reppel Archibald Cameron  
*Trends in Synagogue Design* .....Mr. Abromovitz  
*Acoustics in Theatre Design*.....Sabine  
*Acoustical Principles* .....Cullum  
*The Principles of Gothic Ecclesiastical Architecture* .....M. H. Bloxam  
*Gothic Architecture in England, Analysis of* .....F. Bond

### PERIODICALS

- Acoustics.....*Architectural Forum*.....Sept., 1939  
Acoustics.....*Architectural Forum*.....Aug., 1939  
*Architectural Record* .....Sept., 1947  
*Architectural Record* .....April, 1950

## POPPY SEEDS AND BARLEYCORN

(Continued from Page 39)

barleycorns together you had an inch. Fun, what?

Right now almost 1,000 miles of turnpikes, costing \$1,000,000,000, are in use, and another 1,000 miles are under construction, reports the Chamber of Commerce of the United States.

## BLUE PRINTS — WHITE PRINTS PHOTOCOPIES

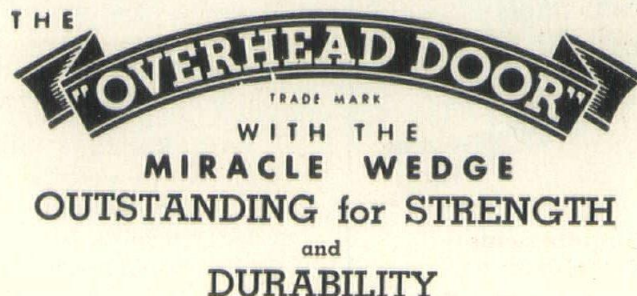
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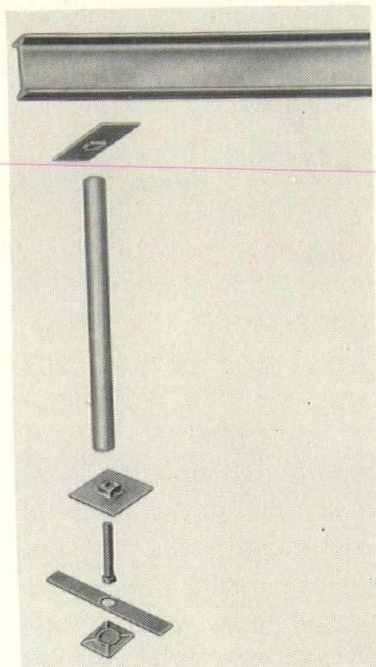
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## PACAL ANNOUNCES NEW, PERMANENT, ADJUSTABLE POST

A new 3-inch, round, adjustable steel post for residential and commercial construction has been announced by Paper, Calmenson & Co. of St. Paul.



The Pacal Adjustable Steel Post adjusts to the exact height and load variations encountered in construction. In use, the entire post assembly (see exploded view in our illustration) is set on a concrete footing and turned

up tight, leveling the beam. As the building nears completion, final leveling adjustments are made. When complete and trued up the cement floor is poured over the adjusting section of the post, locking it into the floor for life. Price and other details can be obtained from the company, addressed at County Road B and Walnut St., St. Paul 8, Minn.

## BIRD OF OSSEO HEADS CONSULTING ENGINEERS FOR 1954-55

Homer M. Bird, consulting mechanical and electrical engineer of Osseo, Minn., was elected president of the Minnesota Association of Consulting Engineers at the recent annual meeting of the association.

Walter H. Wheeler, immediate past president, will continue as an ex-officio member of the executive board of the association for the ensuing year.

Other newly elected officers of the Association include A. L. Sanford, consulting mechanical engineer of the firm of C. H. Johnston, architects and engineers, of St. Paul, who was elected vice-president, and N. Bert Persson of the firm of Food Service Equipment, Engineering of St. Paul, who was elected secretary-treasurer.

The executive board elected to serve this year includes Gilbert Bauer, consulting structural engineer of the firm of Schuett-Meier Co., St. Paul; Borge Nielsen, consulting electrical engineer of the firm of Nielsen & Brush, Minneapolis; Dr. J. B. Calva, consulting chemical engineer of the firm of J. B. Calva & Co., Minneapolis; Fred Otto, consulting electrical engineer of the firm of Toltz, King, & Day, St. Paul; Robert J. Ellison, consulting civil engineer of St. Paul; and Charles Britzius, consulting civil engineer and technical director of the Twin City Testing and Engineering Laboratory, St. Paul.

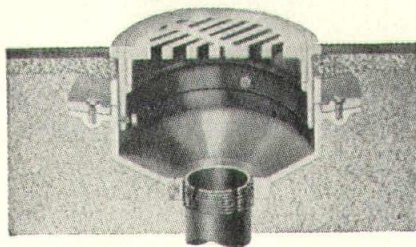
## QUICKIES

*being footnotes on some news  
developments in the industry*

AN ELEVATOR TRAFFIC SENTINEL is the latest electronic safety device to be presented to the public by the elevator makers. The sentinel sends an infrared beam across the doorway of the elevator about a foot from the floor. It gauges the numbers of passengers entering and leaving and controls the automatic doors accordingly. Previously, completely automatic elevators had doors which remained open a certain length of time, usually four to seven seconds. With the new device, made by Westinghouse, light traffic means shorter door-open periods, heavy traffic longer periods. Time decisions are made by an "electric brain" in the mechanism.

