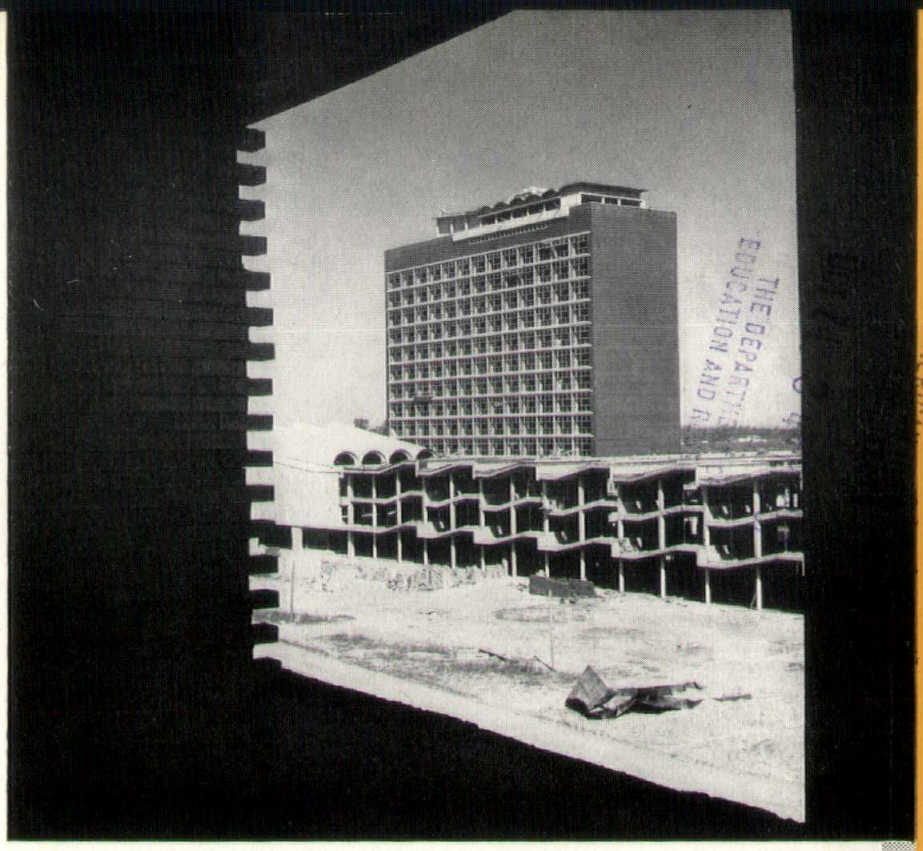
OFFICIAL PUBLICATION MINNESOTA SOCIETY OF ARCHITECTS



Class Rooms for Physical Sciences
Science Tower in Background
University City—Mexico

NORTHWEST ARCHITECT

SEPTEMBER-OCTOBER 1952

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VOLUME XVI NUMBER FIVE



St. Paul Public Library children's room, now sound-quieted with VERCOUSTIC

VERCOUSTIC

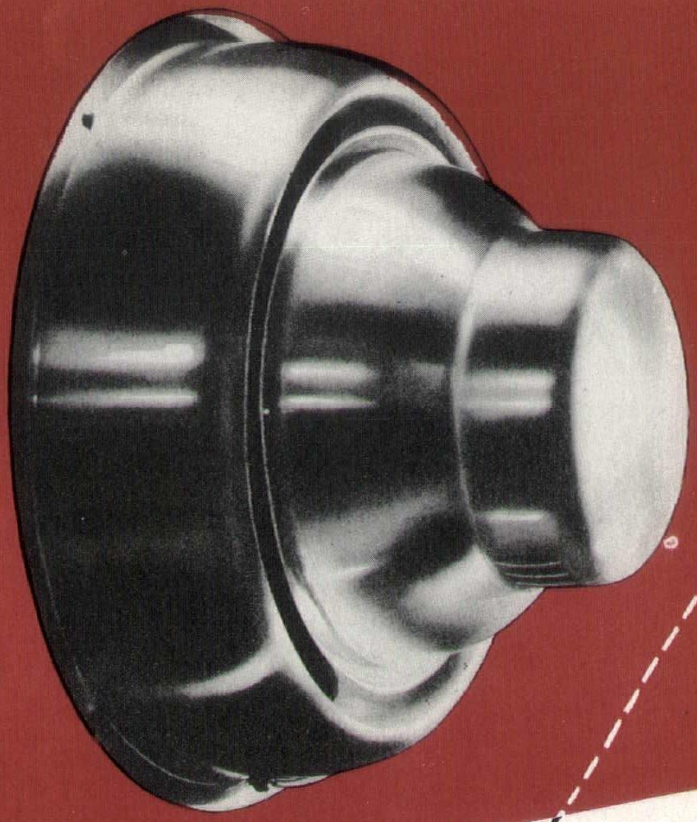
. . . an investment in silence

Sound-quieting with Vercoustic is a profitable investment. This remarkable plastic acoustic material effectively absorbs and softens disturbing noises in public rooms . . . and, at the same time, improves their acoustical properties. Vercoustic has a noise-reduction coefficient of .65, and may be spray-painted any color without decreasing this high sound absorption value. Good acoustics are important, that's why so many architects insist upon Vercoustic. It's the permanent . . . easy - to - apply . . . low cost . . . effective sound-quieting treatment.

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It Pays To Use Nelson's Master Products



FOR WALL

JENN-AIR EXHAUSTERS

IN

Schools,

Hospitals,

Stores,

Offices,

Restaurants,

Hotels,

Clubs,

Laundries,

Factories,

Laboratories,

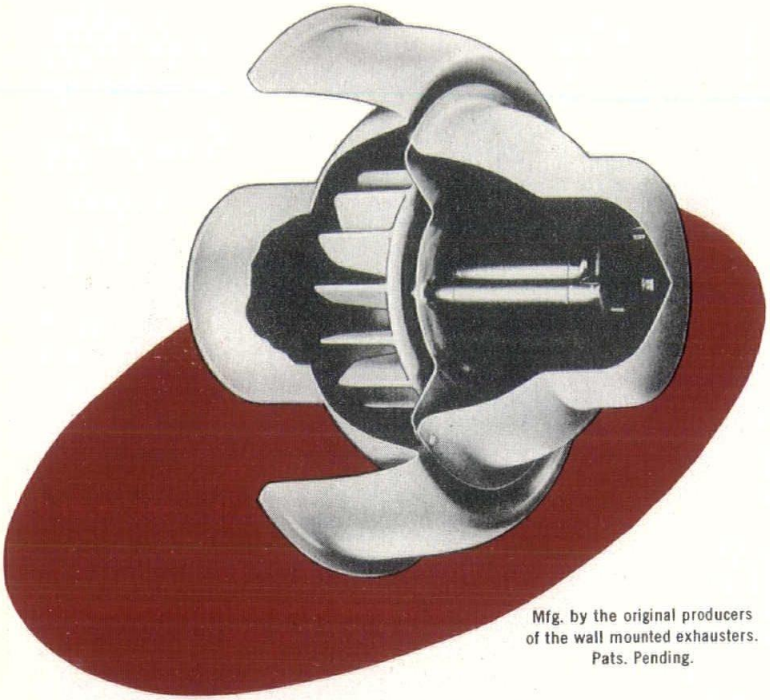
and
Many Others



AND ROOF APPLICATIONS

ULLETIN NO 50A

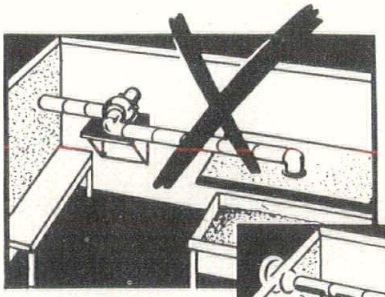
HELPS SIMPLIFY YOUR EVERYDAY SPOT



Mfg. by the original producers of the wall mounted exhausters. Pats. Pending.

FOR WALLS

- Completely Weatherproof
- Aluminum Rustproof Construction
- Available in Explosion Proof Models
- New, Quiet Resiliant Mounting
- Non-Overloading Centrifugal Impellers
- Quick Connection Duct Adaptor

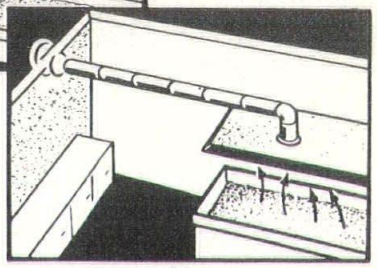


THE OLD WAY

Requires special mounting facilities. Note changes in direction of air travel.

NEW JENN-AIR WAY

Simplifies duct system, lowers cost and improves appearance.



UNMATCHED ADAPTABILITY

This design offers flexibility so great as to enable its use on almost any type of building. Will exhaust from any area accessible by ductwork.

LOWER INSTALLATION COSTS

Quick, simple installation. Bonafide reports from users indicate savings of up to 70% on installation costs. Unit is complete. No special fittings required.

NEAT APPEARANCE INSIDE and OUT

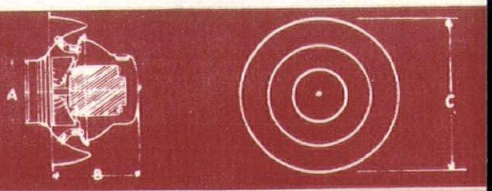
Lends an attractive, modern appearance to the building exterior. Eliminates the need for unsightly mounting brackets or box-like enclosures. Gives interiors that well planned look.

REDUCES THE FIRE HAZARD

Doubly safeguarded. Motor is mounted outside the airstream and is not subjected to combustible or corrosive deposits. Likewise the power unit is located outside the building, away from possible explosive concentrations.

WIDE RANGE OF APPLICATIONS

Rates high on jobs requiring the removal of FUMES, DUST, HEAT, SMOKE and ODORS. The ideal unit for spot ventilation in commercial and light industrial applications.



WALL EXHAUSTERS

PERFORMANCE DATA | Dimens

Cat. No.	Free Air CFM	1/4" SP	1/2" SP	3/4" SP	1" SP	HP	RPM	Shipping Weight	A	B
* 700 BW	420	340	280			1/25	1550	16 lbs.	6"	7 1/4
912 BW	760	600	440			1/8	1140	45 lbs.	8"	11"
900 BW	1220	1180	1060	890	800	1/4	1725	45 lbs.	8"	11"
1012 BW	1310	1120	940			1/6	1140	50 lbs.	10"	12 3/4
1000 BW	1780	1610	1450	1290	1070	1/3	1725	55 lbs.	10"	12 3

Motors, Ball Bearing Westinghouse or equal, 110 V. 60 Cy. AC. Other elect acteristics available on request. Write for prices on 2-speed and explosion-p

* Sleeve Bearing.

JENN AIR PR

TILATING INSTALLATIONS

JENN-AIR EXHAUSTERS

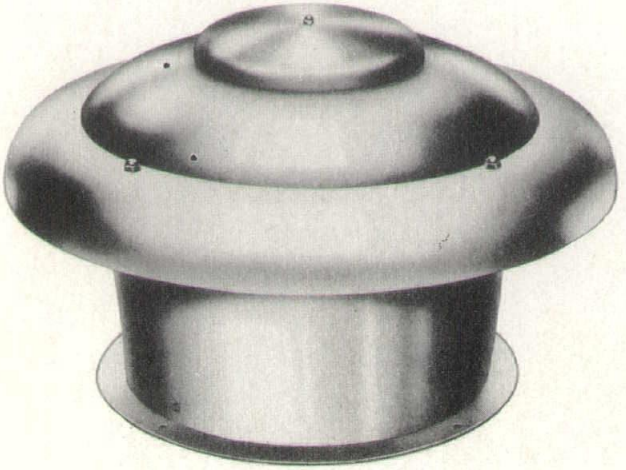
LOW CONTOUR

QUIET, FULL FLOATING MOUNT

EXCLUSIVE MOTOR ENCLOSURE

NEW, QUICK INSTALLATION

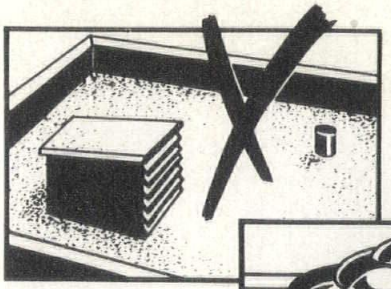
LOW COST



AVAILABLE in CENTRIFUGAL and AXIAL TYPES

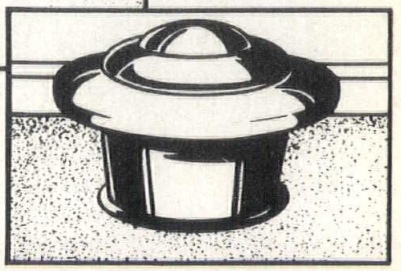
FOR ROOF

A POWER ROOF EXHAUSTER with dependable performance, designed especially for those many average to low capacity exhaust requirements. Offered in AXIAL as well as CENTRIFUGAL non-overloading types. This choice provides the opportunity to select the higher capacity and relatively lower cost axial units when desired for the lower static pressure jobs.



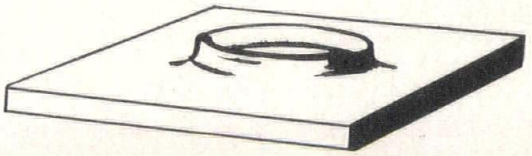
THE OLD WAY
Costly installation and is vulnerable to high wind pressures.

THE NEW WAY
Modern, low contour, complete package unit. Unaffected by weather conditions.

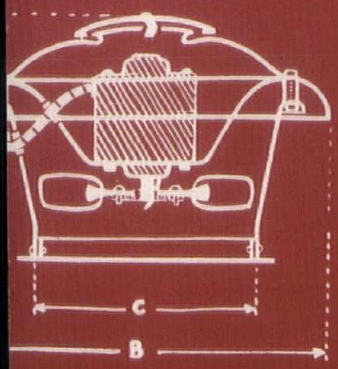


CURB BASE

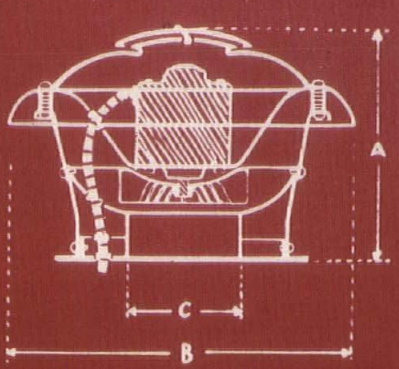
Heavy gauge curb with flanged fan inlet availabe for off the roof mounting.
Size 24" x 24" x 2"



AXIAL ROOF



CENTRIFUGAL ROOF



ROOF EXHAUSTERS
PERFORMANCE DATA

	Cat. No.	Free Air CFM	¼" SP	½" SP	¾" SP	1" SP	HP	RPM	Shipping Weight	Dimensions A	B	C
CENTRIFUGAL	812 CR	550	480	310			1/8	1140	50 lbs.	16"	24"	8"
	800 CR	830	800	760	690	630	1/4	1725	50 lbs.	16"	24"	8"
	912 CR	1010	900	810			1/6	1140	50 lbs.	16"	24"	8"
	900 CR	1420	1260	1120	970	880	1/4	1725	50 lbs.	16"	24"	8"
	1012 CR	1740	1570	1330	1110	920	1/4	1140	65 lbs.	20"	30"	12"
	1000 CR	2260	2170	2050	1940	1830	1/2	1725	75 lbs.	20"	30"	12"
	1212 CR	2670	2450	2210	1930	1740	1/2	1140	80 lbs.	20"	30"	12"
AXIAL	1412 PR	1540	1280				1/6	1140	50 lbs.	16"	24"	14"
	1400 PR	2250	2010	1790			1/4	1725	50 lbs.	16"	24"	14"
	1812 PR	2860	2340				1/6	1140	65 lbs.	20"	30"	17"
	1800 PR	3650	3220	2780			1/3	1725	65 lbs.	20"	30"	17"

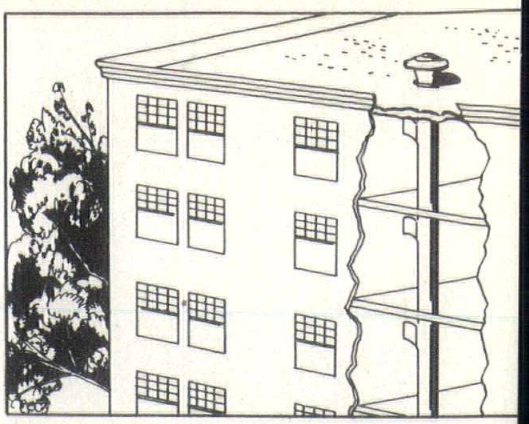
Motors, Ball Bearing Westinghouse or equal, 110 V. 60 Cy. Other electrical cha acteristics, including 2-speed and explosion-proof available on request.

SPECIFY JENN-AIR!

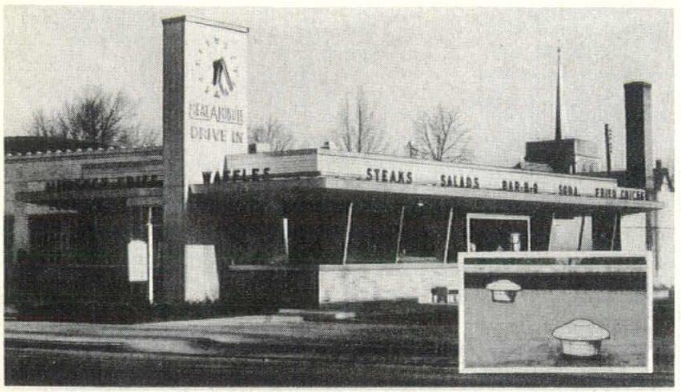
The increasing use of JENN-AIR EXHAUSTERS finds them being specified on many institutional and other public buildings. They are for example a favorite for the ventilating of toilets, locker-rooms, kitchens and dining areas in the construction of apartments, clubs, schools, hospitals, restaurants and other public buildings.

MOTORS are full ball bearing WESTINGHOUSE or equal. 115 volt AC 60 cycle. Other voltages or special electrical characteristics available on request.

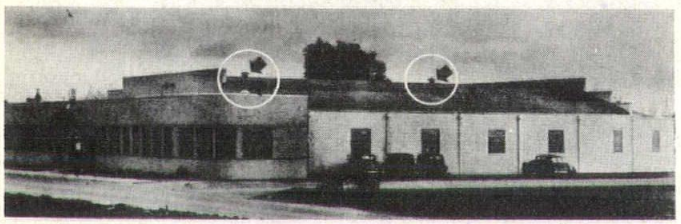
MATERIALS—All units are constructed from heavy gauge corrosion-resistant aluminum .064 and .091.

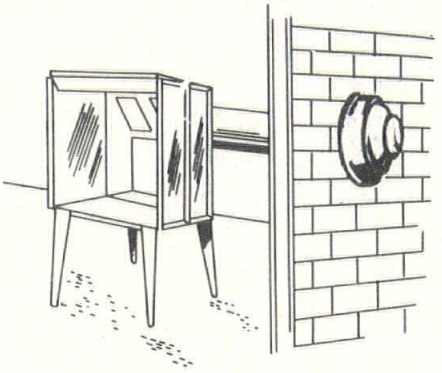


1. Illustration showing multi-story construction venting from several floors with a single unit located on the roof.

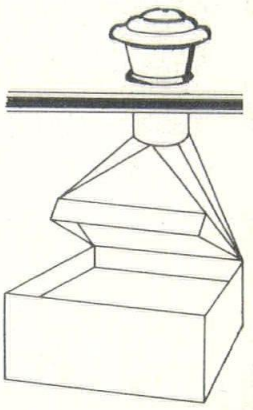


BELOW: Exposed Unit Application. *ABOVE:* Low Contour Installation.





2. A typical wall installation. In many cases a wall exhauster can be installed with but a fraction of the ductwork required for a roof unit.



Steam and fume removal system on hot water immersion tank used in electroplating process.

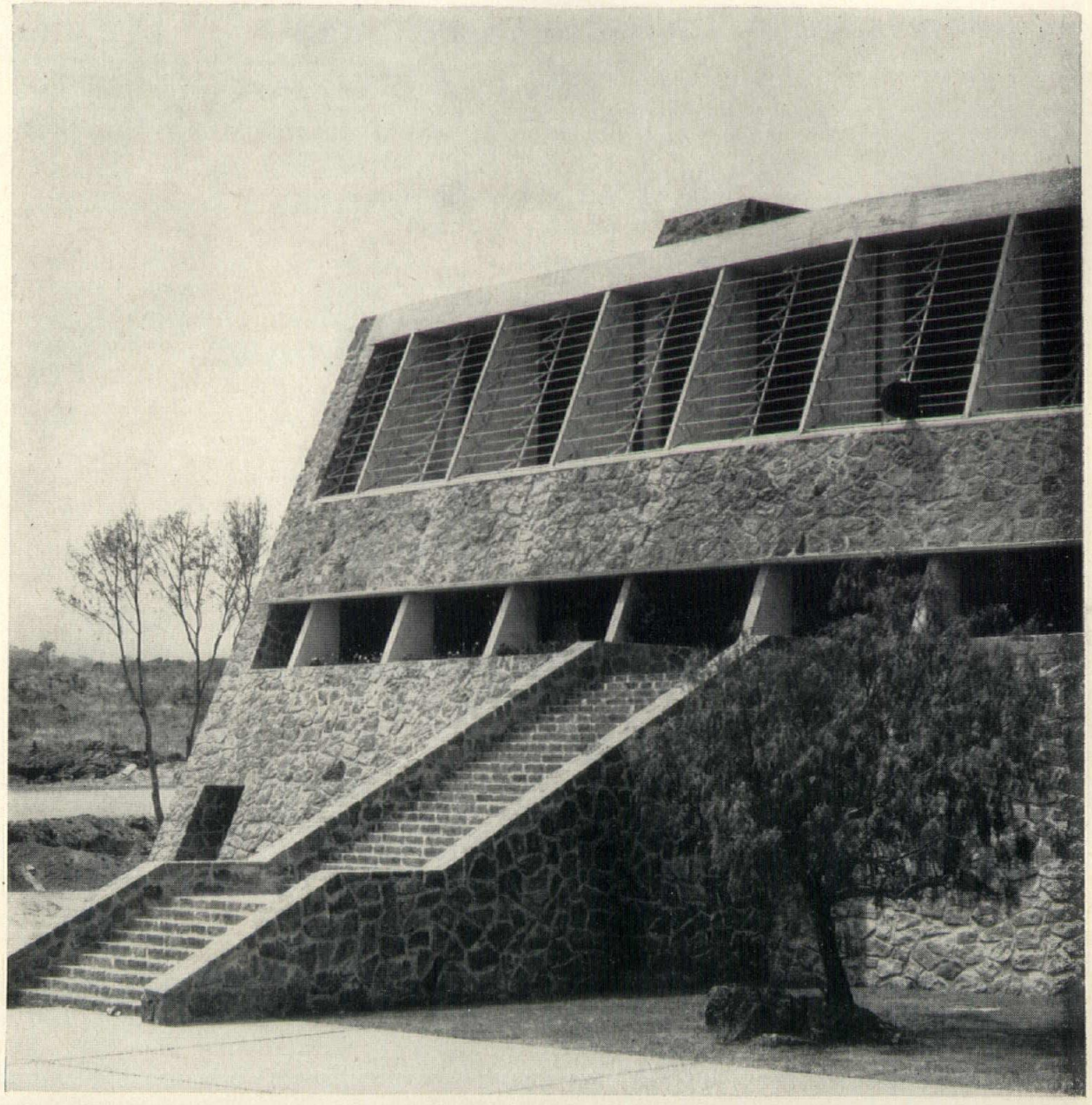
3. SPOT VENTILATING IN INDUSTRY is no problem with JENN-AIR EXHAUSTERS. Welding booths, process tanks, spray rooms, fume hoods, etc. are but a few examples of air contamination on which JENN-AIR performance proves superior

SECTION 34.66, P. L.

JENN-AIR
EXHAUSTERS

ARCHITECTS BLDG.
333 N. PENNSYLVANIA ST.
INDIANAPOLIS 4, INDIANA

NORTHWEST ARCHITECT



RECREATION CENTER – UNIVERSITY CITY – IN SUBURBAN MEXICO CITY, D. F.

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Mexico City University
Its New Campus and Buildings

A research made for the magazine
"ART AND ARCHITECTURE"
to whom we are indebted for this account.

JOHN ENTENZA–A.I.A., Editor of "Art and Architecture"
WILLIAM GRAY PURCELL for "Northwest Architect"
ESTHER McCOY–Correspondent in Mexico
PAGE ERWIN LANG–Photographs

"TODAY and TOMORROW"

A Message from the Director General
Building Ciudad Universitaria of Mexico

CARLOS LAZLO

THEY say that a people or man make history when they look constantly ahead to new goals, and plan their works to survive the centuries. It is with this in mind that the University City of Mexico is being built.

The City is not merely a matter of planning and putting up buildings. It is not a simple change of address, or a matter of moving from the old classrooms, but rather the response to a deep need for a transformation in all that is physical, economic, scholastic, and social.

If we propose to plan for the future, we cannot forget that the highest functions of learning—the work of scientific research, the professorial tasks, the preparation of mathematicians and physicists, of technicians and specialists in the various branches of science, and the very philosophy of a University, must be firmly rooted in a humanistic synthesis of concepts: that of the Universe, and of Man, who is learning to adjust to his conquest of nuclear energy.

The world has felt a terrific technico-social impact, caused by the slowness of the evolution of the social and political sciences, of human consciousness itself, in comparison to the tremendous recent surge of technological development. But the modern world is showing clearly its need and hope for equilibrium; its rejection of dramatic discord, such as the old sectarian clashes over conflicting doctrine. Planning—the new, dynamic structural concept of our time—attempts to take its place as a synthesizing, co-ordinating agent for the problems of the immediate future. As far as possible, within the limitations of space and time, we are applying this concept of planning to University City. Thus, we hope to do our part toward blending humanistic thought with the vital, basic necessities of Mexico, both now and in the years to come.

The construction of University City has been more than a profound influence on Mexican architecture; it has introduced new techniques in urban construction, improved labor relations, promoted revolutionary changes in the building industry, and evolved organizational methods adequate to our times—all of which serve to strengthen the faith of the Mexican in the cultural expansion of his country.

CIUDAD UNIVERSITARIA DE MEXICO

By Esther McCoy

SITE

El Pedregal, a fifteen thousand acre lava bed at the south boundary of Mexico City, on the highway to Cuernavaca. As late as 1948, a guide book warned: "Do not venture into the Pedregal alone." The desert of stone was caused by the eruption of the volcano Xitle some 5000 years before the birth of Christ. Tunnels below the lava cap reveal human skeletons and evidences of an archaic culture. The people who are buried beneath Ciudad Universitaria are believed to have built Mexico's first pyramid, which is twenty minutes' walk from the Central Plaza of the campus. These first architects on the North American continent showed a working knowledge of astronomy, for the Pyramid of Cuicuilco is oriented to the four points of the compass.

THE ROCK

The natural formations of volcanic rock have been treated as an element in the landscape, not merely as a source of supply of building material. The contours of the land, the lava stretches and the bold outcroppings of lava have been respected. A minimum of excavation is permitted. Even the parking lots follow the general flow of the land.

THE VOLCANO FORM

Some of the Ciudad Universitaria architects took a lesson from the pyramid.

The pyramid builders had before them another model: the volcano.

Carlos Lazo, Director General of Ciudad Universitaria and President of the Society of Architects of Mexico, says, "If the exterior of the stadium looks integrated with the landscape it is because the forms produced are a part of the culture of the Valley of Mexico. We have built a volcano. The earth has a builder's mind. In Mexico it is natural for it to build volcanos. We have followed volcano-building habits in the case of the stadium. The tepatate is thrown up from the center of the crater and deposited asymmetrically in high embankments, in which are placed rows of seats, the outer rim of embankment being faced with lava rock from the site. This is a landscape form. The Mexican people see the volcano every day. They feel its form. So when our architects use this logical method of construction, it is the integration of landscape culture."

THE TIME

Ciudad Universitaria, oldest university on the North American continent (1551) has postponed from one decade to another in this century the construction of buildings adequate to its enrollment (22,000) with equipment to meet present-day needs. The professors and students of the National School of Architecture, eager to be off, drew up numerous plans, which were destined to gather dust. But when Miguel Aleman was elected president of Mexico, the university was to become his dearest project. CU was no longer a design problem for architectural students: on July 5, 1950, ground was broken for the first building. In October, 1952, President Aleman will dedicate Ciudad Universitaria.

THE COST

150 to 160 million pesos.

PROBLEMS

When Carlos Lazo was appointed Director General, he found that the problem of the university was not a simple architectural one. "Because of the exacting requirements of an overall planner, I chose not to design a building myself. First of all, the planner must plan in such a way that construction for the rest of the country is not disturbed, while at the same time enough material must be allocated to the university so that work will not be stopped by shortages. The same is true with labor. We need hundreds of skilled masons, carpenters and other craftsmen. The problem is to schedule work so labor

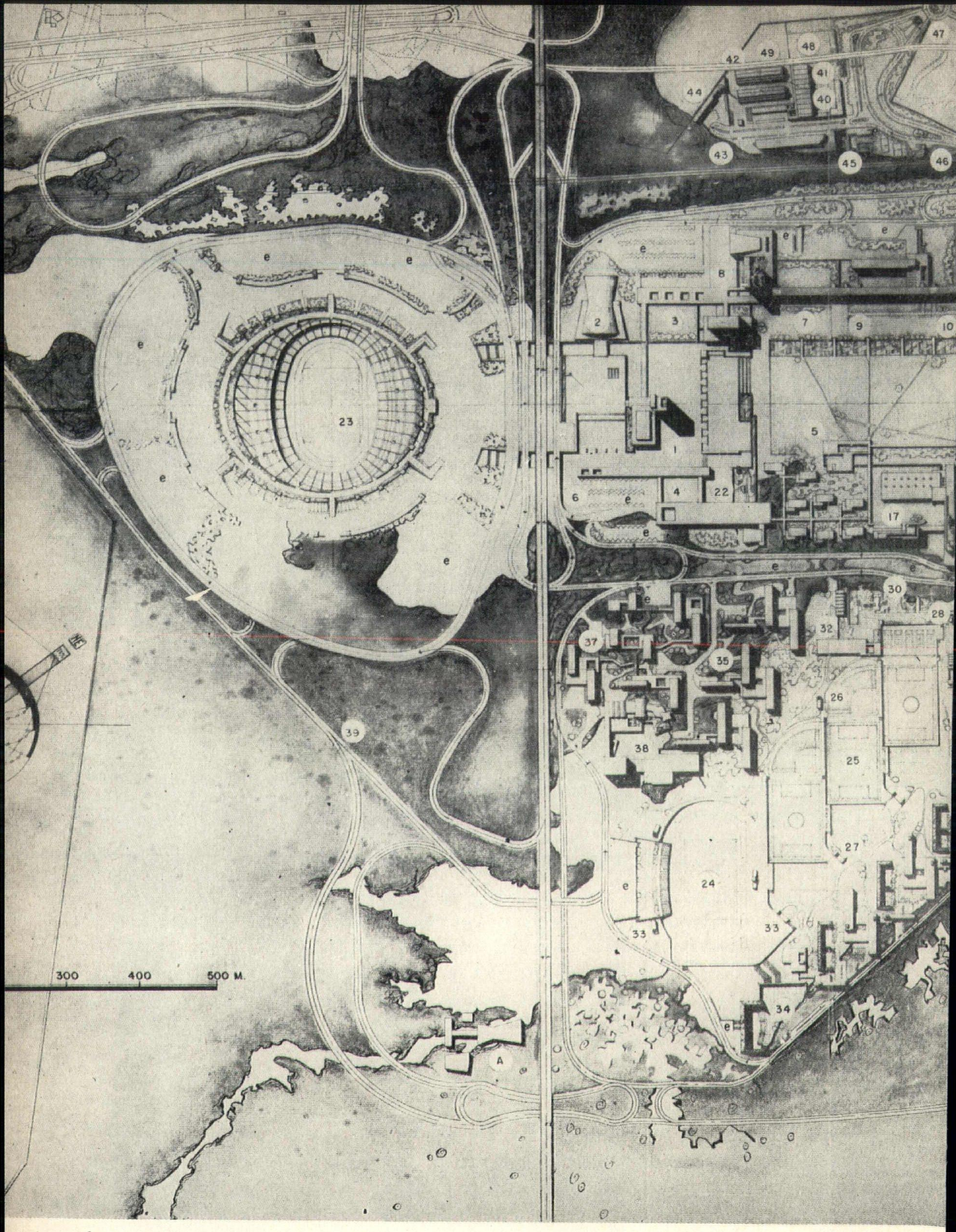
(Continued on Page 24)



University City

SEE PLAT PLAN ON PAGES SIX AND SEVEN

AIR VIEW shows stadium and the fifty buildings completed. There are 22,000 students to be accommodated. The stadium and many other buildings are of rammed-earth construction, called in Mexican "tepatate" and known to us as "Pise de terre" or just plain "pise." See text for description of its use. The stadium seating is so planned that the maximum number of seats are in preferred positions opposite the center of the field. The U. S. equivalent of more than one hundred million dollars has already been expended with the project far from complete.


300
400
500 M.



GRAND PLAN— University of Mexico

By Mario Pani and Enrique del Moral

SOME OF OUR AIMS in the formation of the Over-all Plan of Ciudad Universitaria were:

To create unity, physical and pedagogical, which would make for an ease of communication between the different schools, for the convenience of students, professors and researchers.

TO CENTRALIZE the basic instruction so as to avoid a multiplicity of sites and lecture halls. Mathematics classrooms, for instance, are shared by Science, Engineering, Architecture, Chemistry, Economy.

TO INCLUDE among the buildings a museum, clubs and recreation centers for students and professors: sports fields for training and for events.

TO CENTRALIZE general services, to avoid duplication of such services and thus insure more efficient control and management. Aside from the Central Library there are four smaller ones, for the Schools of Humanities, Science, Arts, and Biology.

TO FURNISH living quarters for students from outlying districts, in small housing units (150 students) grouped for easy access to the general facilities.

TO DIFFERENTIATE clearly between pedestrian circulation and vehicular traffic, never allowing the two to cross. This plan also included the general

(Continued on Page 29)

KEY TO BUILDINGS:

COMMUNITY BUILDINGS:

1. Administration Building
2. Lecture Hall
3. Library
4. Museum
5. Students' Club
6. Book Store

A. Church

HUMANITIES:

7. Faculty of Philosophy
8. Institutes: History, Esthetics, Philosophy, Philology, Ethics
9. School of Law
10. School of Economics
11. School of Commerce

SCIENCES:

12. Faculty of Sciences
13. Institutes: Mathematics, Physics, Chemistry, Geo-Physics, Geography
14. Nuclear Physics Laboratory
15. Institute of Geology
16. School of Chemistry
17. School of Engineering
18. School of Medicine
19. School of Dentistry
20. School of Veterinary Medicine
21. Institute of Biology

ARTS:

22. School of Architecture

Sports Zone:

23. Olympic Stadium
24. Training Stadium
25. Football Fields
26. Soft Ball Fields
27. Basketball Courts
28. Tennis Courts
29. Baseball Diamond
30. Swimming Pools
31. Dressing Rooms For Men
32. Dressing Rooms For Women
33. Auxiliary Services
34. Frontones

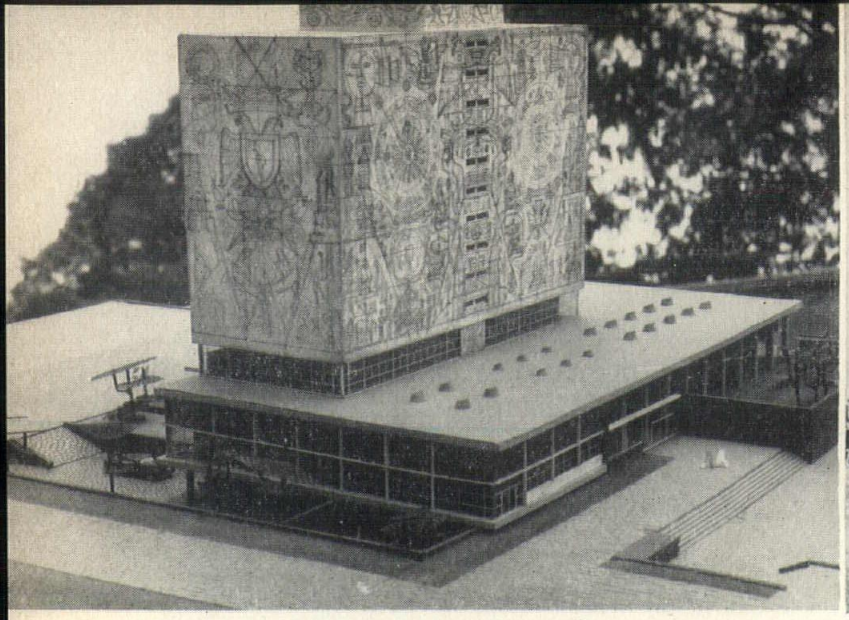
HABITATIONS:

35. Student Dormitories
36. Dormitory for Women
37. Dormitory for Foreign Students
38. Recreation Hall
39. Apartments for Faculty

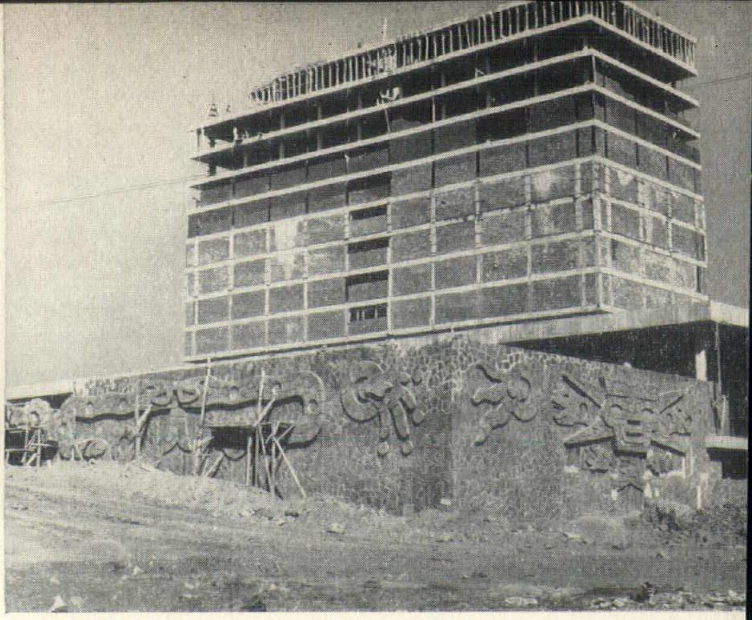
GENERAL SERVICES:

40. Offices
41. Shops
42. Warehouses and Storerooms
43. Garage
44. Refuse and Garbage
45. Workers' Recreation Hall
46. Gasoline Station
47. Police
48. Laundries

E. Parking Lots



Model of Library, showing mural paintings ten stories high (150x100 feet and 60x100 feet) on four sides of building.



Library under construction showing large scale "built" masonry sculpture on base wall twenty feet in height.

The Library site is a gentle slope, which allows for a garden space below the raised east portion of the building. An area around the planting is paved with mosaics. A clerestory separates the first floor reading room from the superstructure which houses the stacks. The four faces of the superstructure are decorated with mosaic murals by the artist and architect Juan O'Gorman. Stones for the mosaic mural have been brought from all states of the Republic of Mexico. Mushrooms of glass light the reading rooms below the one-story portion of the structure. Note that there is no out-of-scale grand entrance to dwarf the human being, in fact, no hole-in-wall door is possible in the university buildings as ground floors are usually open areas. A series of low broad steps leads to the paved terrace around the entrance, the door itself of the same character as the glass panels which form the exterior of the first floor walls.

DECORATION

By

JUAN O'GORMAN

IN THE CIUDAD UNIVERSITARIA painting and sculpture have been integrated with architecture. Although the final judgment will have to be left to the future, at least the attempt has been made to bring into being a complete plastic art, of our time, in our tradition, and expressing the aspirations of the people of Mexico.

One of the characteristics of the architecture of our time is the lack of decoration. Painting and sculpture have been divorced from architecture and have become part of the furnishings bought at exhibitions, like lamps or vases for flowers, really unnecessary, but nice to have around.

The fear of showing vulgar sentiments with the application of any decoration, and especially the elimination of sculpture and murals (mosaics, frescos, etc.) from architecture are the typical attributes of a mechanical art made by and for initiated snobs.

The people, at least the people of Mexico, have not accepted this taboo. This is logical in a country with a profound love of color and a deep-rooted tradition in the architecture of its past history, in which painting and sculpture have been used profusely, and which have given the tone to that same culture. As a matter of fact, in the remnants of the past in Mexico there is no case, either pre-hispanic or Colonial, in which sculpture and painting were not an integral part of the architectural composition.

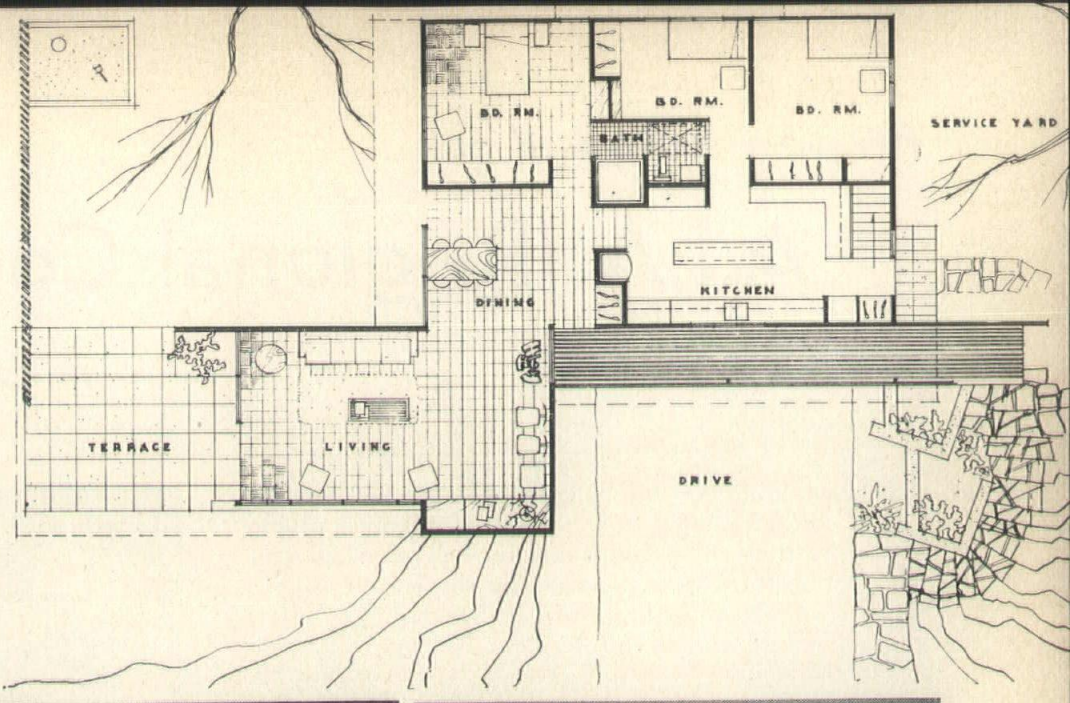
Our epoch, through the specialization of labor, has come to think of decoration as "putting the frosting on the cake," and has forgotten the lessons of the past. In a Gothic cathedral one cannot tell whether the sculpture is architecture or vice-versa, because the building is both things at once. The same is true of the great plastic art in the buildings of ancient Mexico, which were monumental sculpture, painting and architecture, in inseparable harmony. These constructions have become an enigma to modern man, corrupted in his civilization. He cannot understand their significance, being unable to imagine that on the face of the earth there once existed a people for whom the contemplation of a work of art was the most important thing in the world.