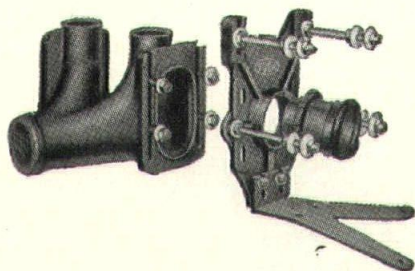
SAMARA IS A NEW HARDWOOD from equatorial Africa which is being introduced to the American market and at the low-cost level of materials. The wood resembles African mahogany or Spanish cedar and is being marketed as a plywood surfacer. It is light red in color, marked with bold, highly decorative grain patterns. Plentiful supplies are available as prospectors have uncovered huge forests from which the wood can be drawn. Supplies are in stock of most lumber yards.

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STEEL HELPS SCHOOLS through work of the United States Steel Foundation, which in 1954 will give some \$700,000 to liberal arts colleges throughout the nation. Recipients are privately supported colleges which have been having rough sledding of recent years as compared with the tax-supported institutions. A limited number of graduate fellowships at major schools are included in the year's plans.

AID FOR THE SMALLER BUILDER is appearing to help him compete with the large scale builders, whose ace-in-the-hole has been their special prices because of the large quantities of everything they buy. Now some lumber and equipment suppliers are making up "packages" which are sold to the smaller builders at a reduction in price. These units obtain for them same-throughout materials with the attendant lowering of price.

#### COOPER, PAGE CO. MOVES

The Cooper Page Co. has moved into a new office at 617 National Bldg., Minneapolis. The company represents the Frank Adam Electric Co., Major Equipment Co., and Sperti-Faraday, Inc., manufacturers of electrical equipment, in this area. Leo H. Cooper, Sidney H. Page and Howard K. Page contact users of electrical equipment for the firm.

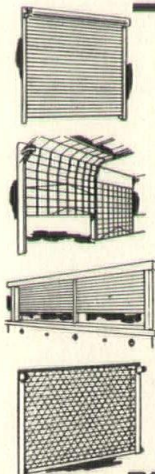
#### BJERKIN NAME CHANGED

The new name of Bjerken-Bartlett, Inc., has been given to the former firm of A. C. Bjerken & Associates, St. Paul. The firm's new address is 2645 University Ave.

#### NEW BROCHURE ON BROS PACKAGED BOILERS

Available on request is a new 9-page brochure on Bros Packaged Boilers. It includes information on operation and specifications on Type 1, Type 2 and Type 3 Packaged Boilers built to meet steam requirements in the medium pressure range, from 4100 to 30,000 lbs. of steam per hour. These units burn gas or oil or combination of both.

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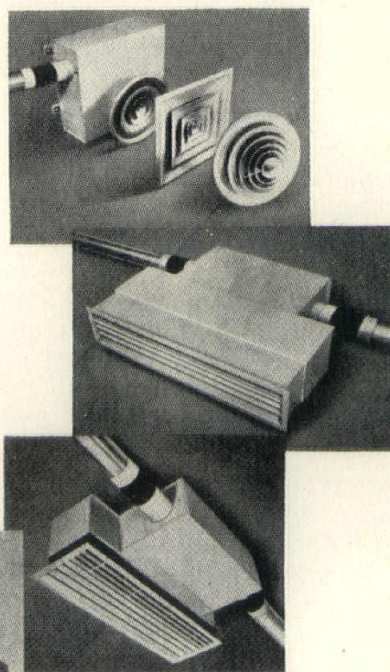
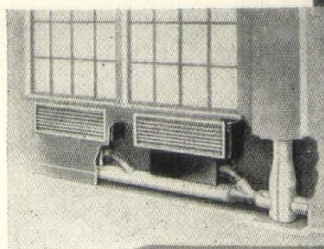
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# THEY SAID IT!

Edited by William Gray Purcell

## Chippeway or Otchipwe (o-tchi'-pwe).

*How Shall We Spell It?*

WHEN WE TALKED with Indians, or about them, we called them "Chippeway" and it was their word too. We said it plain like an American word. We knew nothing of semantics, of how "sounds-alike" spoken words can hold very different meanings — "red" paint in a can — "read" stories from a book; identical sound but no identity of meaning at all. It was years before I connected the word Ojibway in "Hiawatha" with the Chippeways on our wilderness island.

In view of my own obtuseness in this matter I have tried, in these writings, to again emphasize the uncaptured-by-printed-letters-on-paper character of this wild language. To accomplish this I have let the tribal name be spelled just as comes naturally in my running text, and in all the different ways I have seen it printed or heard it spoken in the forest.

The book makers beginning in 1530 who put these Indians on paper were all unable to discount the ancient habits of their own tongues and ears. Then too, their questions about tribe names were answered, by the Indians, with speech in the spirit of the occasion — with tones of modesty, suspicion, fear, anger, pride or practical information. There was no dictionary way to say it. The word was unconsciously reshaped by the creative artistry of speech, very precious and important to those who have no need to write.

Thus it happens that you find "Ojibway" ("Hiawatha"), "O-chip-u-wuck" (explorers), "O-jib-wug" (traders), "Chipwees" (lumber-jacks), "O-tchi-pwe" (Slavic scholar), and perhaps strangest printed form of all, "Ou-geb'-ouy" of the French voyageur. This seems to us the most remote of all and very Frenchy. But if you will shape your lips to it, not look at type, and listen to yourself as you say it "by heart," I think that sound will be nearest to what I heard by the quiet campfire. So you will see, how a correct spelling would be incorrect, for the Indians said it in as many different ways as the American pioneers said common words from Maine to Alabama, to Pennsylvania, to Indiana. The linguistic logic here is the vast complex akin to the forest itself, not the "this-so-that" of philosophers and dictionaries — it's FREE. For the meaning of the word "Chippeway" see page 46.