Designed by

Saul C. Smiley

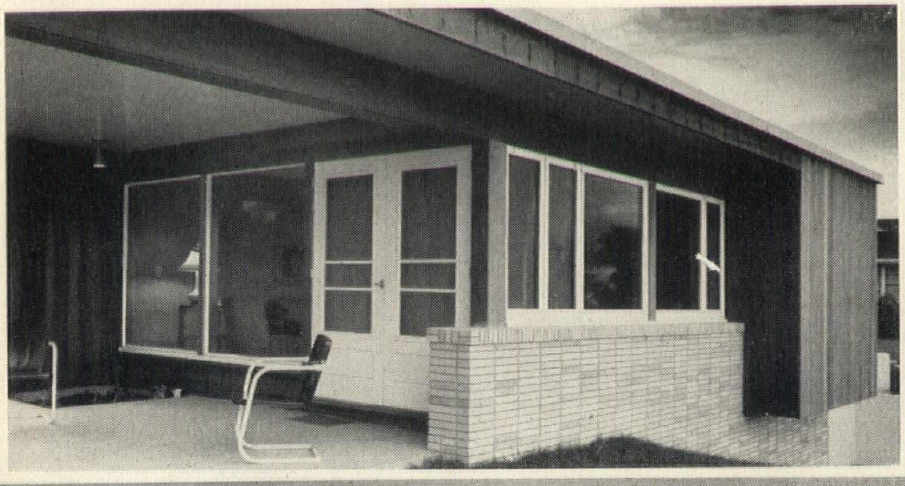
A.I.A.

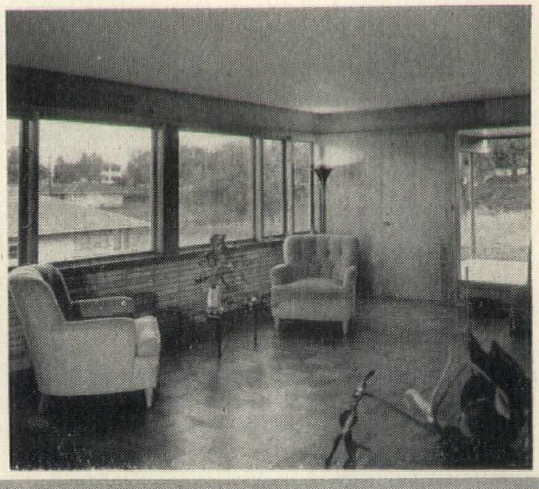
Minneapolis, Minnesota

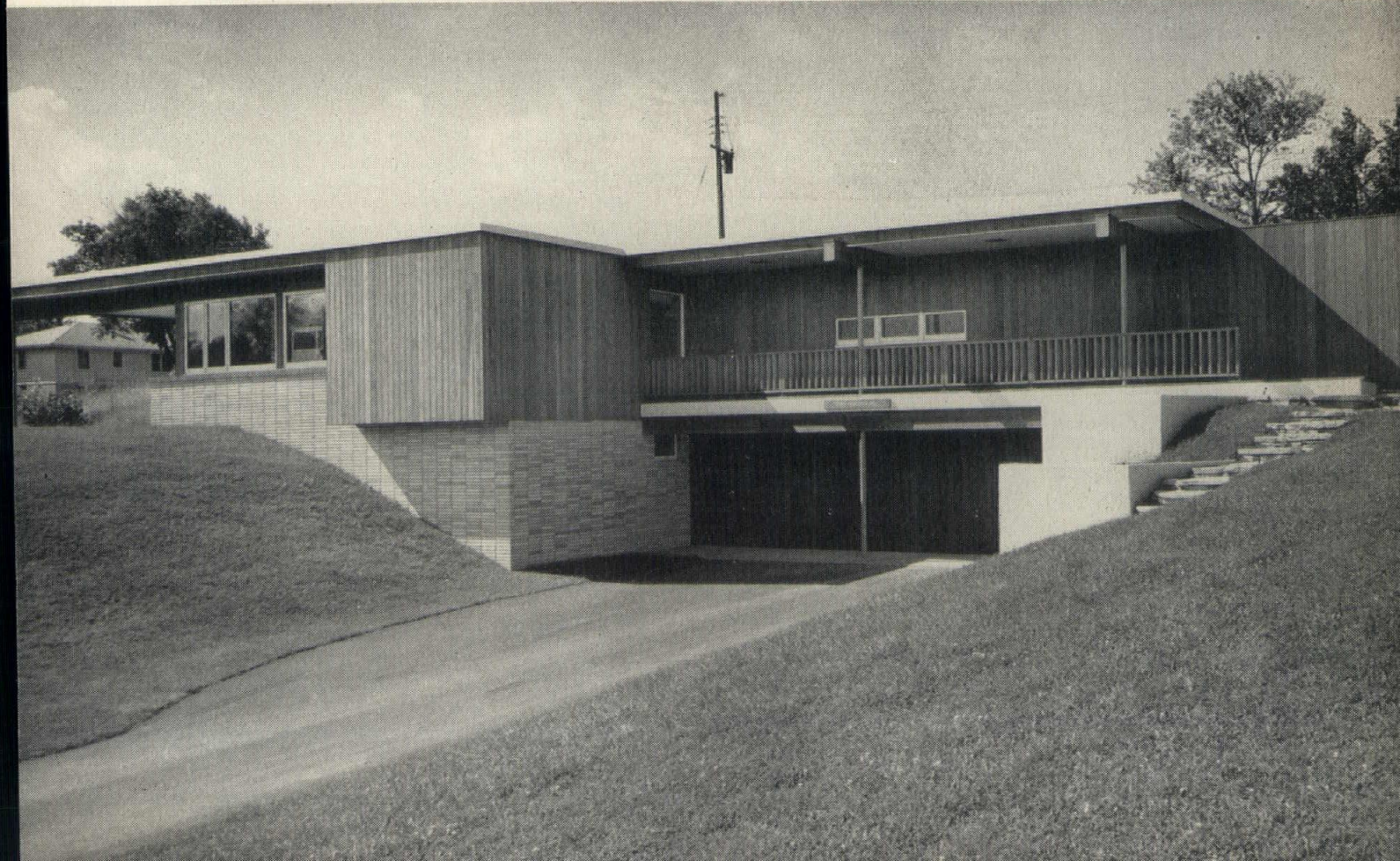


***Pella* Casements . . .**

Photos by Merle S. Morris







Program Announced for

A.I.A. Regional Conference

in St. Paul, November 7-8

Leading architects from the five North Central states which comprise the A.I.A. region in this part of the country will meet to discuss and hear discussed present day architectural trends and obtain the latest information on many of their problems when the A.I.A. Regional Conference is held in St. Paul, November 7 and 8.

The Minnesota Society of Architects will be host for the conference. Donald Haarstick of St. Paul headed the committee on arrangements which has built up an outstanding program for the two-day event. The conference is to be held in the Saint Paul Hotel.

The program is a varied one, offering much to every member attending, no matter what his specialty may be. Co-operating closely to assure a well rounded presentation are members of the Producers Council and important information will be presented to the meetings by PC members as speakers on late developments in matrials.

Seminars, offering a chance for interchange of opinions as well as experts' discussions of salient points of the problems under consideration, will be cornerstones of the program. Panel discussions and films will round out the business activities. Social events also are planned and the sessions will end on the Saturday of the Minnesota-Purdue football game, so members can also plan attendance at this game.

The program announced by Mr. Haarstick's committee and supplied us by Gordon M. Comb, shows:

Friday, November 7

9:00 a.m.—Registration—Saint Paul Hotel

10:00 a.m.—Opening Session—E. H. Berners, Green Bay, Wis., Regional Director, A.I.A.
A. Reinhold Melander, Duluth, President, Minnesota Society of Architects
Curtis Johnson, Minneapolis, President, Minnesota-Dakota Chapter, Producers' Council

11:00 a.m.—Seminar on "Moisture in Masonry Walls"
—Wilbur H. Tusler, Minneapolis, Moderator
C. T. Bridgman, Vice President, Des Moines Clay Company
C. E. Garton, Regional Director, Structural Clay Products Institute

11:00 a.m.—Film—"The Story of Marble," Producer's Council & Vermont Marble Company

12:00—Luncheon—"North African and European Architecture," Spero Paul Daltas, Bloomfield Hills, Michigan

2:00 p.m.—Seminars:
a. "The University of Minnesota, Duluth Campus," Winston A. Close, Advisory Architect, U. of Minnesota



Four of the five-man committee caught in an informal conference—(l.-r.) Chairman Donald Haarstick, Richard Hammel, Brooks Cavin and Gordon Comb, all of St. Paul. Other member is Bill Berget.

b. "A Recent Project," Lawrence B. Perkins, Perkins & Will, Chicago, Ill.
c. "A Recent Project," Eero Saarinen, Bloomfield Hills, Michigan
d. "The Recent Building Program of the Saint Paul Public Schools," Richard F. Hammel, Consulting Architect to Saint Paul Public Schools

4:30 p.m.—Joint Session—American Institute of Architects & Producers' Council

5:30 p.m.—Cocktails

7:00 p.m.—Dinner—"The Architect and the Building Process," Serge Chermayeff, Chicago

Saturday, November 8

9:00 a.m.—Panel Discussion—Robert Cerny, Minneapolis, Moderator
Lawrence B. Perkins
Eero Saarinen
L. Morgan Yost, Kenilworth, Illinois
Serge Chermayeff

1:30 p.m.—Football Game—Minnesota-Purdue

Twin Citians Plan Publicity

A public service program to more fully acquaint Twin Cities area residents with the profession of architecture and its place within the community has been launched by the Minneapolis and St. Paul chapters of the A.I.A.

Coinciding with a similar national-level project adopted by the A.I.A. council, the local program will seek to make known ethical standards of the profession

INTRODUCING in the twin-cities a new dependable sales and service company. mechanical contractors, heating and air conditioning specialists. representatives of westinghouse air conditioners — crotty water wall boiler amplifiers — preferred utilities heavy-oil burners.

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and impress upon the public a need for qualified architectural services in all fields of construction, according to G. Clair Armstrong and George Townsend, presidents of the Minneapolis and St. Paul chapters, respectively.

The program will be supervised by Kerker-Peterson and Associates, Minneapolis advertising and public relations firm, who outlined program details at a Twin Cities joint chapter meeting at the Midway Civic Club, Thursday, September 18. Carl K. Hixon, public relations director for Kerker-Peterson, submitted proposals for establishing favorable liaison with the press, radio and television and other local informational media. Also suggested was the formation of a speakers bureau for civic, school, business and similar organizations.

The initial program will terminate March 1, 1953, when results will be audited by the public relations committees of both chapters. This period will cover preparation of stories—stressing professional ethics and abilities—for local newspaper and magazine use; guest radio and television appearances of chapter representatives; organization and management of the speakers bureau; and "spade work" for such community projects as an architectural "clinic" to offer classroom instruction in home building, buying and allied subjects of value to the public.

A projected program for the following six months has also been discussed. If approved, it will include continuance of the initial public relations effort plus preparation of a small booklet on Twin Cities architectural services to be distributed in various ways to the public.

The local program will closely tie-in to the national program, according to Twin Cities chapters officials. "Facts Packages," containing special reference material on archictecture will be furnished the local level for placement with publication editors. In A.I.A. motion picture will also be made available for use with speakers bureau activities.

COLOR RENDERINGS NOW CAN BE REPRODUCED IN FULL COLOR

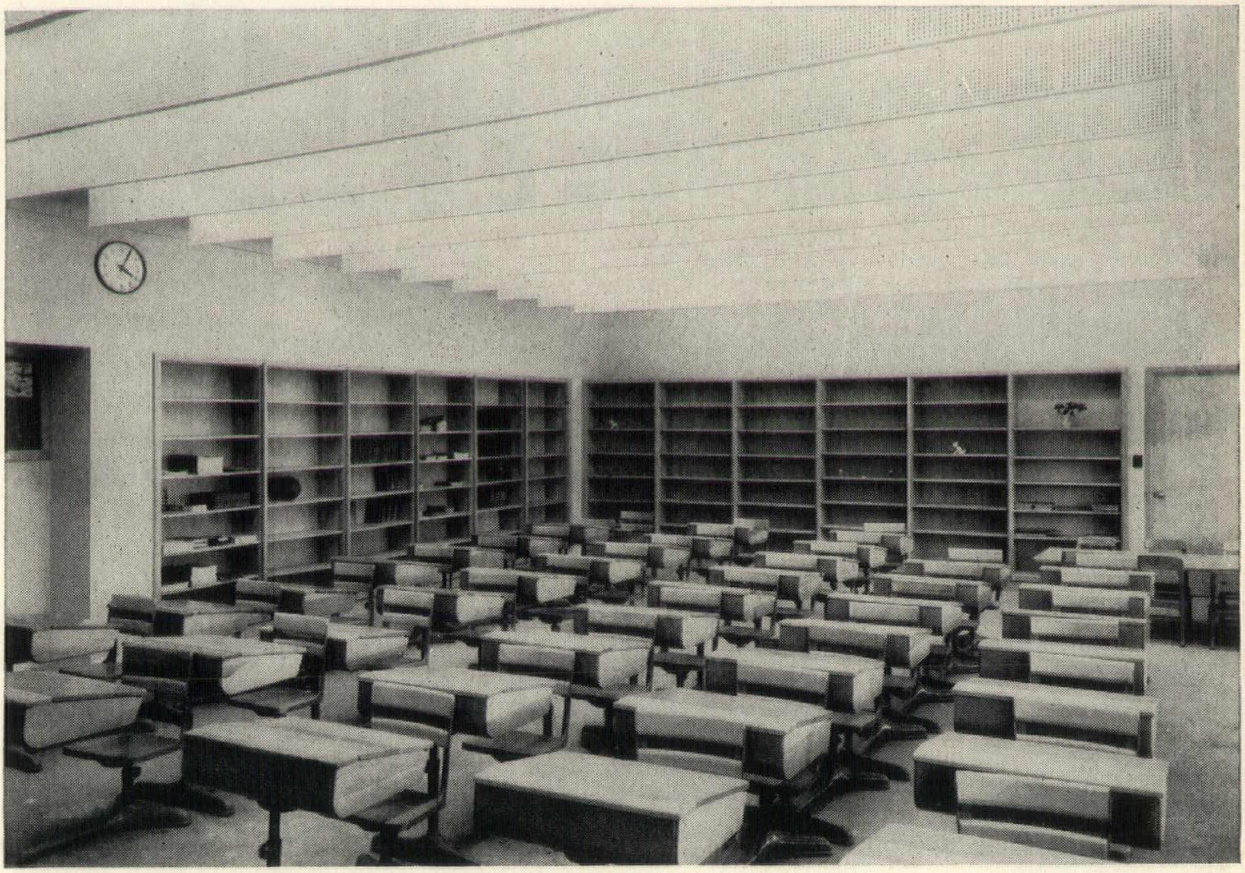
Colored architectural renderings, small objects which can be treated as "flats" and similar materials can now be reproduced in full color at a relatively low cost through a new photographic process called Dupliton, according to the H. A. Rogers Company, Minneapolis, and Electric Blue Print Company, St. Paul, which have installed the equipment.

Dupliton prints are on a full gloss, opaque acetate base. They can be mounted and are available in a range of sizes from 5x8 inches to 16x20 inches. Colors are snappy, bright and sharp. Full color transparencies can also be produced by Dupliton for projection work.

Of particular value for reproducing outstanding pieces of work for use in promotion and prospecting for new work, the color reproductions also simplify record keeping of important commissions.

Through a dye color transfer method in the same process large scale murals in color, up to 40x60 inches, can be made. Details and prices can be obtained from the companies.

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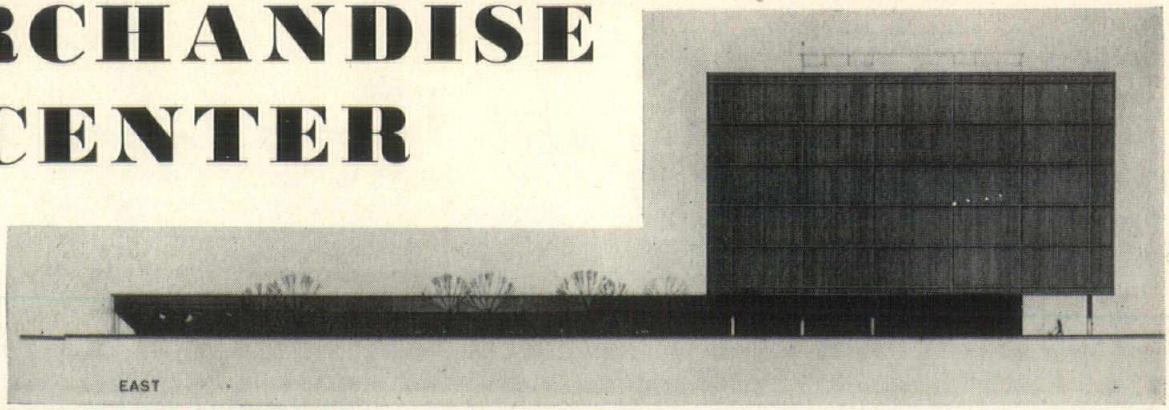
NORTHERN STATES POWER COMPANY

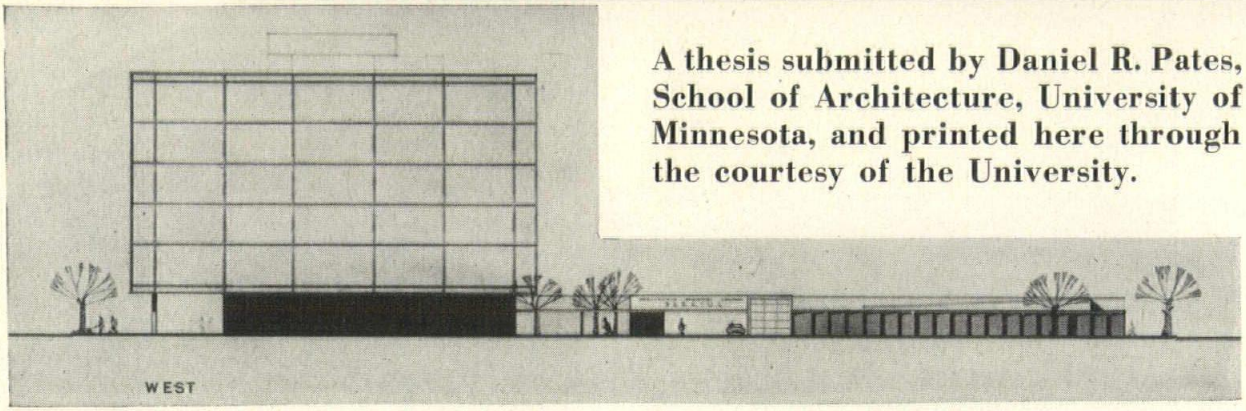


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Call Lighting Section—MA 6251



MERCHANDISE CENTER





A thesis submitted by Daniel R. Pates, School of Architecture, University of Minnesota, and printed here through the courtesy of the University.

FORWARD:

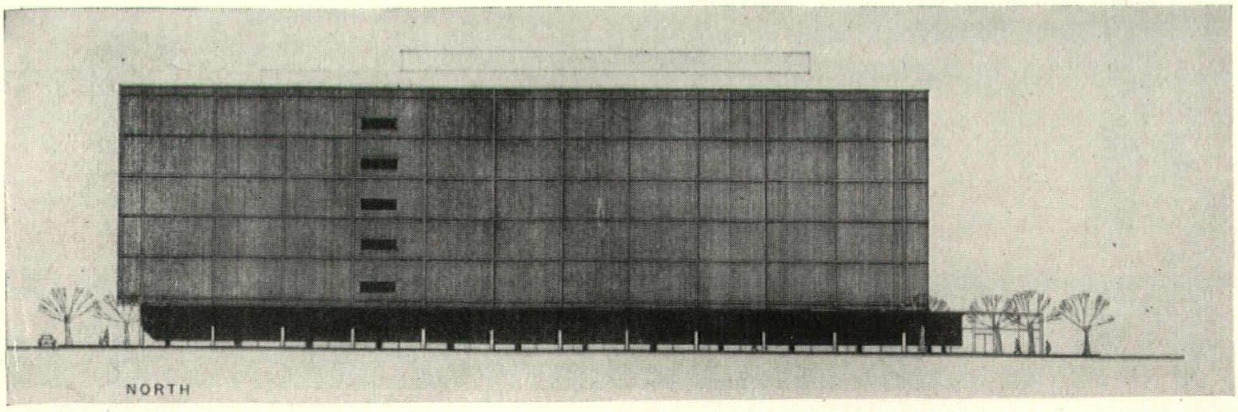
A need for order has been realized by manufacturers and retail buyers in their relationship with one another. An order that would be to their advantage in convenience and peace of mind, in social as well as business intercourse. To achieve this desired order the buyers and manufacturers have agreed that a centrally located building free of public interference and confusion is needed. A building the scale of Chicago's Merchandise Mart is out of question but the principle of exhibiting merchandise for the buyer's approval is worthy of merit and investigation.

It has been proposed that a large exhibition hall be provided for manufacturers to exhibit their merchandise to prospective buyers in this area. The exhibitors will not be restricted to manufacturers in the Northwest but to the nation as a whole and even imported merchandise. The concept of exhibiting merchandise to buyers has been profitable as witnessed in the Chicago Merchandise Mart. The Mart now sponsors shows biennially at the Modern Museum in New York and in Chicago where the public may view the new merchandise. Edgar Kaufman, Jr., remarking on the Modern Museum's show said, "To me, exhibitions are an instrument of knowledge. To accept the job of designing the background for good design (furniture) is to accept the idea behind the exhibition itself."

It has been proposed that the new building be called A Merchandise Exhibition Center for the Twin Cities. It has also been proposed that the Exhibition Center be in conjunction with a hotel. The hotel would provide guest accommodations for visiting buyers and salesmen. The mentioned service is necessary for the complete operation of the Exhibition Center. The hotel would be open to the public while the Exhibition Center would be restricted to buyers and salesmen.

DEFINITION OF OCCUPANT AND USER:

The occupants in this case are the exhibitors, while the users are the buyers. The exhibitiors are the manufacturers' salesmen exhibiting their merchandise to prospective buyers from retail stores and jobbers. The retail buyers (users) are buyers from retail department stores and jobber outlets in this territory.

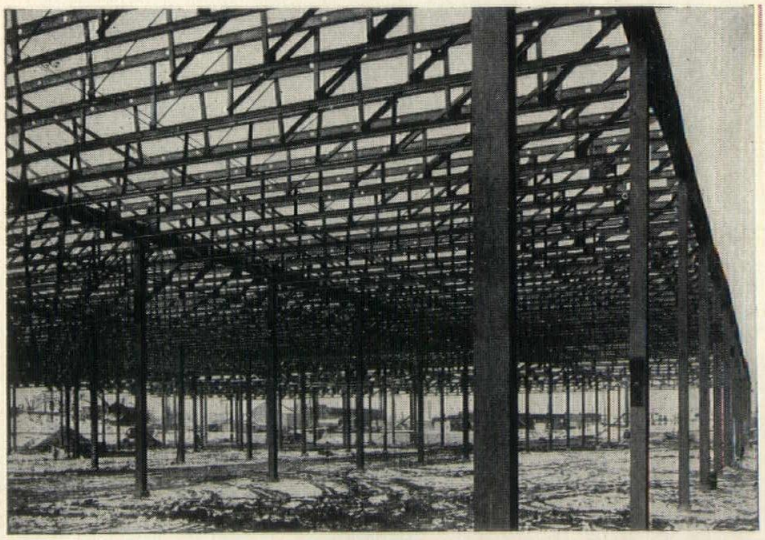


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OBJECT OF THE BUILDING:

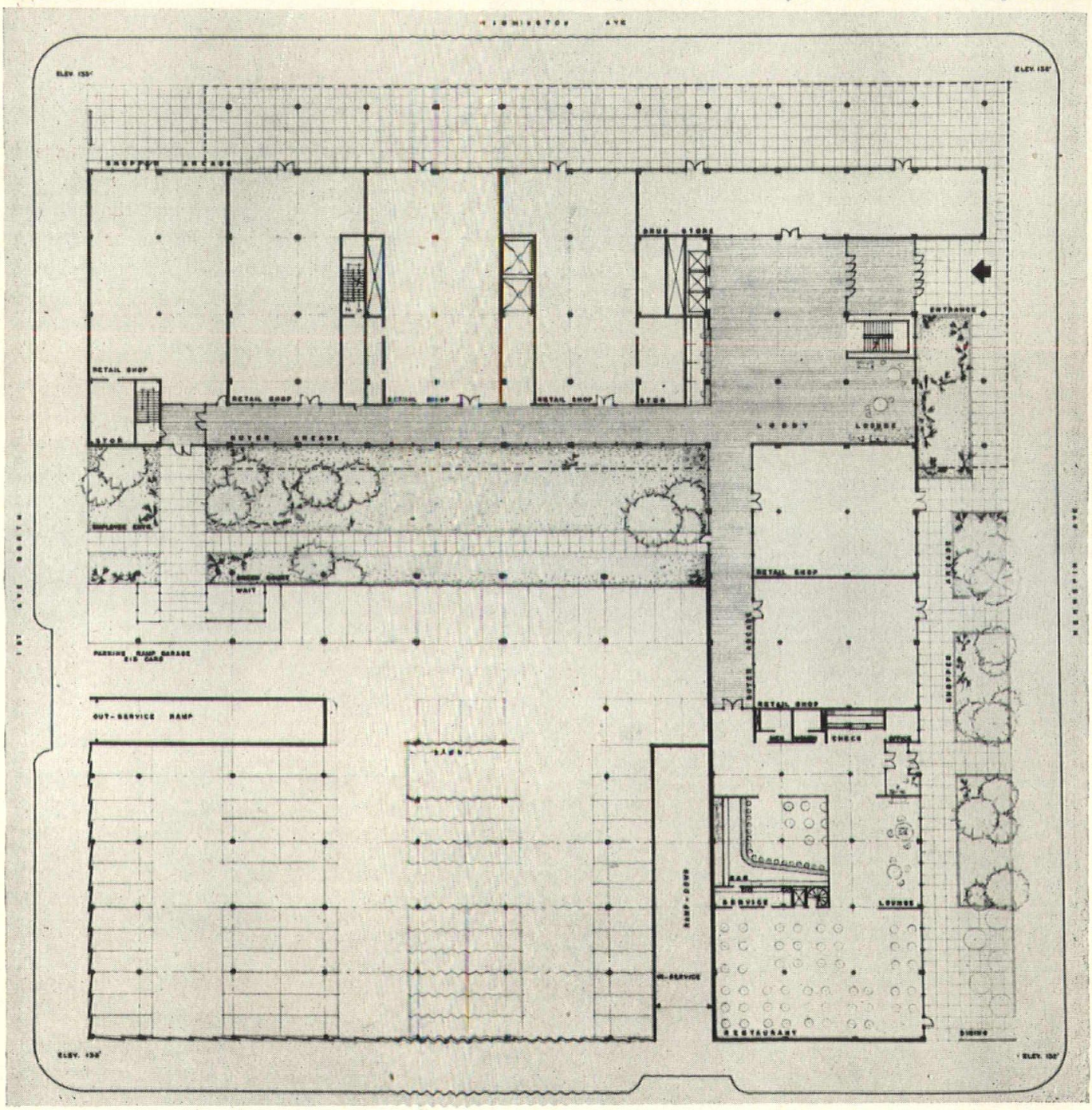
The object is to get buyers from the retail stores in Minneapolis and St. Paul and surrounding areas concentrated at a point which best suits their interests at a prescribed time. The building would provide all the facilities for producing the exhibition.

Twenty-five thousand square feet of display space will be assigned to a constantly changing show of one week's duration. Here only one type of merchandise will be shown during a scheduled showing. That is, during a scheduled toy exhibit, only toys may be shown. This gives the buyer a freedom from other merchandise and affords him a better concentration. However, several manufacturers are invited to show their line of toys on a competitive basis.

After the toy exhibit, which may run a scheduled week, another exhibit will replace it. (All one type of merchandise). Let us here assume sporting goods. The sporting goods exhibit would run another week and be replaced by another merchandise. A constantly changing show provides for a maximum usage of a given space. The merchandise for display would be provided by the manufacturer of an article and in some hard lines by the jobbers or distributors. It would be the exhibitors' duty to lease exhibition space on contract and provide the merchandise for display. The Center's trained staff would design and fabricate the display at a cost to the exhibitor.

In conjunction with the constantly changing display space would be an area of approximately 100,000 square feet assigned to semi-permanent displays. These displays would remain in place for 3 to 4 weeks at a time before being changed. The provision of the semi-permanent

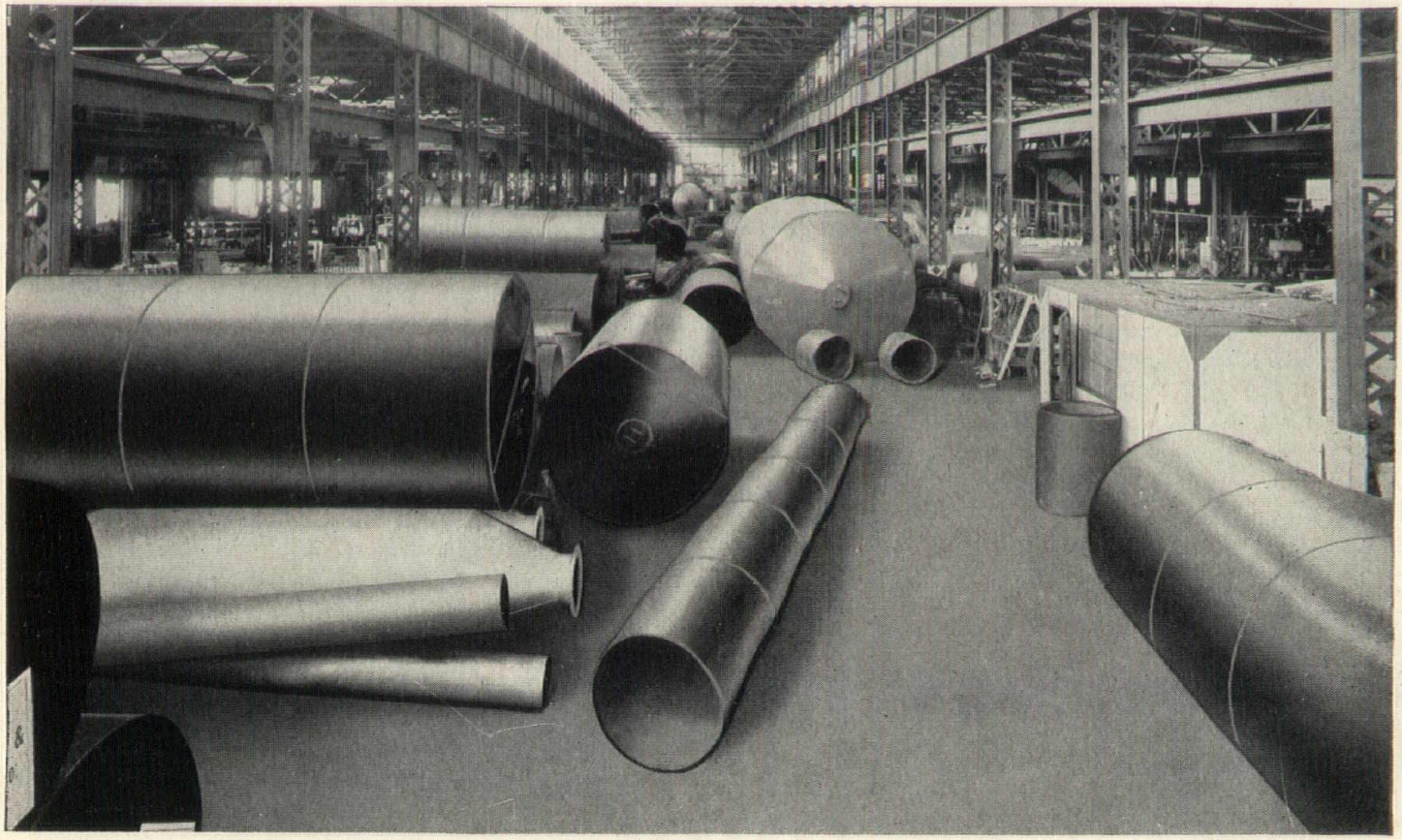
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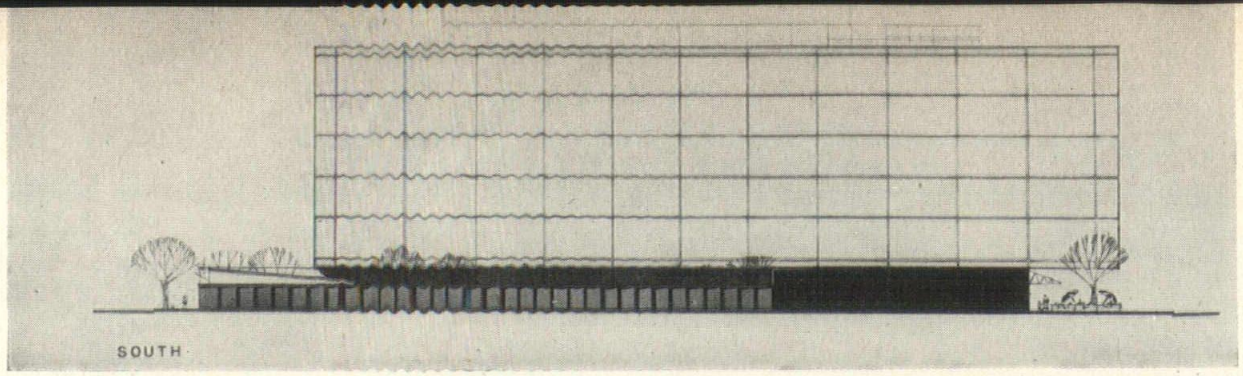
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display space is that of necessity and corresponds to the nature of the buyer. That is, a buyer from a small store in Montana may buy more than one type of merchandise. While he may come to view and buy at the constantly changing show, he may also buy furniture, ladies' garments, china and hardware from other displays without leaving the building.

NUMBER OF PEOPLE USING BUILDING:

The territory from which buyers will come embraces approximately 5 million people. Approximately 1,000 buyers are represented in this total population. This provides for 200 to 250 buyers per day as guests at the Exhibition Center. Some buyers may stay over weekends to attend a new show the following week, thereby increasing the attendance.

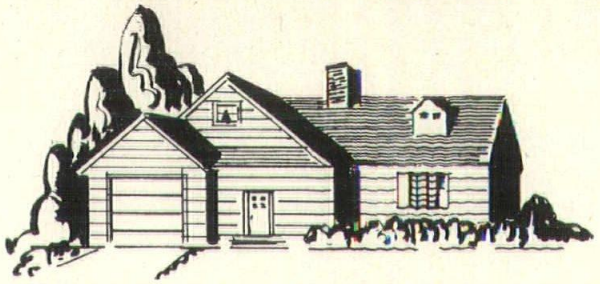
DISADVANTAGES OF HOTEL SHOWROOMS:

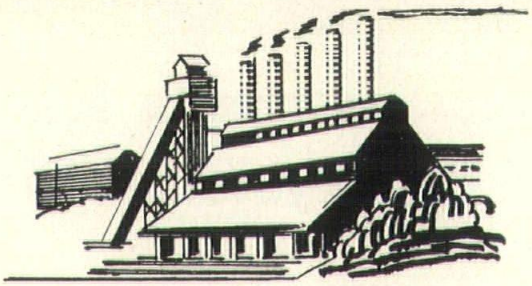
Today manufacturers' representatives set up displays or "shows" in hotel suites, some of which have been designed for this purpose. Other shows have been set up in lobbies, corridors or a ballroom. I feel that this atmosphere is wrong, in the fact that it has no order. Buyers must move from hotel to hotel to see a complete showing. Complete in the sense of competitive items. Inconvenience is evident. Moving through traffic which is both public and restricted breaks the continuity of appraisal of the merchandise. With the break in continuity of appraisal comes a break in competition. Displays are sometimes rather crude due to settings, improper and insufficient lighting, circulation and public interference.

ADVANTAGE OF MERCHANDISE EXHIBITION CENTER:

As a remedy for the present exhibition faults, let us examine some of the advantages of a Central Merchandise Exhibition Center. The advantages of centralizing the buyers and sellers are innumerable. The greatest, perhaps, is the time saving. The central type exhibition sales center excels the hotel exhibition in convenience to buyers in terms of distance. In a central space traffic would be at a minimum—no time would be lost travel-

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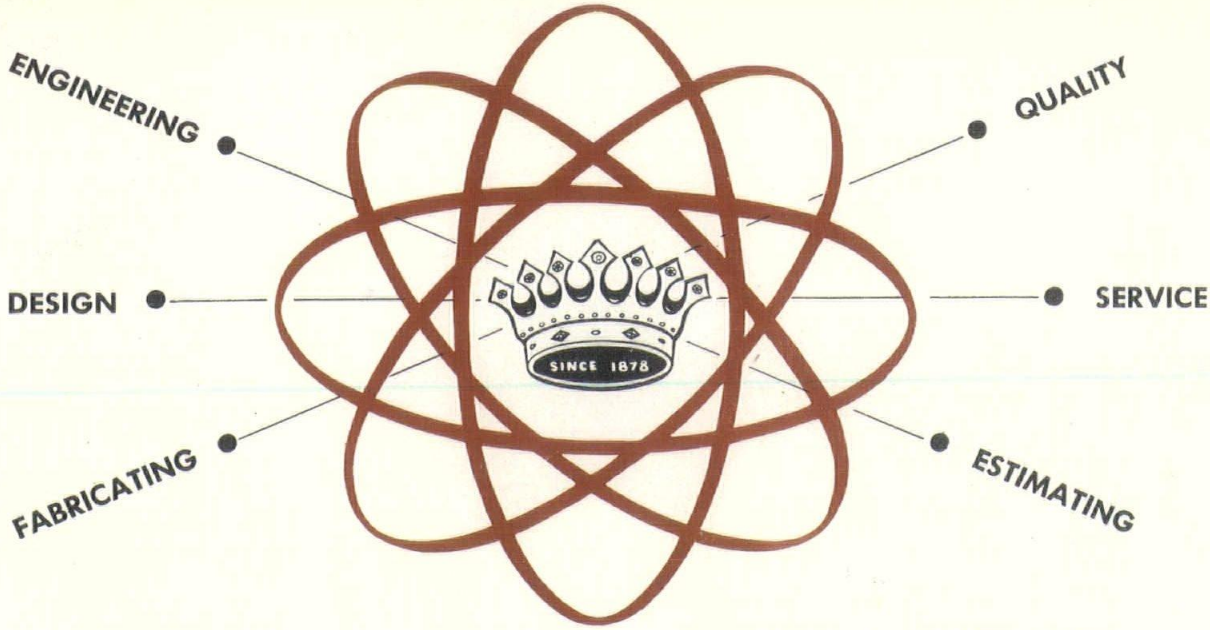
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MEMBER

ing from hotel to hotel through public lobbies or congested streets. Continuity of travel and appraisal are of prime importance. Aibility to move to another exhibit near at hand, to survey and appraise the merchandise of another manufacturer is possible.

The previous exhibitor's merchandise is fresh in mind so comparisons would be relatively simple. This in itself brings about competition and with competition comes an incentive to produce merchandise of better quality and perhaps lower prices. Proper display techniques are also very important. Crystalware and silver require a different display from that of outboard motors and flyrods. A new building complete with flexible exhibition space, proper lighting as required by the merchandise, workspace and adjacent facilities is the major requirement.

COST AND FINANCING:

Chicago's Merchandise Mart was built in 1931 at a cost of $32,000,000. The Marshall Fields Company felt confident of its success and also the Metropolitan Life Insurance Company which contributed $14,000,000 toward its completion. The Mart showed a profit in 1935 of $181,328 and the following year showed a loss of $66,459. Today the Mart is making money. It is proposed that an insurance company or the Blackhawk Hotel chain finance this building. The Hotel Nicollet has much to gain by this building and would aid in financing it.

SITE:

The Center is of service to two large metropolitan areas, St. Paul and Minneapolis. Minneapolis being the larger of the two areas with a concentration of manufacturers has been chosen as the location for this building. Hotel accommodations and traffic facilities (bus station, railroads and auto access) are prime in locating the site; therefore, the site—a city block square—west of the Nicollet Hotel on Hennepin Avenue has been chosen.

The Nicollet Hotel provides guest residences and the Milwaukee Railroad Station is 4 blocks east on Washington Avenue. The Great Northern Railroad Station is 3 blocks north on Hennepin, a proposed bus station is across the street from the Hotel Nicollet on Washington Avenue and a new automobile expressway is proposed in conjunction with the Minneapolis Civic Center Development. The center of the shopping district is 4 blocks south of the site on Hennepin Avenue. Warehouses are also easily accessible. With the site as a center a 4-block radius will embrace any needed facility. The greater percentage of buyers will use taxi service to and from the site.

The site is bounded on the north by Washington Avenue, on the east by Hennepin Avenue, on the south by 3rd Street and on the west by 1st Avenue North. For all purposes the site may be considered as flat. There is, however, a drop along Hennepin Avenue of 1 foot in 450 feet. The site is at present in a condition of blight. Reuse of this blighted portion is advisable since all facilities are installed and at hand. All the present buildings will be razed to their footings. The site is zoned commercial; as well as the adjoining areas.

BUILDING REQUIREMENTS:

Lobby space can be kept at a minimum, with a small display of the merchandise that is being shown in the exhibition hall. The lobby is a main circulation area to the exhibit hall, lounge, visual aid room, permanent display rooms, information, managers office and the connecting hotel.

Information: Twenty-five square feet. One girl will act as receptionist. She is at a point of control for visiting buyers

(Continued on Page 36)

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Upward acting doors shall be Crawford Marvel-Lift Doors, as manufactured by the Crawford Door Company, 401 St. Jean Avenue, Detroit 14, Michigan, and of the size and design as shown on the plans.

WOOD:

Wood sections shall have stiles and rails of vertical grain Douglas Fir, hardwood dowelled and steel pinned, waterproofed glued. Rails to extend full width of door. Panels to be of three (3) ply laminated fir ¼" 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 ¼" 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.

GUARANTEE:

Doors shall be guaranteed against faulty or defective material or workmanship under normal operation for a period of one (1) year.

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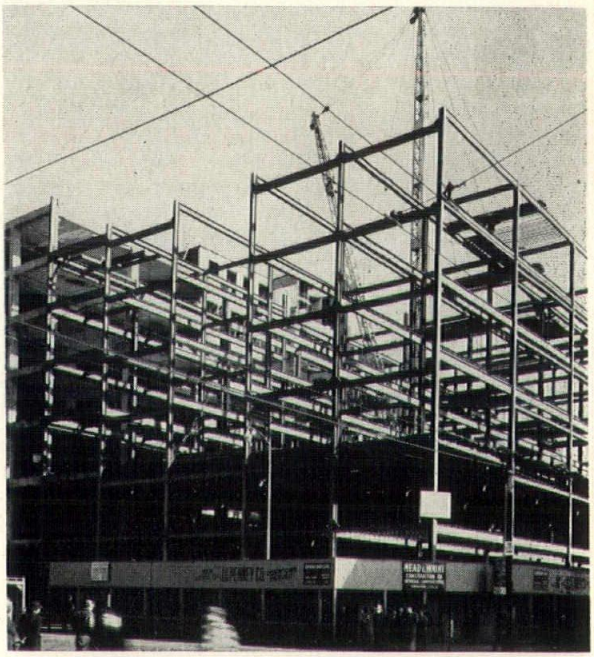
PENNEY'S

The new $1,750,000 store of the J. C. Penney Co. in Denver, Colo., designed by Raymond Harry Ervin, AIA, Denver, involved an interesting architectural problem because it combined a new six-story steel skeleton addition with an existing seven-story reinforced concrete building erected in 1913. Floor levels of the new portion had to coincide with existing levels and the exterior of the 38-year-old structure had to harmonize with the simple, modern design of the addition. This has been done so skillfully that it is impossible to tell where one unit ends and the other begins and the handsome, streamlined building ranks with the best department stores in the nation.