## Under an Ancient Oak

SALISBURY CATHEDRAL

*Sunday, June 11, 1927*

THE SENSE of antiquity in an object of past times is increased not by the passage of days and years, but by the change in ideas and attitude towards life. Aspects

of Rome and Greece are more modern than is this Salisbury sanctuary.

It seems very venerable.

If there is a common bond under all the changes, then the sense of antiquity takes on an especial quality — we become a part of the process of the aging.

Mayan objects of the 14th century have one kind of oldness.

This cathedral has another kind.

I pocket my note-book and have a little talk with Sidney Scott, age 12, who sits on the grass and tells me he wants to be a sailor. The singing in the cathedral drifts across the lawns.

## True Love

**"For when true love awakens,  
Dies the self, the dark tyrant."**

RUMI (*Persian*)

IN HIS BOOK "LISTENING WITH THE THIRD EAR" (*Farrar-Straus*), Theodore Reik says in the chapter "Love and the Dark Despot":

"There is a great difference between a knowledge that we acquire by learning, hearing, or reading, and what we learn by experience. Only this second kind of knowing cannot be taken from us, because it is blended with our experience. The two kinds of knowing are psychologically different even when they have the same content."

While the rose blows, along the river bank,  
With old Khayam the Ruby Vintage drink;  
And when the angel with his darker draught  
Draws up to Thee — take that and do not shrink.

Omar Khayam

## "Westwinds" Diary

*Economics as People*

CONTINUALLY WONDER at the human interest factors and paradoxes of "business." This is doubtless a poor mind in which to conduct one's personal business affairs — especially when, as "landlord" (such an unpleasant word), one finds himself financing on partial payments the newly arrived infant of his tenant. But I must report to you an episode which in brief or in detail was quite unbelievable.

I bought a small house as an investment, very pretty place, seemed most promising. I rented it within thirty minutes of publication of offer to the original owner! She had built it; lived in it ten years; sold it four years ago at the fabulous postwar prices; and then discovered that no house to live in could be found at any



"reasonable" figure, rent or buy, everybody else wanted to make money too! She forgot that.

Well, she was desperately homesick, had been startled to see her "own house" offered for rent — she rushed to find our agent and put down a month in advance. And so apparently I have the best tenants for life.

P.S. PEOPLE AS PEOPLE.

*My conclusion above was premature. Five months after the above was written, a sweetheart she hadn't seen for twenty years, came to Pasadena on a vacation jaunt. They were married in four days, packed and cleared out on Saturday without notice and were on their way to Canandigua and a new life. Well, good luck and no hard feelings. A new tenant moved right in.*

◆ December 15, 1925 ◆

*This very minute you live!  
Realize it — NOW — or never.*

**B**RIGHT morning sunshine on my pen. . . . I am thinking that it is not sufficient to grasp basic truths with the mind, but these must be translated into action, through opportunities and skills at hand. Since one cannot perfect himself in many means of expression, one or a few can be chosen and those fully developed. To rush about from one interesting thing to another

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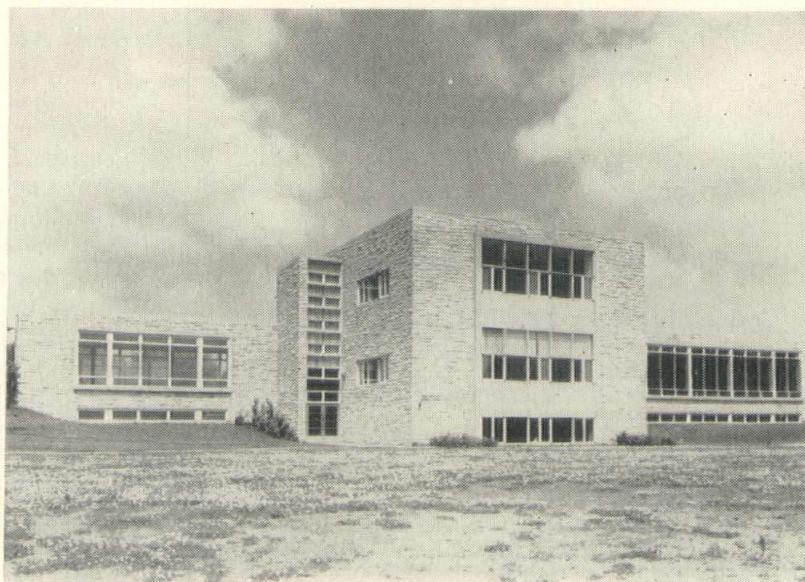
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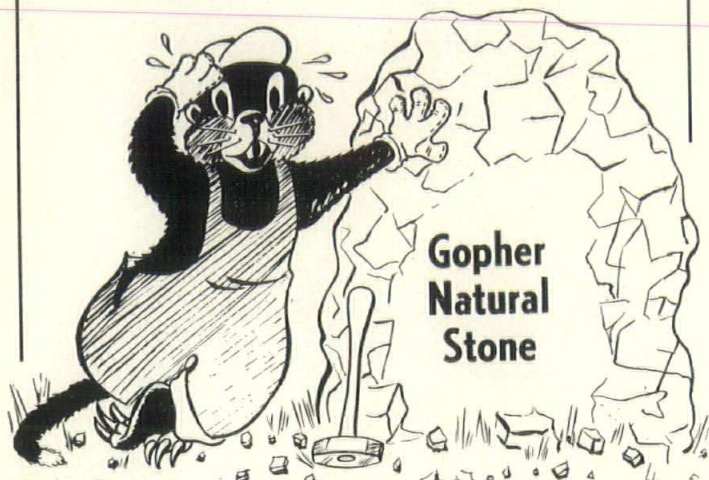


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is like looking at advertisements or comics as an escape from satisfying concentration.