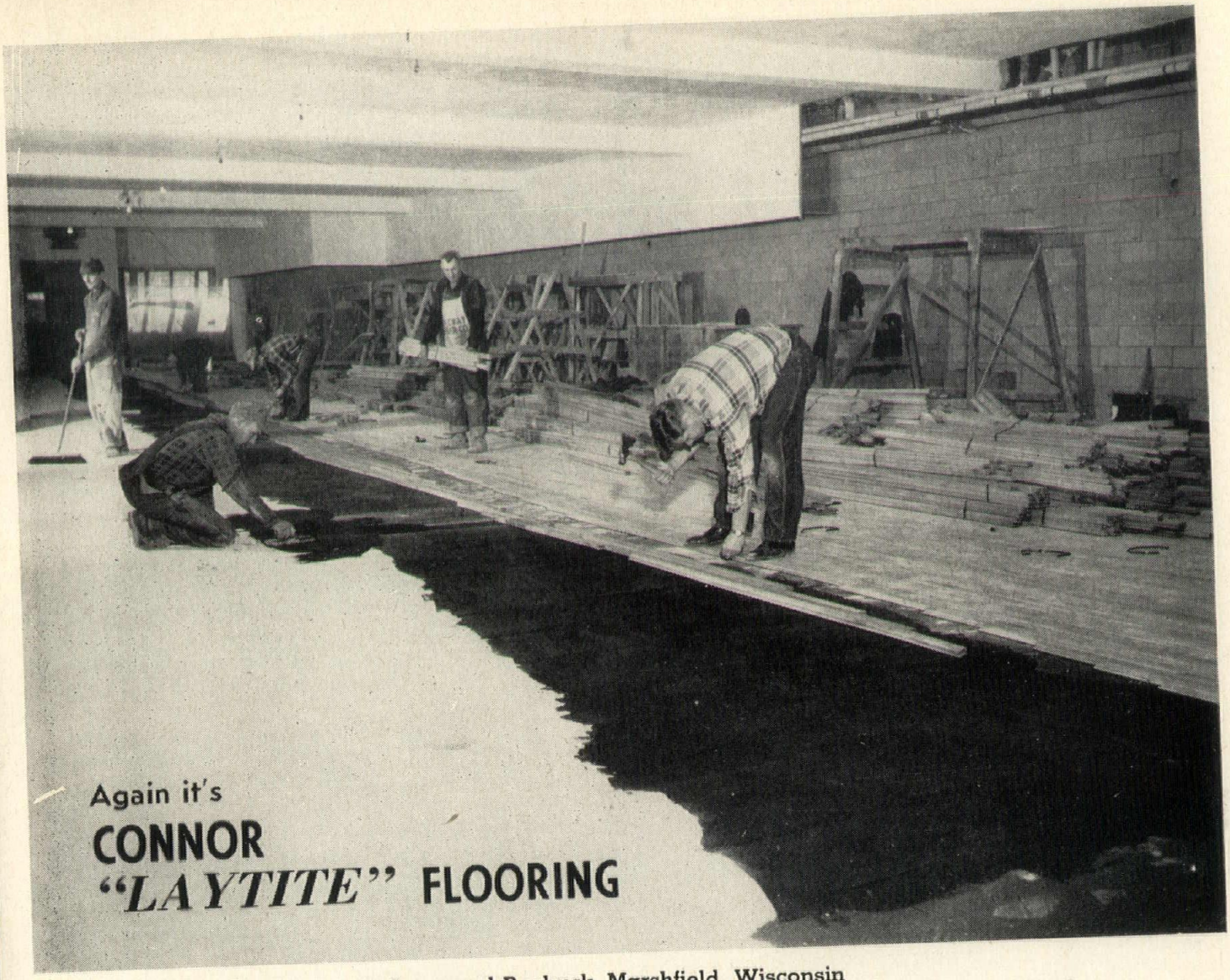
This is the first major structure to be erected in Denver under that city's new code approving modern, thin plaster fire protection that carries high ratings. The revised code went into effect while plans of the new store were on the boards.

The steel of the new portion is fireproofed with vermiculite plaster, 1" thick on suspended ceilings and 1½" thick on columns, over metal lath. The existing building was stripped down to its concrete skeleton, as shown in one of the illustrations, and fireproofed the same way.

Architect Ervin said that 10% of the cost of the building was saved with this fireproofing, compared with poured concrete. Another 10% saving in structural steel tonnage was made with lightweight vermiculite. Equally important from the standpoint of a large chain store operation was a 60-day time saving through the elimination of concrete forming. Total construction time was only about eleven months from the date the



The lower picture shows the new steel being intergrated with the stripped old building. Result is a homogenous structure in the modern mood (above).



Sears and Roebuck, Marshfield, Wisconsin

Store building floor is constructed of Connor **"Laytite"** Regular Strip Flooring, 33/32 by 1½", second and better grade. Flooring is nailed on screeds which are imbedded—flush with the concrete fill, smooth trowel; following one coat of No. 1034 cusion mastic troweled over the entire area, floor being nailed in place with screw-tite 8-penny nails. This procedure eliminates the use of paper and other water-proofing material as No. 1034 mastic takes care of any water-proofing and vapor-barrier.

This type of floor affords ample sound-proofing as well as water-proofing, with sufficient resiliency, long wear and will not develop any squeaks as there is no sub floor. Bearing is not only on the screeds, but also on the mastic between the screeds. Moreover this type of floor may be used in schoolrooms and gymnasiums. It is especially efficient and long wearing for factories where excessive traffic such as trucking is the rule. Broken joints rarely if ever occur because they are well supported with mastic placed between the screeds.

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first steel was placed, despite a 90-day city-wide strike by the building trades.

"We were delighted that we could use this type of fireproofing," Mr. Ervin said. "We wanted to put up a building where we would get as much for the owner's dollars as we could."

Exterior walls of the new portion are light buff, wire-cut brick, with a backup wall of cinder block to make a 12" wall. Floor construction is metal joist with a 3" concrete slab.

A border of Roman stone runs around the building above the main floor, with a strip 10 feet wide on each side of the main corner. Trim on window sills and coping is terra cotta.

Windows were placed high in the walls in order to clear the tops of show cases. Main floor street display windows have aluminum store front construction and are lined with polished Colorado travertine.

Also designed by the architect are the ornamental plastic letters, each five and one-half feet high, that spell out the store's name. They are affixed one below the other on the main corner of the building, and are lighted at night from the rear.

Finish on interior walls is white coat; ceilings, Keene's cement and sand. The attractive first floor ceiling circles out to the front entrance on three different radii. This is light iron construction, fireproofed with vermiculite plaster.

Solid 2" partitions of this plaster on metal lath welded to the structural parts protect the two escalators running from the basement to the fourth floor. The plastering contractor reported unusually good keying, important where vibration is a problem, and less danger of damage by abrasion to the escalator's machinery and polished metal hand rails. All fire extinguisher boxes and the sprinkler system were back-plastered with vermiculite. Stairways and shafts for passenger and freight elevators have the same fire protection.

The store is air conditioned throughout. Heat is supplied by a city main, eliminating the need for a boiler room. There are 138,000 square feet of floor area in the new store.

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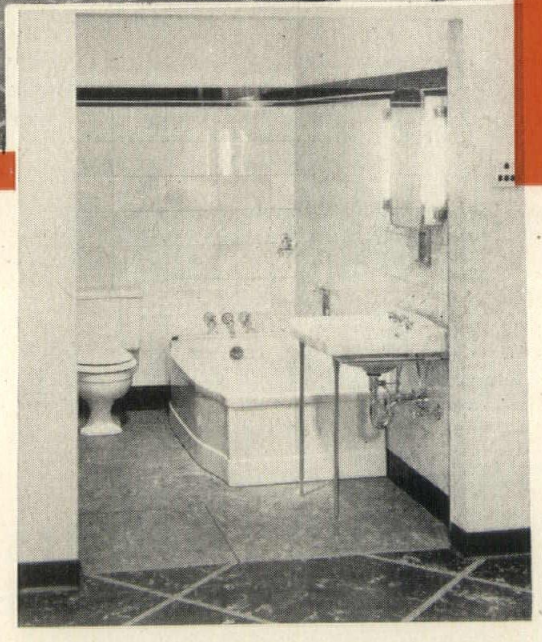
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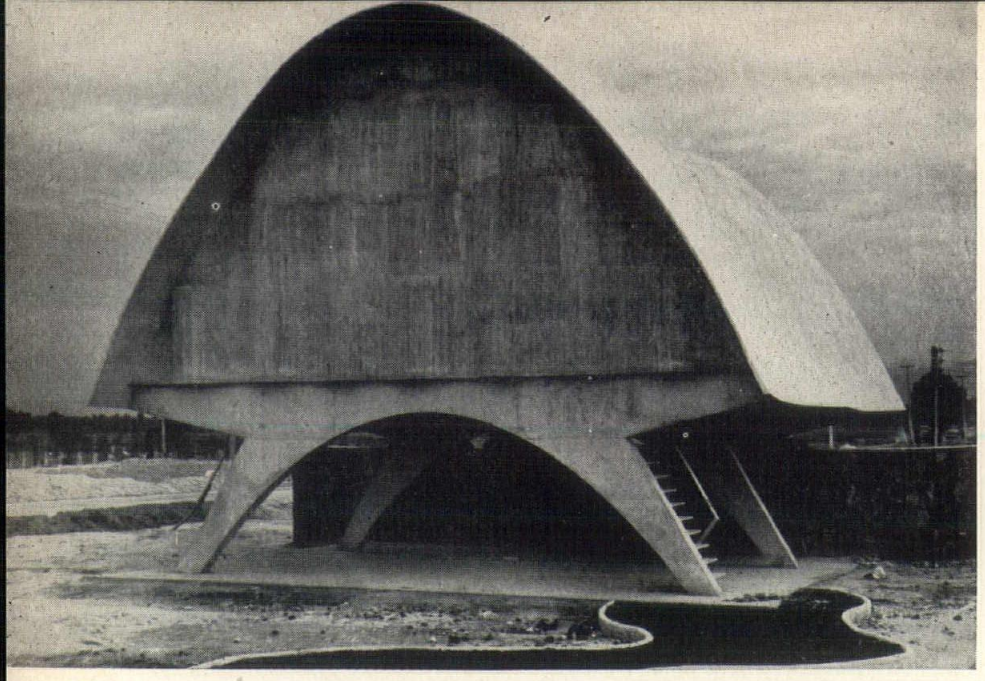


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COSMIC RAY PAVILION
UNIVERSITY OF MEXICO

SHELL ROOFS constructed of slabs four inches in thickness are commonly used in the small auditoria and other buildings, and in the Cosmic Ray Pavilion the slab is the thinnest that has ever been poured. It is one-half-inch in thickness, required in this case because cosmic rays cannot penetrate a thick slab. The roof consists of two parabolas, the double curve of the surface adding strength to the shell. The designer, Felix Candela, architect and engineer, says that the general objection to shell structures "is based on the common confusion between massiveness and strength. Massive structures are not necessarily stronger than the lighter ones. On the contrary, the former are more subject to deformation and failure."

Ciudad Universitaria

(Continued from Page 5)

can be moved from job to job without draining off the whole labor supply of the Federal District.

"I talked to the Albert Kahn organization and to several other firms that have done large scale buildings and studied their solutions. But American methods cannot always be applied in Mexico. Our materials are different, our craftsmen are different. In the end, we had to evolve our own methods. Often it has been necessary to develop the craftsman as the work proceeds. This is inevitable when one builds for the first time on such a large scale."

THE MACHINE

Mexico has never before built to a deadline. Heavy machinery used in the construction of highways and dams are employed for the first time in the construction of buildings. Three shifts work six days a week.

CAMPUS

The twenty square mile campus has been divided into three general zones. The Spectacle Zone, comprising stadium and surrounding parking space, is placed on the opposite side of Avenue Insurgentes from the other zones. The city had long wanted a stadium for large sports events, and when university plans got under way, the city asked for a share in the stadium. For this reason it was separated from the rest of the campus. The other two zones lie on the east side of the Insurgentes. The Scholastic Zone occupies the south portion, and the Sports Practice Zone the north.

There are centers at the edge of the campus for student dormitories and apartments for professors and their families; a community building for students; service and maintenance centers; printing shops and workshops; housing for employes.

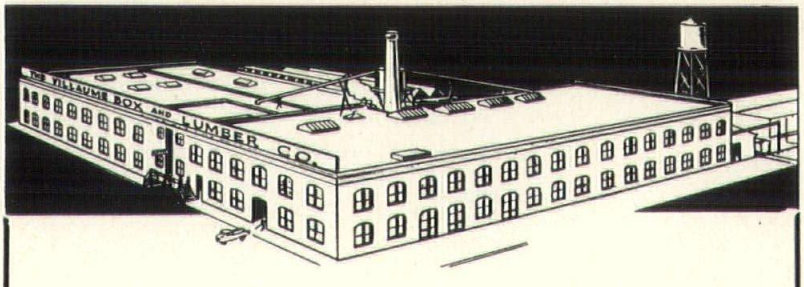
COLLEGES

The fifteen colleges which comprise the University have long been scattered over Mexico City and now for the first time in this century the colleges will be on one campus, occupying fifty-two new buildings.

ARCHITECTS

"In the United States or Europe," says Carlos Lazo, "university buildings are designed by a firm of two or three architects, who hire other architects and architectural firms to work for them, a form of professional slavery which we have sought to avoid.

"Mexico's new generation of architects wants professional credit



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for its work as well as financial reward. CU was designed by 140 architects. Each building is designed by a group of two or three architects, to whom full credit is given. More important than credit, in this case, is that the architects of Mexico contribute their collective talents to the making of the university. The planning mentality of Mexico is now at the service of the country."

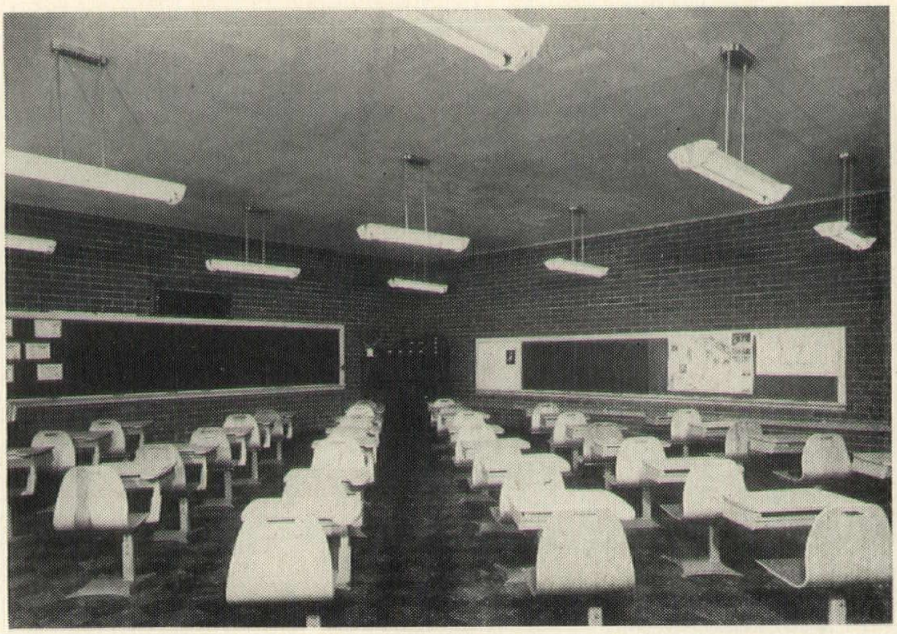
There is no university "style," but there is what Lazo calls a "unity in diversity." Architects are given complete liberty in design. The height of the building was determined solely by its use, with classrooms never exceeding three floors, which require no elevator. There are four towers: Administration Building, Science Tower, Philosophy and Letters Tower, and Library.

With so much space, it was questionable in the case of the Administration Building and the Philosophy Tower whether there was any advantage in verticality. However, the horizontal lines are emphasized in all the vertical buildings, especially in the Library, whose architects preferred a horizontal structure but required height for the stacks.

There is similarity in the treatment of the ground floors of most of the buildings. They are open lobbies, shelters from rain and sun, and used as passageways or gathering places. If partitioned at all, it is with glass screens, walls combining glass brick with stone, or a thin concrete curtain raised from the paved floor and stopping short of the ceiling, thus preserving the throughness.

Because of the open lobbies, the buildings have an excellent excuse for avoiding the monumental door. Not one is to be found in the uni-

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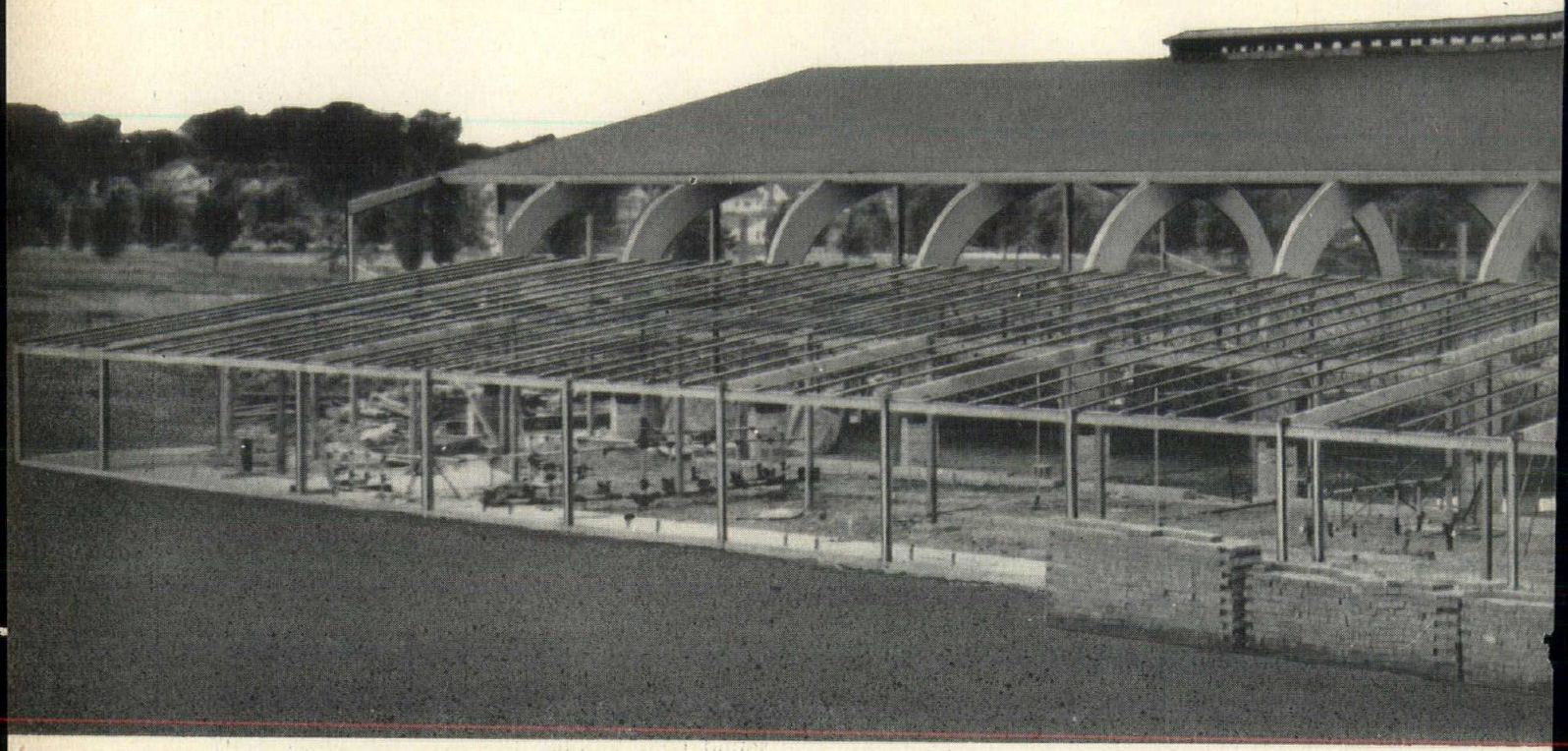
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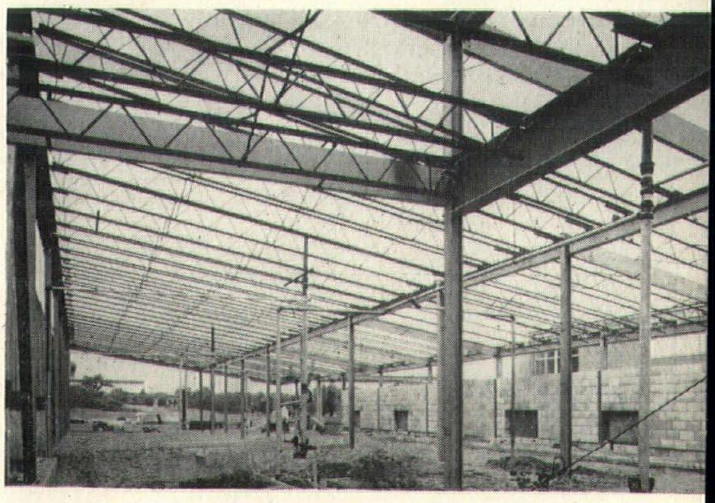
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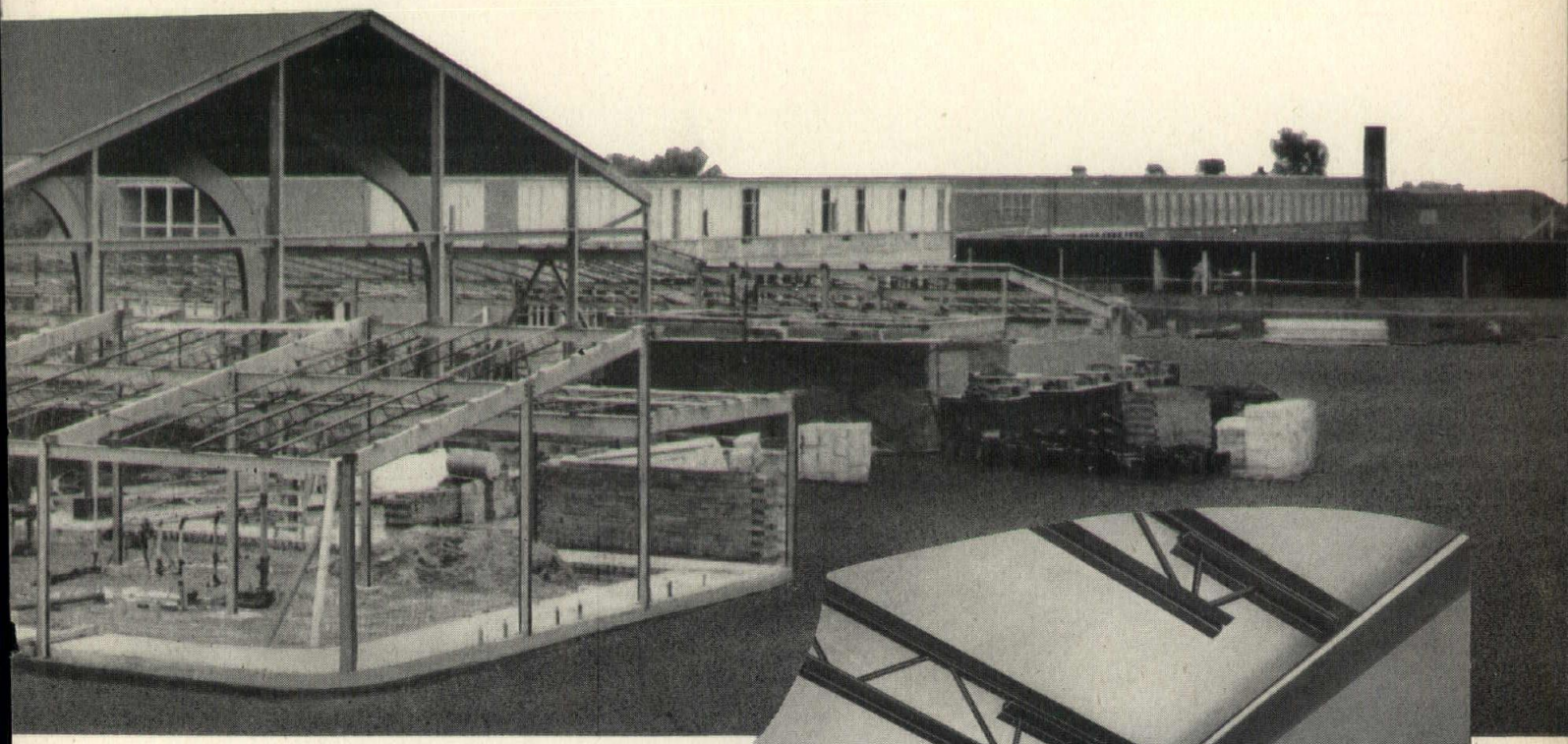


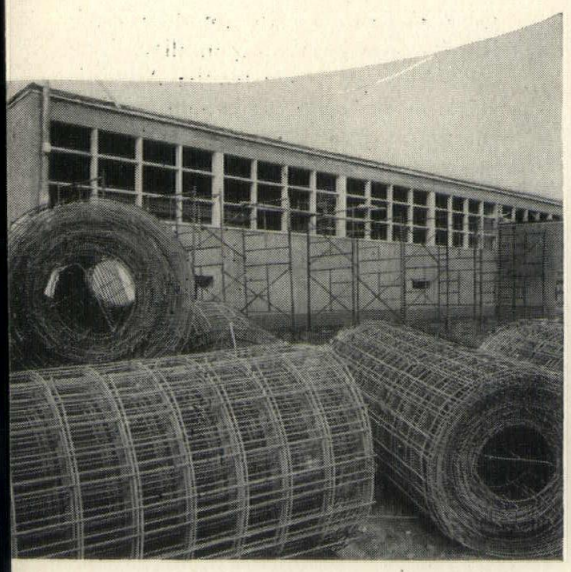
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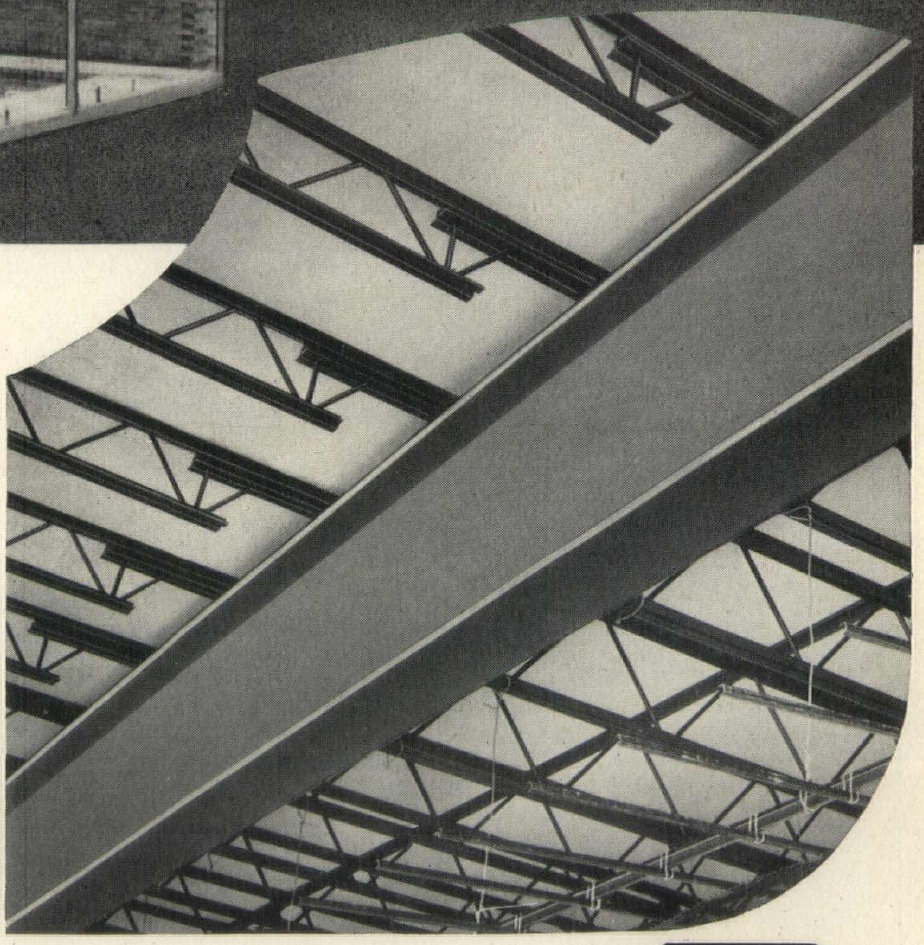
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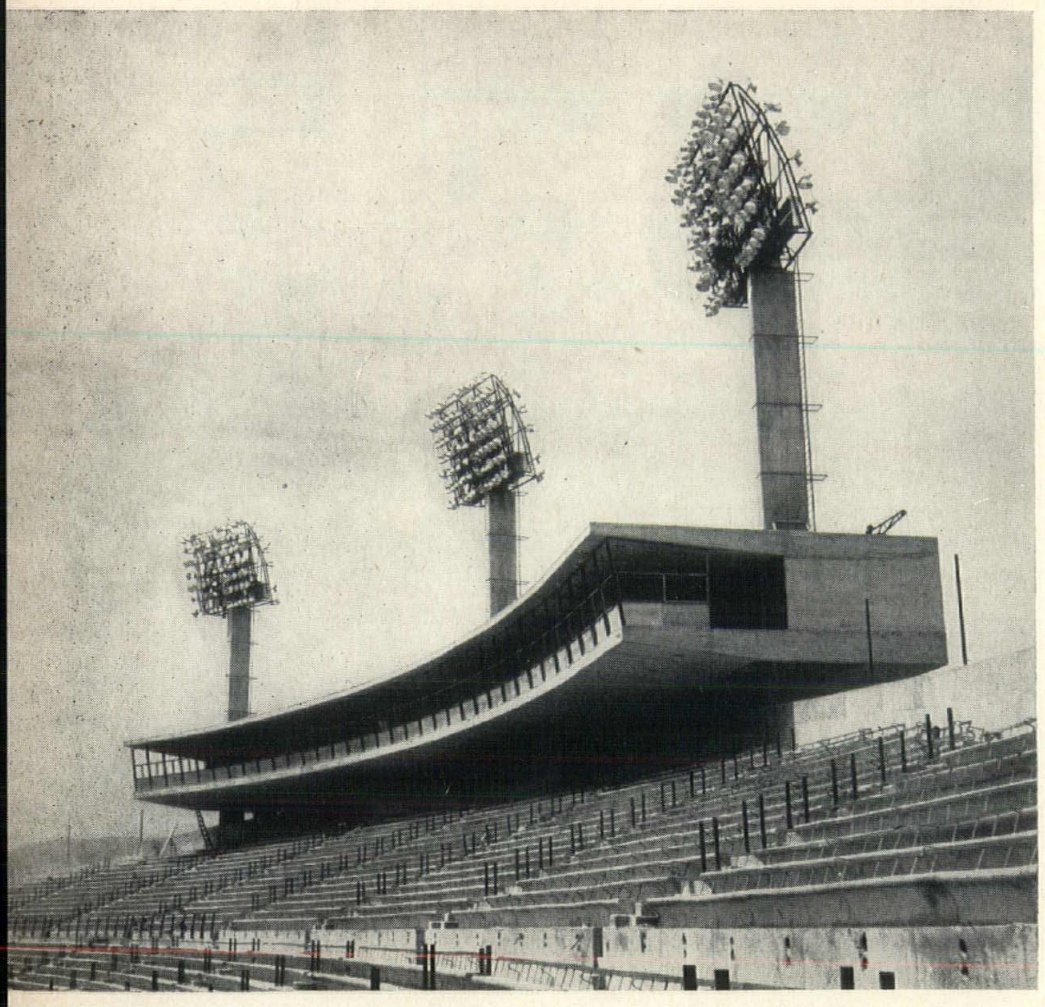






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PRESS BOX is a concrete cage floating lightly above the rim of the stadium. Cantilevered out from concrete supports, the transparency of the lifted dage does not obscure the flow of line of the stadium.

versity buildings. Openings, as in the case of the library, are usually broad and of the same character as the building itself.

MATERIALS

Beside the pedregal rock from the site, the most commonly used material is a glass-coated brick developed especially for CU and manufactured in Monterrey. It has three faces and does not require surfacing. It is used on all exterior and interior walls of classrooms.

Other industries are at the service of CU. Mills in Chihuahua and Monterrey roll out sheets of steel which are used, among other things, for making frames for the innumerable series of windows. Every state in the Republic has sent stone to CU. In the Administration Building, the most textured of all, are a dozen or more examples: obsidian from Taxco, marble from Tecali, a pale yellow marble from Iguala, and purple from Tehuacan. Arrays of new materials are tilted against exterior walls, where they are tested by the sun and the eye. Boxes of various colored mosaics for walls stand in the Humanities Building, waiting to prove themselves. Steel frames of the bands of windows on the same building were painted in a series of colors before final selection was made.

WALLS

The Mexican is a superb wall builder. No two walls made even of the rock from the site are alike. Each has its own particular quality. The most elegant is one by the Administration Building. It is composed of prismatic glass, dark gray and white stones from Oaxaca, of varying sizes, some of the blocks recessed, and all exquisitely joined. The wall around the Library garden is of pedregal rock, and the murals in high relief by Juan O'Gorman represent the four suns of the Aztecs.

All of the important buildings have murals by one of Mexico's famous artists: Siqueros, Rivera, Morado, and the mosaic murals on the four faces of the library are by Juan O'Gorman.

PAVING

Not only the wall, but the paving is treated as architecture in Mexico. The Great Plaza is paved with pedregal rock, and the broad areas around the buildings, and in the open spaces under them, are paved in a weave of bricks two meters

file: chalkboards

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illumination for visibility—another reason for the growing trend to reject now-outmoded "experimental" boards in favor of time-tested **natural slate chalkboards.**

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square, outlined by pedregal chips fitted without mortar. Blocks of pedregal, with grass planted between, is a pleasant compromise between planting and paving. Red concrete defines circulation areas, lanes, tunnels.

PLANTING

The native trees and plants of the pedregal have been carefully preserved, some in nurseries for transplanting later. Trees and plants of Mexico, which have the same character as the pedregal plants, have been brought from all states in the Republic. Cactus gardens stab the smooth plazas that lead to the stadium. A double highway is divided by low thick-trunked trees.

MAN AND MACHINE

Carlos Lazo: "Mexico is growing fast. We prepare for growing in many ways. Yesterday workers carried all their materials on their backs. Today they have discovered the machine. It has been quick. We have needed more time to prepare. But we march. That is true of the architect also. The problem of the architect is now the problem of mankind, the common problem: to develop techniques that may be put at the disposal of all."

Grand Plan

(Continued from Page 7)

system of avenues for pedestrians and vehicles, which unite all the buildings.

THE OVERALL PLAN established the large architectural zones which govern the composition: Scholastic Zone, Sports Training, Dormitories, etc. Next was determined the secondary groupings which govern these zones: Administration, Humanities, Arts, Sciences, Assembly Hall, Library, Museum.

Because of the importance of the Administration Building, the project planners placed it in a privileged position; its double function, service to the university and the public-at-large.

In determining sites, we tried to achieve the most intimate grouping possible between the schools and the institutes, with immediate access to the Central Library. We considered also the convenient proximity of dormitories to sports training fields, the central position of professors' and students' clubs, etc.

The site plan also specified which spaces should be left open, the plazas, gardens, terraces; determined the type of landscaping to be used; established different levels, dimensions and treatment of paved areas.

ANOTHER PRINCIPAL FUNCTION of the Overall Plan was to establish the relation between the different volumes of the buildings; determining their heights, etc.; to make uniform the basic materials; to relate colors; etc., in order to arrive at an integration.

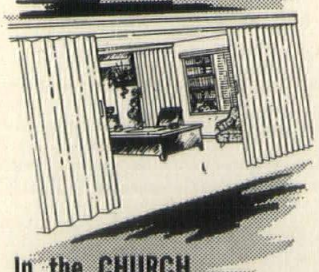
The Overall Plan is in its entirety the essential standard for the construction of CU. The solution of the Plan, as in the case of all architectural projects, above all in one so complex and having such diverse elements, required long study.

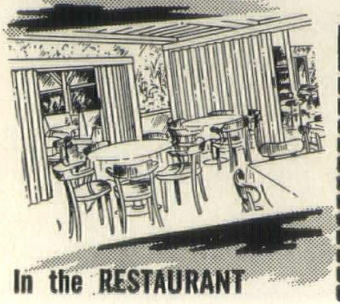
After the respective architects worked out preliminary plans, successive adjustments were necessary to coordinate the plans with the Overall Plan, adjustments which constitute a sincere work



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of coordination. This coordination continued throughout the numerous plans, until with just appraisal of all necessities, a satisfactory result was obtained, without sacrificing any of the fundamental exigencies.

At least this gives an idea of the scope of the work, the extent of which can be grasped when it is known that it took three hundred plans to arrive at the formulation of the General Program, which was the basis of the Overall Plan, the coordination of the programs, preliminary plans and special projects. When these were finished and approved by the overall planners, the Director General of Ciudad Universitaria then proceeded forthwith to construct the entire project.

WESTERN MINERAL BUYS PERLITE PRODUCER

Western Mineral Products Co., Minneapolis Zonolite-vermiculite processors, have started an expansion program that will include



C. A. Pratt (center) exhibits perlite plaster aggregate to L. J. Venard and H. W. Steiff, all of Western Mineral Products Company, at newly purchased plant of the Johnston Manufacturing Company

the production of perlite aggregates, according to an announcement by L. J. Venard, president. The firm has just purchased the perlite processing equipment of the Johnston Manufacturing Co. in Minneapolis and will install the most modern perlite processing equipment available at all four of the company's plants as soon as possible.

"We're not switching from vermiculite to perlite production," Venard stated. "Vermiculite will always be the backbone of our business but our observation of the construction picture for more than four years indicates that perlite has a definite place in the building field."

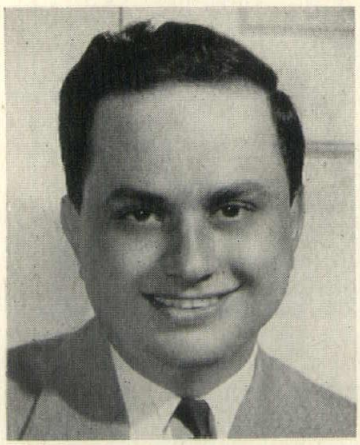
The newly acquired perlite facilities will be operated at their present location until equipment can be installed at Western Mineral's plant, Mr. Venard added. Production will be limited for the present to four perlite aggregates: plaster, plaster finish, plaster float finish and concrete.

"So far as architects are concerned," H. W. Steiff, sales manager, said, "our representatives will be able to render the same field service for perlite as they have for vermiculite products."

The basic difference between perlite and vermiculite is that perlite is a volcanic rock; vermiculite, a mineral. Both expand when subjected to high temperatures. Expanded perlite is a grittier substance than expanded vermiculite. Today, over 50 per cent of all the plaster applied in the United States is mixed with either vermiculite or perlite, instead of sand, Western Mineral officials said.

MARINOS NAMED BY RILCO

John G. Marinos has been named supervisor of commercial products sales for Rilco Laminated Products, Inc., St. Paul. Creation of a commercial sales department is the latest of several changes at Rilco designed to keep up with expansion of production facilities and the market for



Mr. Marinos

commercial building members, said General Manager George Schweitzer in making the announcement. Rilco's new plant in Albert Lea, Minn., which will concentrate on fabricating laminated wood beams, trusses and arches for commereial construction, is scheduled to go into full-scale production this fall.

Marinos, a structural engineer, is on the standardization committee of the American Institute of Timber Construction.

BUILDING STIMULUS TO BE PUSHED BY CELOTEX ADS

Continued new building and remodeling will be spurred on this fall by an advertising program by The Celotex Corporation in which two-color ads in leading consumer magazines are to be used.

"There are conflicting opinions among government and private authorities as to whether the supply of houses is catching up with demand," officials of Celotex said, "but a survey of any city will prove there are millions of persons living in slums and sub-standard housing."

As long as there are undesirable



How to handle practical problems in electrical drafting and design . . .



This book gives the man who knows something about mechanical drawing and electricity the kind of practical training needed for a top job in the electrical field. It shows *what* drafting and design procedures are used in all types of drafting rooms doing electrical work—in the offices of an engineer, contractor, architect, power company, manufacturer of electrical equipment, or whatever. And it explains *why* certain standardized techniques have proved most effective in saving time and money.

Third Edition

ELECTRICAL DRAFTING AND DESIGN

By C. Calvin Bishop

Third Edition, 262 pages, 6x9, 128 illustrations, $4.50

If you are now working in the electrical field as a draftsman, this book will help you improve your skills and work towards the better-paying job of designer. If you are a draftsman in another field, it will help you acquire the particular techniques and background needed to fit into electrical drafting.

CONTENTS

1. General Instructions for mechanical and Electrical Drafting
2. Circuit Diagrams
3. Switchboard for Direct-Current Generator
4. Switchboard for 2300 Volts
5. Outdoor Substation
6. Residence Wiring
7. Laying Out Wiring
8. Illumination
9. Industrial Plant Appendix

It gives sound, simple methods proved most efficient and economical in drafting rooms where electrical jobs are done. Discussion ranges from such fundamentals as symbols and drafting tools—to worked-out examples of problem solutions for switchboards, house wiring, outdoor substations, machine shop wiring layouts, general lighting, and circuits for industrial plants.

The appendix provides you with 125 pages of reference data. Here you will find mathematical tables; data sheets; charts showing ASA symbols for electric power and control, various symbols for architectural plans, etc.

The New Edition is fully revised to keep pace with changes in the field. Advances in lighting, metal cubicles for switch gear, automatic control, and apparatus and equipment used for hazardous locations; the almost universal adoption of unit substations; and the trend toward 440-volt 3-phase power for motors in industrial plants—all are here.

NORTHWEST ARCHITECT
2642 University Ave.
Saint Paul 14, Minnesota

Send me.....copies of Bishop's ELECTRICAL DRAFTING AND DESIGN at $4.50 each, postpaid. I enclose ☐ check, ☐ money order, for $.....
(print)
Name .....
Address .....
City..... Zone.... State.....

homes there is a potential building market, it was pointed out. Stimulus of those living in these quarters and those interested in them as tenants leads to more demand for architectural and building work.