I see bright and clear, like this sun-shaft moving across my hand, meanings that are apparently hidden from those whom I meet: their views likewise unseen by me. The things seen are as plain as the stem of an apple. How to get them forth in some form, put them in action, prove them, that is the puzzle; not to be done in some big enterprise, but by the multiplication in action, over and over again, of the small results of right seeing. + + +

*AGAIN it is the "NOW," of 1954; a mellowed sun on my fingers and pencil. There have come and gone some 10,500 days, with 10,500 new NOWS (and knows) in each of these days; like a drift of salmon eggs, some became fish and sought the sea.*

### ◆ Behind the Postage Stamp ◆

COLLECT HISTORY

*The letter inside along with its "cover".*

Sunday, May 19, '46

Dear John and Selma:

I have been reading this evening about Andrew Jackson — and 1846 — in Slesinger's Book and I got to thinking about the lighting up of oil lamps and candles, and the effect of that rite on people's lives. Lamp lighting took a bit of time; something done that stayed done all evening. It all carried a meaning very different from the "on-off" of electric light, all without a thought.

Until she left the old Oak Park home at 219 N. Kenilworth Avenue in 1906, Grandmother Gray, as she had in that house for sixteen years, lighted the kerosene bracket lamp, in the hall by the door of her bedroom, each evening just "at dusk" and there it burned until the last person to come in put it out — the midnight hall usually smelling a bit of shut-in kerosene fumes.

December 31, 1899, I got home from some party about 11:45, and, quite excited about the beginning of the new Century, stood in the wide upper hall before Grandfather Gray's portrait, waiting for the New Year's bells to ring. On the opposite wall under the lamp was the quaint turned-spindle "whatnot" bookshelves, which he had had in his college room in 1848-50. My eye fell upon the green volumes of Thoreau. I took one out and stood there reading for ten minutes. Outside the snow creaked and whined under an occasional passing iron tired wheel and the recently installed electric street light on the corner glinted through the prisms of the leaded windows of the door to the upper porch balcony.

This was my introduction to Thoreau who, until that time, was just a name talked of by fire-side. That oil night-lamp burning for my return, the grandparents asleep in their beds, the words of a fresh new author and the clang and bong of bells for a new centry photographed a vivid scene on my mind. I put the green book back on the thin black shelf and looked again at the portrait of the great man I loved so well. I was nineteen years old and Grandfather Gray was seventy. As I turned out the light and went to my room I



thought of my future — wondered what would be for me — but never doubting it would be very wonderful. And it has been.

In eighteen months I was to lose this great friend but I could not have appreciated him more had I known that he would not live to bless for me another thirty-five years; as did "Kitty" his wife, my beloved grandmother.

W.P.

To Mr. and Mrs. John Jager  
No. 6 Red Cedar Lane, Minneapolis

Notes:

"Age of Jackson," Arthur M. Schlesinger, Jr., Little, Brown, 1945. Reprint New American Library (Mentor book-abridged —M-38—35c). Recommended book for all citizens interested in the American Continuity since June 15, 1215 A.D.

The portrait of William Cunningham Gray, Ph.D., LL.D., was painted in 1891, by Lawton S. Parker. 1887 Dr. Gray brought Parker from Kearney, Nebraska, to study at the Chicago Art Institute. In two years he became an honor student and Dr. Gray then covered his expenses for two years in Paris, 1889-1890. From 1900-1920 Parker had become a leading portraitist in U. S. A. and was the only American artist to win (1906) and the Munich gold medal for portraits. Lawton Parker, after fifty years in Paris, escaped from the Nazis in 1943 and at 86 is now living and working in Pasadena.

If you don't know Thoreau, who furnished Ghandi the base for his eventual emancipation (we hope) of India, there is no better time to read him than now—dozens of editions are available from 25c to \$3.00. "A Week on the Concord and Merrimack" or "Early Spring in Massachusetts" would be a good place to start.

### ◆ A CARVER OF MOUNTAINS ◆

*Unsaddled of Tradition*

*He Lived and Spoke the American Word*

"No individual's life is worth the immortality he seeks unless he articulates the voice of his tribe."—Gutzon Borglum in "Give The Man Room", Page 105. Robert J. Casey and Mary Borglum. Bobbs Merrill, 1952.

A recommended book which recounts the successful expression of sculpture as a function of life around us, today but feebly developed and unsurely organized by either sculptors or architects.

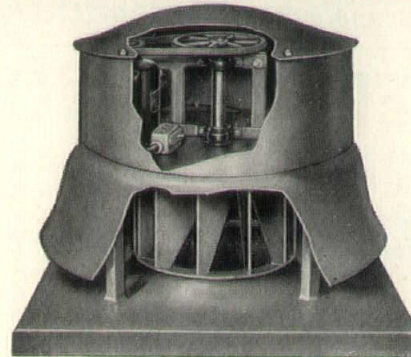
### ◆ FIRST ARCHITECTURAL EXPERIENCE ◆

ON MY VELOCIPEDE at about five years of age I was riding on the board sidewalk around the side of our house. Looking up I saw that the shutters on the center window of the group of three on the east side were closed. Why? It must be dark in there. In where? The left-hand window lighted our library. From there I looked out on snowy days and rainy. The right-hand window lighted our "sitting room." By that window I sat to draw and read in the evening.

A bit troubled, I rushed in to see about opening those closed shutters that looked so strange, as if the house were not wholly awake. But when I got indoors there were the familiar windows as always. But where was that shuttered window? I rushed out again

ARCHITECT

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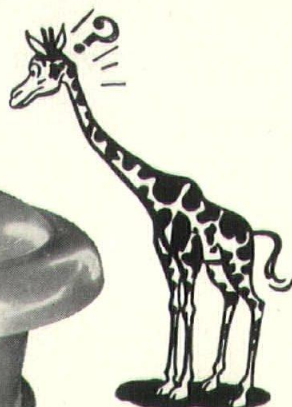
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— there, it was. Gradually, I began to realize that this shuttered window came directly opposite to where the chimney stood. Slowly it became clear to me that this really wasn't a window at all. It was nothing but a fake. I could hardly believe it, but my grandfather confirmed the idea when he returned from business in the evening.

The whole thing was a mental shock. Every circumstance connected with this revelation of human duplicity is one of the clearest and earliest things I can recall. That one event conditioned me so completely that it became the basis of my whole subsequent approach to architecture — abhorrence of frauds.

W. G. P.

Pasadena, 1949

### ◆ From Here on In ◆

THOUGHT SCOUTING FOR BETWEENAGERS

A "How to ....." guide that should have been produced by an architect.

AT THIS POINT I should like to insert 144 pages of useful, whole-grain, linotype food for your daily nourishment. We are not able to actually remill a fresh bag of this Serial because our column-bins are too few and the frumentum is owned by others.

But for around \$3.50 you can and should buy — or ask your library to buy — "An Approach to Design" by Norman T. Newton, Graduate School of Design, Harvard University, 1951, Addison-Wesley Press, Inc., Cambridge 42, Massachusetts.

Looking back along my trail it seems to me that no one can produce any living object of necessity, spiritual or economic, who has not learned by experience, or acquired by study, what this book has to say, and says better and plainer than any one heretofore.

ARCHITECTS! — all you need to steer a better course and secure the gratitude of your fellow citizens is to put to work the "How to Design" directions of this book. Merely reading the book or having the tools from it in your attic (if any) will not serve. You must act upon what you will come to know from the study of this potent work — and I do not mean act-of-thinking, I mean production under the practical demands of living necessity.

## Western Apartments

(Continued from Page 16)

concrete for curtain wall construction. Recently, an official 5-hour fire rating was issued to a spandrel wall consisting of vermiculite concrete, machine-applied to paper-backed wire lath, that ran for five hours and 45 minutes in the test, making curtain wall construction available with a rating of one hour beyond the usual four hours required for fire-resistant Class A construction.

In a Chicago suburb, a complete home was recently erected with this versatile equipment, including exterior load-bearing walls, interior partitions, floors and roof. The load-bearing walls and partitions are lightweight





Machine application of vermiculite plaster on gypsum lath for two-inch solid partitions.

steel and lightweight concrete and plaster construction. Non-load bearing partitions are lightweight steel and lightweight plaster. The floors and roof are lightweight steel and lightweight concrete.

Among the advantages claimed for machine application in home construction are that it is fireproof, rot-proof and vermin-proof; that it is twice as strong as standard wood construction, has superior insulating qualities, makes for lower maintenance cost and obtains lower insurance rates. Machine-applied construction is said to cost no more than standard wood construction and gives the architect complete freedom of design.

It is also reported that this new sprayed-on, load-bearing wall construction technique has proved successful in new fireproof school buildings at savings of 30 per cent on the construction dollar.

LAUNDRY TUBS HAVE BEEN REDUCED by as much as 90 per cent in weight as designers plan new features for the homebuilder. In addition to reducing the tubs' weights, they are now being offered in handsome colors and patterns and their stands are decorative iron pieces instead of the angle iron legs they used to have. Made of Fiberglas-reinforced plastics, the new style tubs are available in green, yellow, blue and white.

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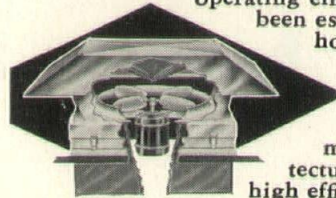
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# **Missouri River Basin Dams to Provide Vast New Supplies of Electrical Energy and Improve Other Aspects of Area's Economy**

## **Missouri Basin Power Basic Development No. 3**

**A**S far as the best thinkers in industry see it, one of this country's vital needs for the future will be large additions to the electric power supply for manufacturing and other purposes.

New industries are being established near, or are moving closer to the sources of abundant electric energy.

One of the results from the Missouri River Basin Development will be great additions to the nation's supply of electric power. The first instalments of this new supply are scheduled to be ready early this year, when the Pick-Sloan dams near Fort Randall in southeastern South Dakota are expected to start production of electric energy.

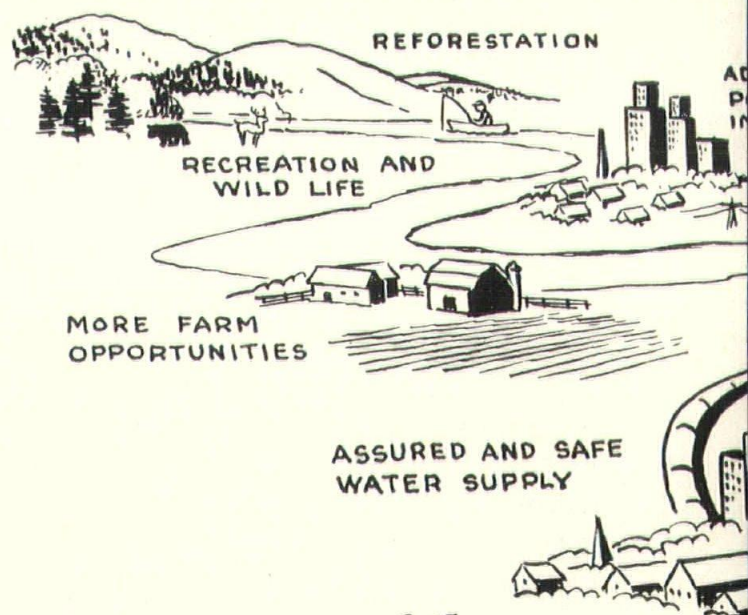
This will be an epochal event because it comes at a time when the tremendous iron ore development on Minnesota iron ranges, along with the unfolding progress in the Williston Oil Basin of the Dakotas and Montana, and the continued forward movement of manufacturing are all serving notice that greater supplies of electric power will soon be needed.