MINNEAPOLITAN ON NATIONAL CHAMBER CONSTRUCTION COMMITTEE

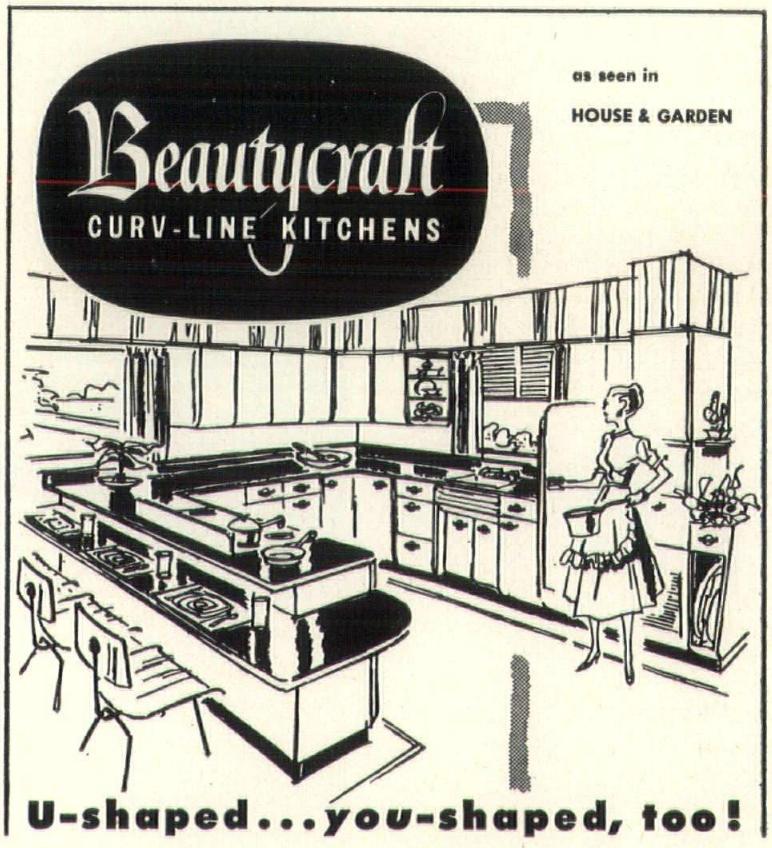
A Minneapolis building industry representative, Leonard G. Carpenter, vice president of the McCloud Lumber Company, has been made a member of the construction and civic development committee of the Chamber of Commerce of the United States.

The group studies and recommends actions in relation to the construction markets, government control of materials, credit and rents and the planning of private and public projects. This year's committee plans to work for more emphasis on apprentice training, more research in building and better city planning.

THERMOSTAT LOCATION IMPORTANT

Location of thermostatic controls for the optimum in comfort and fuel savings is fully discussed in one of the circular series issued by the Small Homes Council, University of Illinois. While it deals with home problems, its basic facts are readily adapted to use in planning heating of larger structures.

How thermostats work, where they should be located, how to use them, heat zones within a structure and controls for various fuels and burning plants are discussed. Copies can be obtained from the council at the university, Urbana, Ill. Number of the circular is G3.2.



MILLER METAL PRODUCTS CORP.

Baltimore, Maryland

Distributed By

BARTLEY SALES CO.

134 So. 10th St. Minneapolis, Minn.

Tel. LIncoln 7838

J. B. LYON MADE HEBRON BRICK PRODUCTION MANAGER

John B. Lyon has been named production manager of the plant of the Hebron Brick Company of Hebron,



Mr. Lyon

N. D., according to a company announcement. He is a graduate ceramic engineer, having taken his work at the University of Illinois. He has been in the ceramic field for 30 years, 25 of which were spent with Laclede-Christy Co., nationally known ceramic producers.

HIGH CAPACITY IN NEW SMALL SIZE ONAN ELECTRIC PLANT

A high capacity electric generating plant in a small size unit has been introduced by D. W. Onan & Sons, Inc., in its new 3,500-watt Model 305CK, which can deliver an emergency peak load of 4,000 watts for two hours.

The extra 500 watts allows for emergencies on the job and for borderline extra-peak demands. The unit can be used for stationary, portable or mobile installations. It is available with manual and remote automatic starting.

The engine is a two-cylinder, 4-cycle, air-cooled gasoline engine delivering its full rated load with fuel consumption of 0.68 gallons per hour. The unit is 115-volt, 60-cycle. For standby service, the line tranfer control will automatically start the unit within second after highline power fails. When power is restored in the line, the plant is stopped automatically.

Complete details are available from the company in its Form A-100-L. Address is Minneapolis 14.

GEORGE R. LEWIS CO.

Koppers Bitumastic Coatings
Para-Plastic Joint Sealing Compound
Laykold Industrial Products

2036 Queen Ave. So., Minneapolis 5, Minn.
KEnwood 5002

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CONCRETE BLOCKS

Stocked in all above styles as well as standard blocks

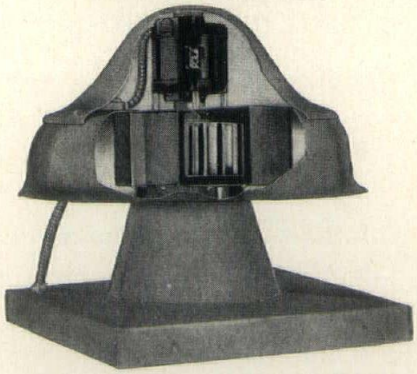
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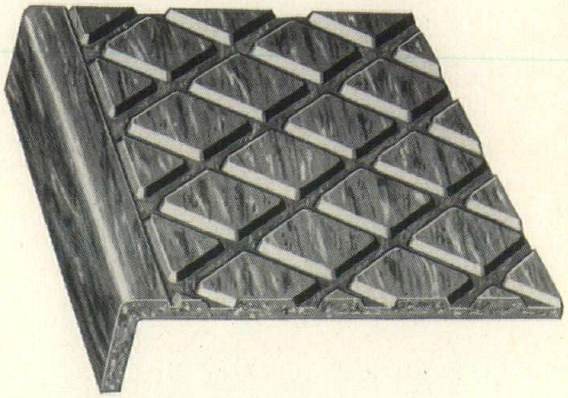
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Produced in 5 beautiful marbleized colors . . . plain black for industrial uses. Quiet, safe, resilient, and economical.



Square and Curved Nosed Treads 1/4" Thick

12½" x 36" 12½" x 42"
12½" x 48" 12½" x 54"
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MATCHING LANDING TILE 26" x 26"

Can be applied to wood, concrete, metal, tile or composition with
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Rydell's

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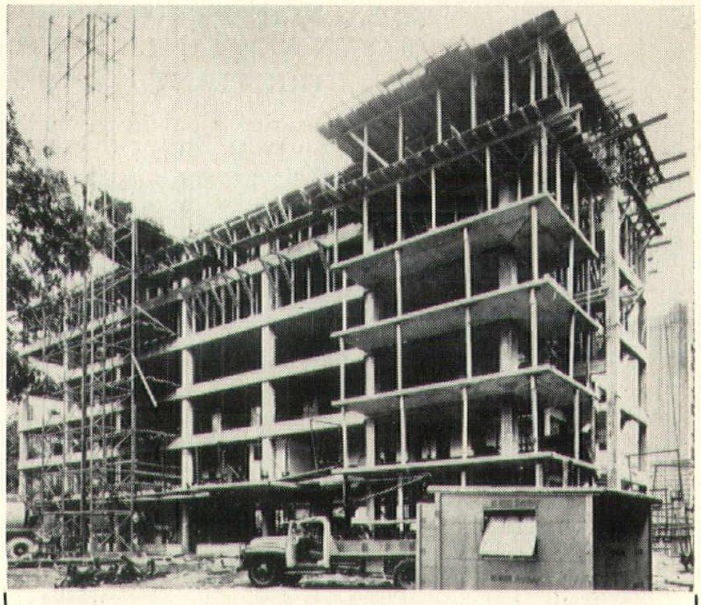
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Construction View 9-Story Nurses Home

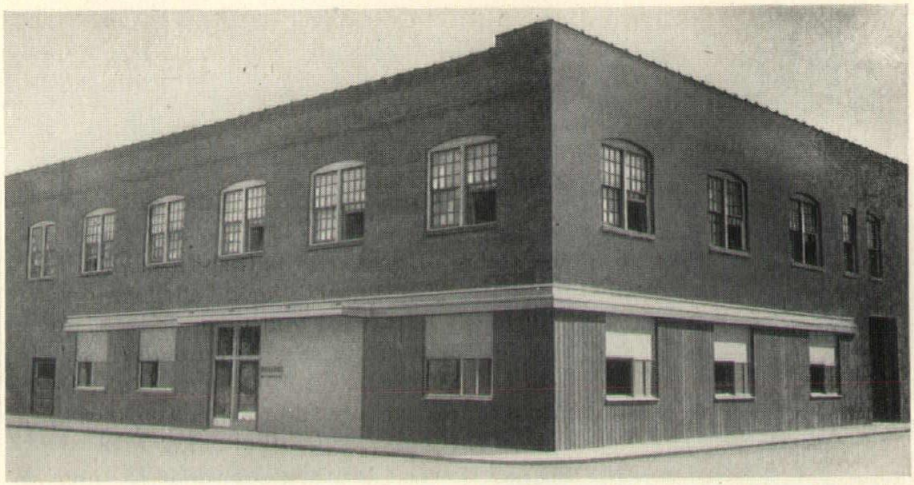
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Boston, Mass.

Coolidge, Shepley, Bulfinch & Abbott, Architects
Geo. A. Fuller Co., General Contractors

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FLAT SLAB CONSTRUCTION
802 Met. Life Bldg., Minneapolis 1, Minn.

WALTER H. WHEELER
Consulting Structural Engineer

Villaume Honors 70 Years



Growth through 70 years from a small box-making shop to one of Minnesota's leading building material suppliers and fabricators of milled units was celebrated recently by the Villaume Box and Lumber Co., St. Paul. An open house for architects and others in the building industry was held in the company's newly remodeled building (above) in honor of the anniversary.

Officers of the pioneer business are shown at the right. They are (seated, l-r) Julius Villaume, president, and Harold Rutchick, secretary-treasurer; (standing, l-r) Frank Villaume, executive vice president, Jay H. Ledy, vice president, and Frank Aughnay, assistant secretary.

The new layout is designed for easy selection of materials for building. Large display rooms show all products from flooring to roofing, from kitchen cabinets to paneling, from custom built millwork to structural timbers. All is arranged for speedy, clear inspection and selection.

Villaume products and materials have gone into a myriad of Northwest buildings. Notable is the interior woodwork and paneling supplied for the First National Bank Building, Northern States Power Building, Lowry Medical Arts Annex, Ramsey County Courthouse and St. Paul City Hall, Field-Schlick's store, Nazareth Hall and St. Steven's and St. Luke's churches. The firm was founded October 1, 1882, by Eugene and Victor Villaume, Frenchmen who came to the Northwest to seek their fortunes. First a box plant, the firm expanded to include building materials and millwork.

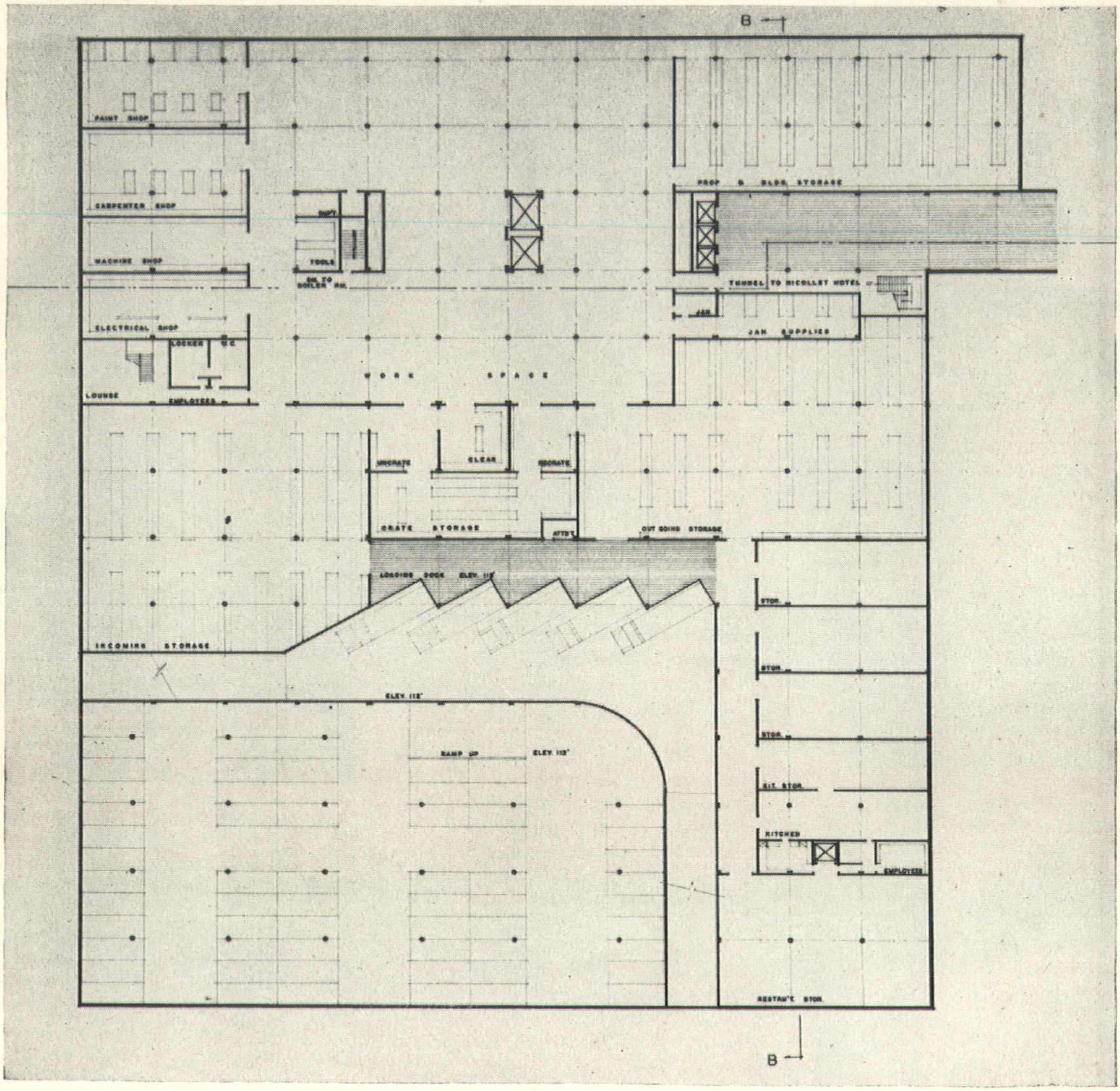


Snapped at the open house were those in the group of pictures at the left. In each case we identify them left to right, starting with the top picture. The pictures show (1) Dorothy Schouweiler, Joan Comiskey, Lloyd Loucks, Marie Anderson, Ole Anderson, Sheila Dunnigan, Dolores Hanrahan, Harley Murphy and Jim Jackson. (2) William Kahl, Harley Murphy, Al Nienaber, Dolores Hanrahan, Pat Berry and Norman Nordmeyer.

(3) Pete Donkers, Grover Dimond, George Brace and Bud Holland. (4) Grover Dimond, Frank Villaume and Rudy Zelzer. (5) Julius Villaume, Jay Ledy and Art Lampland.

(6) Pete Houns, Ed Burehell, Howard R. Woolsey, Warren O. Kjeldsen, Howard Cullen and Wallace E. Hendricks. (7) Wendel Stranberg, Ray Thibodeau, Frank Madden, Frank D. Marzitelli and Beaupret Eldredge. (8) Julius Villaume, Pat Berry, Frank Villaume and Ole Anderson.

Merchandise Center



The Basement

but not for business to be handled by the general manager. The general manager's visitors will be handled by his secretary.

Lounge: As required.

Toilets: 200 square feet. Men's and women's toilets will be adjacent to the lounge. The men's toilet will include 2 water closets, 2 urinals and 3 lavatories. The women's toilets will include a powder room, 2 water closets and 2 lavatories.

Visual Aid Room: 400 square feet for every 25,000 square feet of display space. A visual aid room will be provided for 50 people. The process of manufacturing an article is more easily explained by a film and knowledge of the process is of interest to the buyers and is of value to his later sales.

Projection Room: 70 square feet. Two movie sound and one slide projectors are required.

Bar and Restaurant: Dining and drinking space shall be provided for the buyers and staff. Dining facilities shall be provided for 150 persons and bar space for 50 persons. It has been suggested that dining and drinking be removed from the display space and be confined to a separate room or a lounge. Kitchen facilities and services must be in conjunction with the dining areas. It is preferred that the dining room will serve complete dinners of varied menu. This might dictate a single unit entirely separated from any display space.

Kitchen: 600 square feet.

Manager's Office: 200 square feet. The main duties of the manager are to co-ordinate the exhibitions and to interview and contract prospective exhibitors. This infers a great deal of personal contact. The manager shall have a private toilet.

Manager's Secretary: 200 square feet. She is the typical secretary carrying the brunt of her employer's troubles and worries. Her duties are to keep the manager comfortable, answer his personal correspondence, make preliminary interviews, supervise the general office bookkeeping and stenography and also have "it." A small waiting space which she can supervise will also be provided.

Conference Room: 320 square feet. This room is for execu-

(Continued on Page 38)



When St. Paul A.I.A. and Producers Council members got together for their annual golf tourney late in September, these pictures resulted (in each case we identify left to right) . . . 1—Charles Jones (Bergstedt & Hirsch) receives the Northwest Architect Trophy from St. Paul Chapter President George Townsend . . . 2—Bill Napier (A.I.A.), Frank Clark (engineer), Lorand Weinberger (A.I.A.) and Larry Reak (National Fireproofing) . . . 3-George Townsend (A.I.A.), Bill Rabe (Ceco Steel Products), L. G. Hamilton (Westinghouse Electric) and Berton Flick (draftsman) . . . 4—Ralph Kuehn (Johns-Manville), Bill Bloomquist (Pella Products) and George Townsend (Chamberlin Co.) . . . 5—Charles Wahlberg and Abel Sailer (Wm. Ingemann & Associates) and Fred Heiber (Ellerbe & Co.) . . . 6—Frank Mayer, Andy Aronson and Bob Olson (Northern States Power Co.), L. G. Hamilton and Bill Bloomquist . . . 7—Duke Haldeman Haldeman-Langford), Ted Sime, Gordon Comb and Herb Crommett (architects) . . . 8—Warren Wood and Vernon Brunsell (Crown Iron Works) . . . 9—Brooks Cavin (A.I.A.), Dan Fourre (Bergstedt & Hirsch) and Louis Lundgren (Haarstick, Lundgren & Associates) . . . 10—Milt Dahlen, Max Buetow, R. R. Hammel and Charles Jones (St. Paul architects) . . . 11—Milton Bergstedt (A.I.A.), Bob Anderson (Great Lakes Steel Corp'n.), Bob Brenbridge (A.I.A.) and B. J. Mulcahy (H. W. Taylor Co.) . . . 12—Gerald Buetow, I. W. Haugen, Don Haarstick, Edwin Lundie and R. L. Pope (architects) . . . 13—Bob Deegan (H. H. Robertson Co.), Bill Bloomquist (Pella Products), Bob Olson (Northern States Power Co.) and Vern Larson (Kimble Glass Co.) . . .14—N. H. Mortenson (A.I.A.), Jack Homme (Hamilton Mfg. Co.), Merle Abbott (A.I.A.) and W. R. Langford (Hamilton Mfg. Co.) . . . 15—S. Q. Dittenhorfer (Kimble Glass Co.), Ben Meltzer (Ochs Brick & Tile), Carl Buetow (architect), Vern Larson (Kimble Glass) and Bob Olson (Northern States Power Co.).

THE ALL-PURPOSE INSULATION

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Made From Durable Redwood Bark

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Muckle MANUFACTURING CO.

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tive and buyer conferences. Files will be kept showing layouts and photographs of previous exhibitions.

Display Technician's Office: 160 square feet. The display technician shall be a permanent, salaried member of the Merchandise Exhibition Center's staff. He shall design, supervise and execute all displays for the exhibitors. It is proposed that he be located in the general office area so he can have easy access to the conference room and correspondence office.

General Office: 300 square feet. General bookkeeping and accounting will be handled here. Three girls will comprise this unit. A small vault and fireproof filing cabinets are required. Circular mailing will be handled here. Also required are 3 stenographer's desks, a mailing table, a dictaphone recorder, an adding machine, typewriters and file cabinets. The manager's secretary should have ready access to this office.

Semi-Permanent Exhibition Space: 100,000 square feet. 100,000 square feet of floor area will be assigned to displays of a semi-permanent nature. That is, displays that will remain set up for periods of 3 to 4 weeks. This space is of added convenience to the visiting buyer who may come to see the changing show but wish to buy merchandise of another nature. (One furniture exhibit requires from 4 to 6 thousand square feet).

Semi-Permanent Exhibition Space Offices: 100 square feet. Each display area shall have a private office for salesmen to promote sales in private.

Drafting Room: 250 square feet. Adjoining the display technician's office shall be his staff drafting room, consisting of 3 drawing tables and files. Two display draftsmen shall be his staff.

Constantly Changing Exhibition Space: 25,000 square feet. This space can accommodate from 5 to 50 exhibitors at a single showing of a week's duration. It differs from the semi-permanent display area only in the time schedule of showings.

Exhibitors' Sales Offices: 100 square feet each. Private space must be provided for the sales representative to confer with a buyer. The management has agreed to a partitioned off section of the display to serve as this office. The space shall contain one to two desks as determined by the size of the exhibitor's contracted space. As an alternate the management has agreed to private, permanent modular offices of 120 square feet each which could be expanded as required. The expansion would involve allocating two or more modular offices to one exhibitor.

Work Space: 12,000 square feet. The work space shall be immediately adjoining the exhibition hall or within ready access. In this space the standards for the display would be fabricated. In some cases the entire display could be fabricated and ready to be moved into the exhibition hall intact. The total area of the work space includes area for storing the finished standards prior to their erection in the exhibition hall. Space is also provided for disassembling the display standards and recrating the merchandise for shipping to the manufacturer.