The Missouri River Basin Development is the largest river valley improvement program ever undertaken in the United States.

Agitation for it was started in the 30's when drouth, dust storms, and a general let-down were goading the

country into action to improve economic conditions. After a procession of dry years, irrigation farming was being looked to as a future aid to the farm economy.

The program was given a vigorous push in the early 40's by devastating floods along the Missouri River. As finally charted, it was authorized by Congress in 1944.



***This artist's sketch shows some of the  
many ways Missouri Basin planners  
expect projects to advance area's interests***



Flood control had then become one of the first considerations in this improvement program, but also up front in the plans were the conservation of water for land irrigation, improved river navigation, electric power, and better water supply for municipal and industrial uses.

The final cost of this vast improvement, federal and state, is expected to total around 15 billion dollars. Congress engaged in this enterprise believing there would be nation-wide returns from the investment. Electric power has all along been calculated a leading source of such returns. The government aims to collect back those billions in original plant cost and maintenance.

This vast river basin improvement—The Pick-Sloan Plan—is a merger of plans for Missouri River Basin work originally urged by two different government departments.

### Dams Planned in Series

Under it, a series of great dams are being built across the Missouri's main channel, and a hundred lesser dams on the Missouri's many tributaries.

The big Fort Randall dam in southeastern South Dakota is about ready for service, including the production of electric power. A still greater dam, at Garrison, N. D., 70 miles north of Bismarck, is about two-thirds completed. It is scheduled to begin generating electric power in 1955. Two other big dams have been started, the Oahe dam just above Pierre, S. D., and the Gavin's Point dam near Yankton, S. D. Construction of the fifth, the Big Bend dam, between Pierre and Chamberlain, is still in blue print stage awaiting unfolding of the long-range program. Tied in with these dams is the Fort Peck dam in eastern Montana built in the 30's. Its generating capacity is now being doubled.

These huge dams will create an almost continuous lake through the Dakotas. While these huge dams are the most impressive, the smaller dams rising on the

Missouri's tributaries are also important. They, too, will store flood waters, irrigate land, and generate electricity.

### Electrical Power Primary Benefit

One of the first benefits from these dams will be electric power. The total of energy obtained from them will be three times the present generating capacity of the region. A great grid of power lines is being constructed to carry this current to cities, towns, and farms.

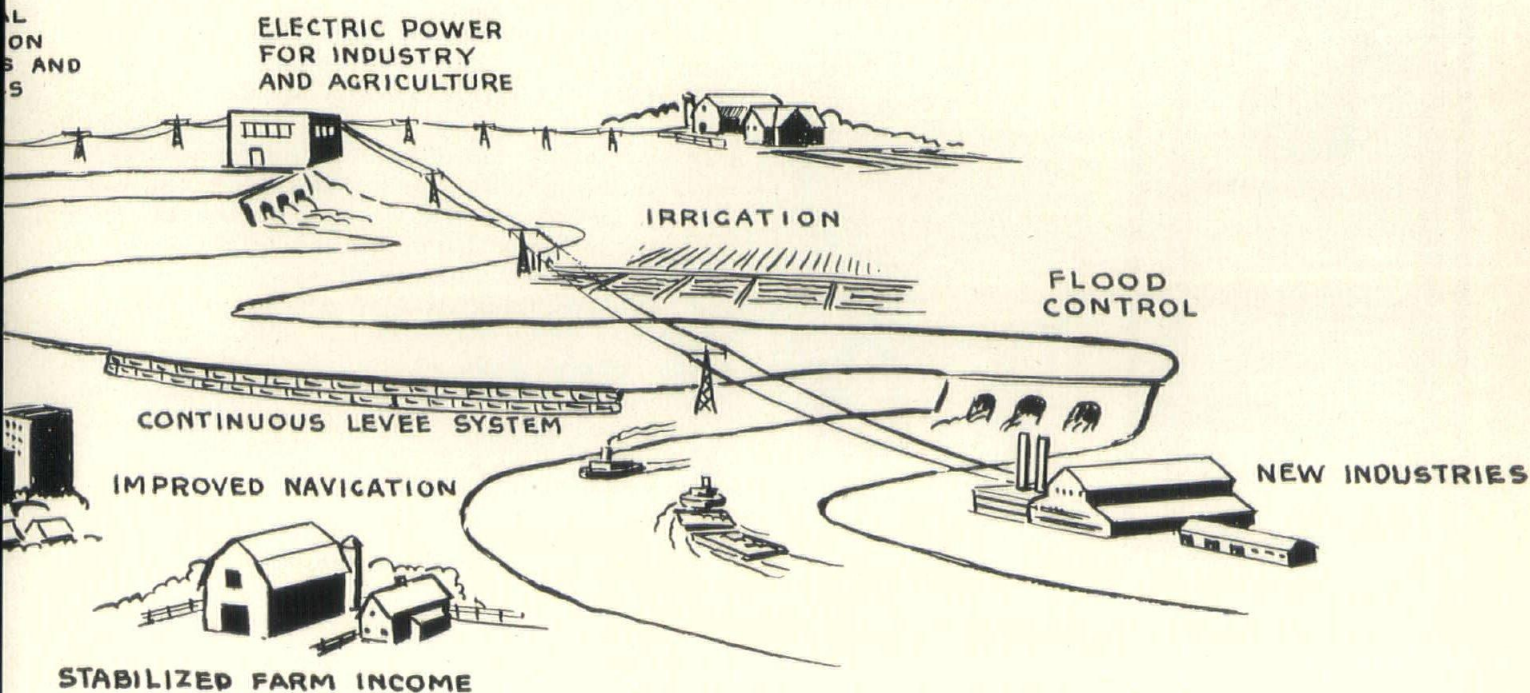
In eastern Montana, North and South Dakota, Minnesota, and western Wisconsin, the area in which the most of this new electric power will probably be used, there are close to 5,000,000 people living in approximately 1,400,000 households. There are about 400 cities, towns, and villages of more than 1,000 population each.

Total buying power for this area is placed at 6 billion dollars annually. Retail sales total above 5 billion dollars per year.

More than 4 billion dollars worth of goods are made and sold annually by manufacturing plants in the area. Tourist reports say that \$200,000,000 is spent annually in Minnesota alone. Notwithstanding the general talk about the decline in farm income throughout the country, the close to 350,000 farms in the region constitute an industry of world renown.

This is the rich and inviting empire which, as a part of, or closely adjacent to, the Missouri River basin area, is ready for the arrival of that large addition to its supply of electric power.

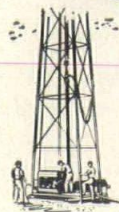
This region is confident that mining and processing of taconite iron ore, the Williston Basin oil, and increased miscellaneous manufacturing, will bring a resulting climb in population and new industrial and agricultural growth, and will steadily develop into a still greater distributing and consuming market for all kinds of products from other parts of the country.







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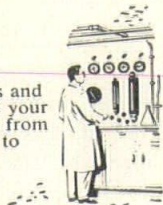


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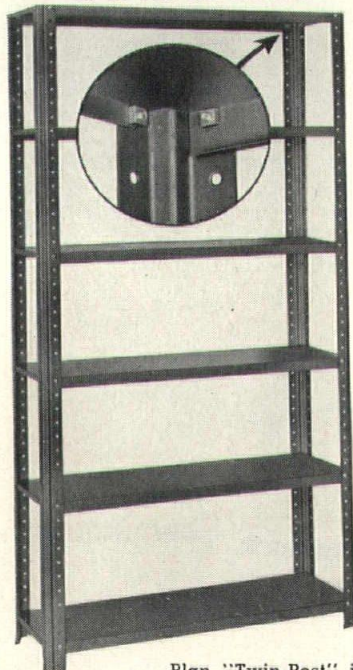


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## BOUND STUFF

*being some notes on new books,  
pamphlets and other printed matter*

STANDARD SPEX for vermiculite in plaster and acoustical plastic have been revised and result is new 12-page booklet available to architects and others. The specifications cover all standard procedures and a final section on "Suggestions for Best Plastering Results" gives some special tips which will improve jobs undertaken. The section on "Studless Solid Partitions (Metal Lath and Plaster)" presents some new information on this type of wall.

Price—free

Address—Vermiculite Institute  
208 S. LaSalle St.,  
Chicago 4, Ill.

MARBLE AND RADIATION come in for a generous discussion of value to planners who have atomic bombs and other radiation sources in the backs of their minds as they design a new publication called "Marble Used as a Radiation Shield." However, this book is concerned primarily with high voltage radiations of the new cancer treatment machine, the cobalt 60 hectocurie teletherapy unit. Fully illustrated and well presented, the 32-page booklet provides the architectural and medical professions with the first complete summary of the problems involved in, and the results obtained by, using various methods and materials for shielding. The material is a report by Dr. Marshall Brucer, chairman of the Medical Division, Oak Ridge Institute of Nuclear Studies. It is of special value to those handling medical design.

Price—free

Address—Marble Institute of American,  
108 Forster Ave.,  
Mount Vernon, N. Y.

HOUSING FOR THE ELDERLY is a timely publication in this time when geriatric problems are coming ever more to the fore. A neatly edited and ready reference for architects and others concerned with planning facilities for older persons, the booklet's sections lead the reader step by step through the problems involved, apartment planning, building patterns, sites and finally specifications. Well detailed, the publication gives a concise review of law, diseases and other special concerns of the elderly, requirements of their living and so on. As valuable to the experienced architect as to the student, the booklet is well worth the eighth-inch of shelf space it will occupy among your reference materials.

Price—free

Address—Massachusetts State Housing Board,  
Boston, Mass.

SANITATION problems of septic tank systems and a record of performance of plumbing gear are rounded

NORTHWEST



up in two recent federal publications—"Septic Tank Soil Absorption Systems for Dwellings" and "Performance of Plumbing Fixtures and Drainage Stacks." With the trend of residences out into the suburbs where individual water and disposal systems are required, the first publication becomes a ready volume for information about the manner in which best results are obtained with present-day equipment. The second booklet is a detailed presentation of its subject. It covers the diffusion of gases through water seals, evaporation of water seals, discharge characteristics of plumbing fixtures and the hydraulics and pneumatics of 2-inch building drainage stacks, among other items. The septic tank publication is the Housing Research Construction Aid 5 and the fixture booklet is Housing Research Paper No. 31, both from the Housing and Home Finance Agency.

Price—25 cents each

Address—Superintendent of Documents,  
U. S. Government Printing Office,  
Washington 25, D. C.

**LETTERING** for your buildings is the subject of a new catalog of the Oregon Brass Works, Portland, Ore. Six different alphabets are shown in the catalog and a complete discussion of bronze and aluminum alloys and finishes and recommended methods of spacing and installing letters is included. The alphabets are suitable for tracing to use in drawings of proposed structures.

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**WOOD FRAMES AND WINDOWS** and their specifying is the subject of the third brochure in a series by the Architectural Woodwork Institute. A technical booklet, this item shows installations of various types of wood windows and frames and discusses adaptations to many construction problems. It is Brochure No. 3, "Wood Frames and Windows."

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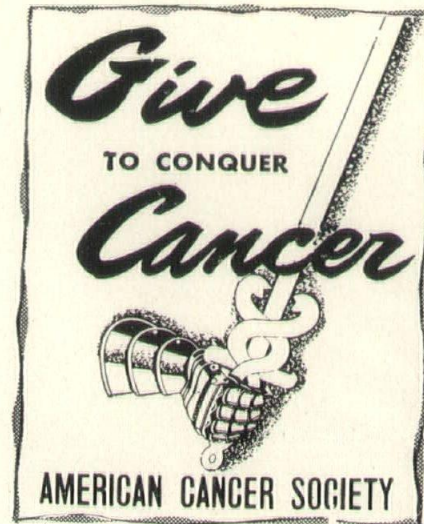
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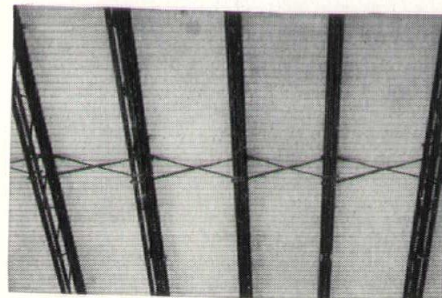
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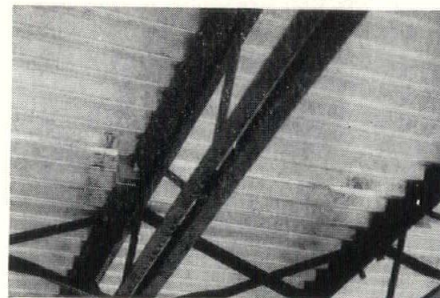
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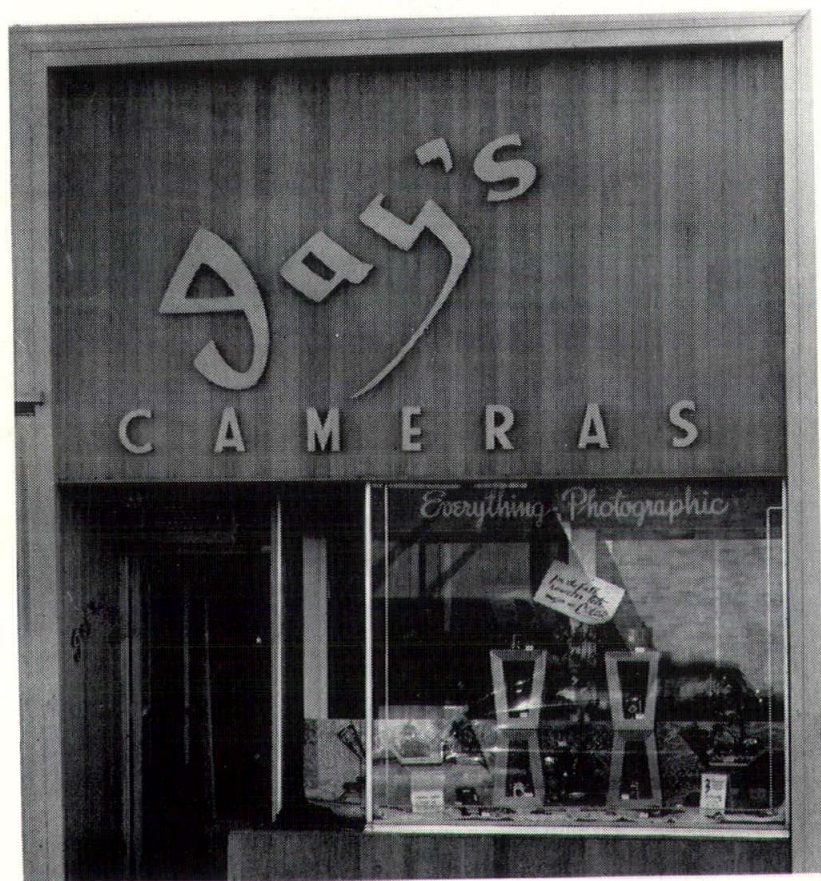
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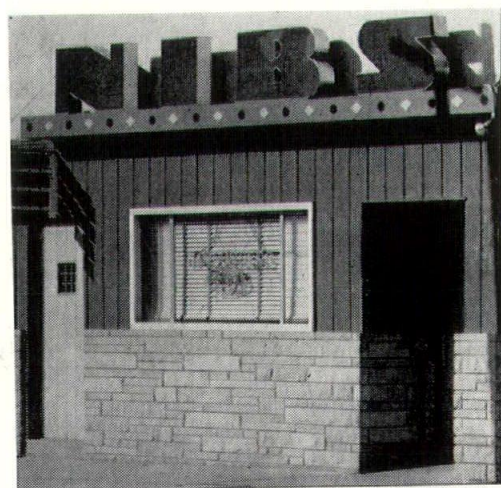
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