Prop Storage: 5,000 square feet. Storage space for standards and material that may be reused is provided here. Also storage for manikins, fabrics, rugs and other articles necessary to complete the display settings.

Crating and Uncrating: 2,000 square feet. All receiving and shipping shall be done under cover. Merchandise received by the Center for display is uncrated and the original shipping crate is stored and used again by the Center for reshipping the merchandise. This method eliminates the necessity of fabricating crates which would be a full-time job because of the short exhibition time. Space shall be provided for 5 trucks, a loading dock and incoming and outgoing merchandise storage.

Incoming Merchandise Storage: 8,000 square feet.

Outgoing Merchandise Storage: 7,000 square feet.

Shop Supervisor's Office: 150 square feet. The shop supervisor shall have charge of all the shops and shall be provided with a desk, files and a work counter.

Tool Room: 80 square feet. The tool room shall be open to all the shops and work space and shall have no attendant.

Carpenter Shop: 1,500 square feet. The carpenter shop will fabricate all woodwork as directed by the technician's office. It shall include 2 lathes, one table saw, one jig saw, one hand saw, work benches, a planer, jointer and its own storage.

Machine Shop: 900 square feet. A machine shop shall be provided for work in metals, wire and plastics. It shall contain a lathe, drill press, work benches, power grinder and buffer and its own storage. Welding will be done in this shop.

Paint Shop: 1,500 square feet. The pain shope shall include 4 spray booths and one drying booth, also its own storage. Each booth will be provided with a hood and outside vent.

Electrical Shop: 1,300 square feet. An electrical maintenance man shall be a full-time, salaried employe. His duties are to maintain the lights in the entire building and to experiment with lighting effects. This shop shall include storage and an office space.

Employe's Lockers and Toilets: A maximum of 30 lockers are to be provided in the work area with an area of 80 square feet. Two water closets, 3 urinals, 2 showers and 3 lavatories are to be provided.

Janitor: 600 square feet. Eight janitors will be provided, also storage space for equipment and materials.

Buyer Parking: 50 cars.

Staff Parking: 40 cars.

Air Conditioning Fan Room and Equipment: 3,000 square feet. Four to 5 air changes will be required per hour.

Boiler Room.

Tunnel to Nicollet Hotel: A tunnel connection to the Hotel Nicollet's elevator bank shall be provided.

GENERAL INFORMATION

Lighting: The exhibition hall shall maintain a minimum of 10-foot candles of general illumination. The general light level will be kept low so as to produce maximum effect of display lighting. The lighting system must be extremely flexible. Lighting in the offices will be at 30-foot candles in general areas. Lounge lighting will be by floor and table lamps to produce a soft light. Light in the shop and work areas will be as required by machine and task.

Heating and Air Conditioning.

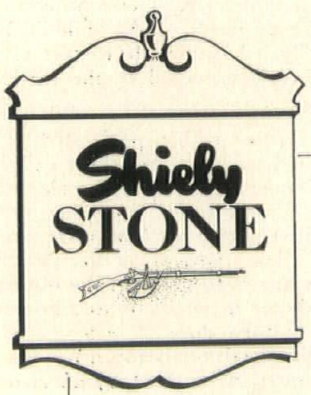
Materials: The management has expressed the desire to keep maintenance costs at a minimum. It has requested that durable materials be used throughout the building.

Structure: Two basic building methods may be used to span a large area. These are the post and lintel and the arch form. The post and lintel with an open web truss is favored as a solution. Air ducts can pierce the truss web and space between trusses can accommodate the flexible lighting required.

ANNUAL SCHEDULE OF EXHIBITIONS

Merchandise	*No. of Shows*	*Time Consumed Weeks*
Wearing Apparel	6	6
Sporting Goods	3	3
Shoes	4	4
Jewelry	1	1
Crystal—China	1	1
Silver—Pottery	1	1
Housewares	1	1
Precision Equipment (Tools)	1	1
Advertising	2	1
Radio—Television	1	1
Appliances	2	2
Furniture	1	1
Toys	1	1
Hardware	2	2
Plastics	1	1
Building Materials	1	1
Cosmetics	3	3
Miscellaneous Merchandise		20
		Total 51 weeks

(Continued on Next Page)



Rugged in Texture

Colored by nature in soft tones of blue . . gray and autumn gold

VENEER • FLAGGING

LANDSCAPE • WALL • INTERIOR

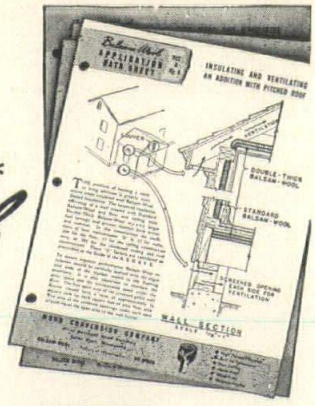
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DATA SHEETS . . .
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*Reg. U.S. Pat. Off.

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RUSSWIN Architectural Hardware
SCHLAGE Cylindrical Locks
PARKER Medicine Cabinets
GENEVA Steel Kitchen Cabinets
Paints Tools

Quality Hardware Since 1884

SOLUTION

Site: "A hole 20 feet deep by a block square." It was decided that full use would be made of the hole rather than bring in fill. This led to putting the service and work space in the basement. Washington and Hennepin Avenues were classed as pedestrian traffic and afforded an opportunity to incorporate retail shops and a bar-restaurant along with the buyers entrance and parking ramp. The impulse retail shops are a source of revenue for the building. The parking lot became a 3-tiered ramp, parking 200 cars on a contract basis, and became another source of revenue for the Merchandise Center.

Building: The display area was broken up into 5 separate floor units of 25,000 square feet of display per floor and in turn the display space was set around the perimeter of a service core. *This service core is the main element of the building* and embraces passenger elevators, visual aid room, toilets, phones, lounge and a pair of service elevators. The circulation space is on the immediate perimeter of the core with the display space beyond it. This solution centralizes the service facilities and keeps circulation at a definite minimum. The core scheme dictates a solid outside wall void of windows that silhouette the merchandise. The first floor of the building is used to advantage by incorporating the retail shops. The general public approaches the shops from the street while the buyers have their arcade inside the building. The bar and restaurant are located on the first floor so they may also serve the public while the Center is closed. The basement floor is basically a work and storage area. Shipping and receiving are adjacent to the work and storage area which surround the service elevators. Administration offices are placed on the roof providing natural light.

Structure: The building must be fireproofed. This required that a flat slab be used because of the proposed plenum and lighting chamber in a suspended ceiling. The Youtz-Slick "Lift-Slab" flat slab system is used for its fireproofing quality and decreased costs. No formwork is needed. The slabs are poured one on top the other on the ground and hoisted into place. The patented collar is welded to the column and the floor and ceiling are in place. Studs are set in the soffit of the slab with a stud gun to which wires are attached and finally furring channels for the ceiling. Economical lay spacing is 24 feet x 24 feet with an 8-foot cantilever. The cantilver is necessary for distributing the forces in the slab while it is being lifted. The columns are lally columns with 15 feet of unsupported height. Wind bracing is provided in the service core.

Heating and Air Conditioning: The air conditioning solution is the ceiling plenum chamber with a perforated metal pan for air supply. In effect this becomes a breathing ceiling, supplying the required 5 air changes per hour. The plenum space (air temperature 80° F.) heats the upper floor slab, producing a radiant panel of the entire floor area. The return system is a duct in the suspended ceiling space along the perimeter of the building. Return grilles are continuous in the outside wall. A small portion of the supply air is pulled down a hollow space in the outside wall to the return duct, thereby producing a radiant wall panel (68° F. panel temperature). The entire inner space is protected (heated or cooled) by an envelope of

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air. This allows for an air system only and does not require supplemental steam or hot water coils. The U factor is .14 for the alumnium and insulation sandwich which is the curtain wall material.

Exterior Materials: The exterior walls require no large glass areas and may be expressed as a skin. The type of material for this expression posed a problem until the structural system was defined. The Youtz-Slick lift slab system, which necessitates a cantilever, dictated that a very light material be used for the curtain wall skin. Metals were investigated and anodized aluminume Robertson Q Panel with sandwich insulation was chosen. The anodized panels were chosen because of their low reflectance coefficient. A high coefficient would be objectionable because of the hotel suites across the street. The Q panels provide a texture, a play of shades and shadows, that puts aluminum panels in the monumental class with stone and bronze. Ornamental aluminum bands at floor levels express the structure which is basically a horizontal line. The aluminum panel required no maintenance.

Interior Materials: The display space floors are Vinyl tiles and base. This material requires very little maintenance. Vinyl cannot be waxed but retains its finish. A mop-job makes it look like new. The display space ceiling is a snap-on perforated metal panel. The snap-on panels may be removed to change light fixtures. The entire wall surfaces are dry wall panels set with adhesive and may be removed if required.

Fire Exit Provisions: In addition to two fireproof stair towers in the core, escape panels are provided at 50-foot intervals in the exterior wall. These panels are activated by smoke and heat and controlled by a fusible link. When the fusible link is parted a spring mechanism automatically opens the hinged panel and allows smoke or people to escape. Standpipes and hose cabinets are located at stair towers.

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HIGH TENSILE BOLTS DESCRIBED FOR ASSEMBLING STEEL

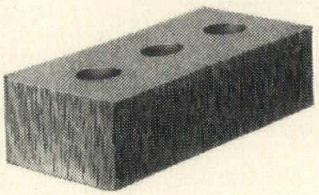
Use of High Tensile Structural Steel Bolts for assembling structural steel units is described in detail in a new bulletin issued by Paper, Calmenson & Co., St. Paul.

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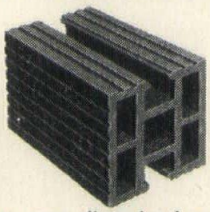


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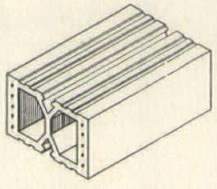


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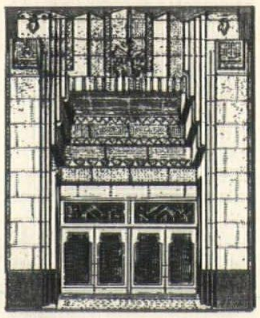
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OUR COVER PHOTOGRAPH

By William Gray Purcell

MODERN ARCHITECTURAL DESIGNERS in our United States of North America who are tied to rectangles and T-square, and whose current appliqué technique is to multiply omissions until nothing is left but the word "perfection," might do well to read Sculptor O'Gorman's words, while looking at the Science Buildings of the Mexican University on the cover, and their superb library in this issue.

Most popular designers use enough clever ideas *on* a building to spoil several, and still seem unable to find anything in a project able to escape the drawing board. In this Science Classroom building the sectored edges of the sloping stepped floors of a series of laboratory theaters on two floors, are allowed to appear on the facade as a dynamic pattern which the most imaginative inventor could never think up in philosophic vacuum. These Mexican Architects have made plain that what is needed in the United States is not more cultured esthetes abstracting verbal excitements for intelligentsia, but hearty explorers in art eager to enter the realms where buildings gestate. From these experiences we could expect them to report on the treasures there to be had for the seeing by anyone who knows a life of gusto untouched by commercial advertising and merchandising recreation.

In this Mexican National University for 22,000 students we see reappearing with undiminished vitality the basic Mexican folk culture which three hundred years of imported Spanish colonial pressures had been unable to suppress. As we Americans look around us at the spate of exhibitionist, self-conscious, egocentric architecture, we have to ask ourselves to what extent the creative characteristics and force of our own Allegheny pioneers has been dissipated. Today, in every newspaper and magazine, we become mired in a huckster sustained, pressure-production sales economy. Streamline prosperity and unsatisfied quip-and-run pre-occupations trying to escape boredom, in *39,710,982 speeding motor cars, sap that old durable Daniel Boone self-reliance, which, be very sure, bears no relation whatever to monopoly enterprise. "Log-rolling" was a happy word

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until the politicians spoiled it. Co-operation was a Christian word in our villages until that charitable spirit began to spread into exploitable fields of potential private profit.—W.G.P.

**As of Jan. 4th, 1952 at 4:30 p. m.*

Notes on Arts & Architecture Magazine

John Entenza; Editor and Publisher

Esther McCoy, Editorial Advisory Board Member and Correlator of Mexico's CU Issue

John Entenza, editor and publisher of *Arts & Architecture,* acquired the magazine eleven years ago at a time when there was a need in California for a publication to develop a point of view in the field of contemporary design and living. As is usually the case, intelligent comment on design lags far behind the designers.

Under the editorship of Entenza, the magazine has presented the work of established and new designers with consistent selective excellence.

After the war, *Arts & Architecture* initiated a Case Study House Program. The magazine selected individual architects and gave each of them free reign in the designing of a house, whose aim it was to advance the concept of California living in terms of new materials and new architectural thinking. Houses were built under the auspices of the magazine from these plans and were opened to the public, not for purposes of sale or promotion of a product, but simply to present new architectural and social ideas as they related to the California scene.

Esther McCoy, who brought together the material on the new Cuidad Universitaria in Mexico, is an editorial advisory board member, as well as a fiction writer whose work has appeared in *The New Yorker, Harper's Bazaar* and other publications. She has been living in Mexico for the past year, writing on contemporary architecture of that country. This is her second Mexican issue for *A & A,* the first being on contemporary domestic architecture in Mexico.

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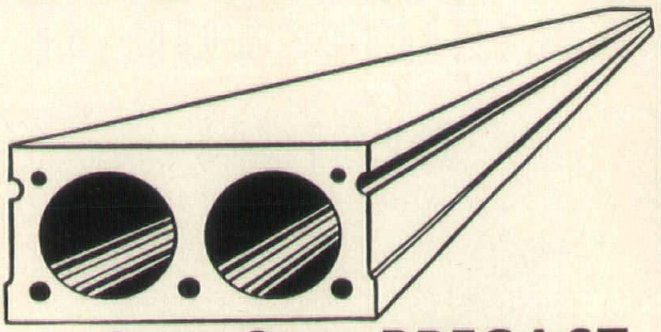


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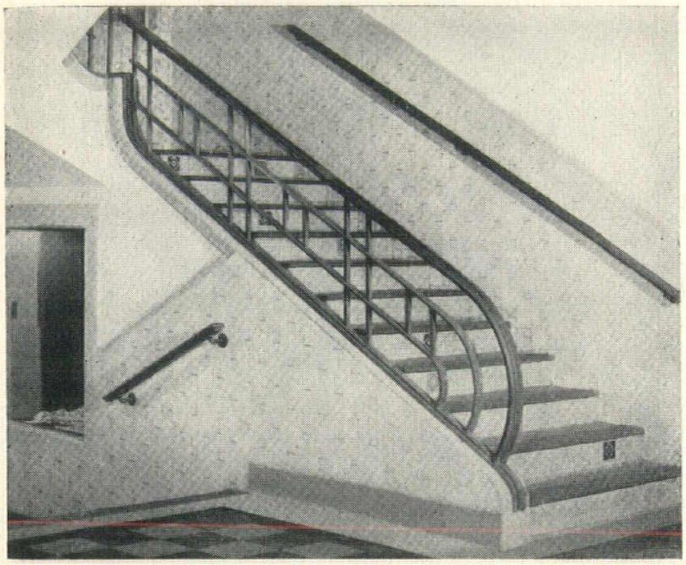
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—

HISTORICAL BACKGROUNDS

by Rexford Newcomb
Dean, College of Fine and Applied Arts
University of Illinois
(Excerpts)

In seeking to modify his surroundings in order to make the world a more acceptable place in which to live, perhaps the most significant environmental fact which has confronted man is the presence of earth—the soil—the principal substance of the habitable part of the planet on which we live. From time immemorial man has been using this substance in the preservation and perpetuation of life. In it he has raised a great portion of his food, upon its forage have grazed the animals whose fibers form much of his clothing and out of it he has built his shelters and fortifications. In fact, so long has he manipulated the plastic breast of mother earth for the formation of utensils and building units that centuries before the dawn of written history the ceramic arts had reached a well-defined state of development.

To be sure, it is a far cry from the crude mud habitations of early man to the splendid ceramic structures of our day but the potter, working with his clay, seeking new methods of manipulating it, molding it, forming it, burning it and eventually glazing it, has made possible the architectural triumphs that, down through the ages, have recorded the developing culture of man.

All during this time the primordial earth, plastic clay—this substance with which man has worked—has not changed. Plastic clay has remained plastic clay. It is man's skill in the handling of the clay that has changed. But during the age-long development of that skill, the ceramist has seen no reason to discard the primitive plastic material itself or to discard the plastic process. Thus today, as in the past, this material and this process continue to produce the firmset bricks, the staunchest ceramic structural units and the finest tiles that man can fashion. . . .

. . . . The United States was slow in taking up the

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making of tiles. In fact, what tiles were used prior to 1876 were imported from abroad, principally from England. The American industry was based upon English practice, Samuel Keys, an English brick maker of Pittsburgh, Pa., being the first manufacturer of modern tiles in the United States. After experiments covering several years, he established in 1876 the Star Encaustic Tile Company to make a type of ware resembling the medieval tiles of England.

Once tile making was established in America, the art had a rapid rise with the result that the industry spread to such states as Ohio (1878), Indiana, New Jersey, Kentucky, West Virginia, New York, Massachusetts, certain southern states and California. And while other methods of manufacture have been used, the plastic process—essentially the time-honored method used down through the ages, improved to be sure, by the use of machinery, better kilns, and surer chemical controls—has been perpetuated. And thus today highly superior wares, produced by this age-old plastic process upon improved augur machines, fitted with wire cutting mechanism, fulfill completely the popular demand for well-made, perfectly burned, artistic, vari-colored, sanitary floor and wall tiles.

—

PLANNING RECOMMENDATIONS

By Arthur D. Pickett

General Design

It is a comparatively easy problem to design with tile if there are no limitations. Usually the architect or

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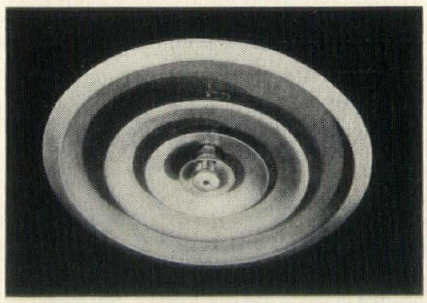
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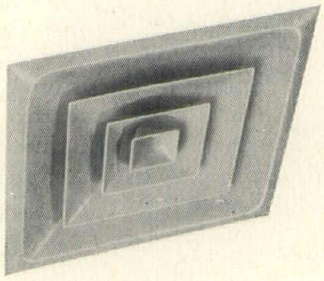
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decorator approaches such a problem with this idea. It is well, however, to remember that each individual line of tile (as manufactured by a single company) *will have* limitations. The capable designer will bear this fact in mind from the outset and, bearing this in mind, he can and will attain beautiful, interesting and individual results by the use of a minimum-priced product such as ceramic mosaic.

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Tile Is a Background

In the great majority of cases tile is used as a background material only and is not intended to dominate the space where installed. It should contribute to, rather than hold, the attention. There are a few simple rules that will help the designer to achieve this result.

The tile colors should blend well together and with surroundings. The scale treatment should be suited to the area. If both the floor and wall or wainscot are tiled, any decoration used should be either in the floor or wall, but *not* in both—unless so distributed that no competition is set up between the two. One area should dominate or complement the other—it may be either floor or wall. Wall decoration should be either well above or below the eye line. In general light reflection should be from above, not from below. This places the lighter colors at the top and graduates them downward to a comparatively dark floor. A light floor is discouraging to walk on, perhaps because nature provides few places where this is possible or perhaps because it looks incapable of supporting weight. Light pastel shades are best when restricted to borders or vertical spaces. Most restful and practical floor colors are the greys and tans of sand, and stone, the dark greens or the buffs, browns or reds of earth, and clay. These seem to invite carefree use.

A bathroom need not have a wainscot of one color with cap or cap and strip in another color. Tile is sufficiently different from adjoining materials that simply to end it with a bullnose of the wainscot color is not only adequate, but preferable. It is then usual though not necessary to match trim and field exactly, rather than introducing some stock item of cap—for instance, in black. By eliminating the contrasting cap, the room is simplified and the usual hard finishing line at the wainscot top (and near the line of sight) is eliminated. This leaves attention for the rest of the room as it should be.

Construction Considerations

The use of rounded outside corners is usually necessary and coved inside corners are not as effective as generally supposed. As the radius shortens, the usefulness lessens. If the janitor service is good, a square corner may easily be cleaned. If it is bad, a small radius round cove will not be cleaned—nor will the flat surface of the material—no matter what its quality.

As a general rule, where ceramic mosaic is used, large unit trim is preferable. This acts as an assist from the standpoint of adhesion to cement and eliminates the necessity of lining up trim and flat tile joints, which is expensive. It also eliminates joints at the mop line.

Psychological Considerations

Tile, like all materials composed of identical units, should show interesting variations. This interest may be easily acquired in any one or all of several ways: (1) by the use of variations in sizes in the same area; an intricate pattern attracts more attention than a simple one; (2) by the use of color variations; fire flashed or varying shades in the same area lend interest; (3) shades and shadows gained by the use of corrugated,

cushion-edge tile, or varying surfaces of adjoining units break up an otherwise uniform area; (4) a change in surface texture gained by the inclusion of glazed units or spots lends accent to an unglazed installation.

Youth loves bright color and noise, age prefers restful shades and quiet. A school, children's hospital or Y.M.C.A. should encourage conversation with more vibrant combinations of color. A club, a residence and usually a hospital can well be treated with more restful combinations.

Tile murals or friezes used at or near the ceiling line, above drinking fountains or in entrance foyers and stairs form an effective decorative treatment that is suggestive but not obvious in character. Decorative in character, such murals require study. Because of limitations in unit makeup they are far less obvious than painted murals, and serve an entirely different purpose.

"Weave" patterns offer a new note of warmth and softness of tone in tile floors. They suggest (without copying) softer materials such as textiles, bamboo, cane or wood. They are entirely suitable for walls as well as floors, since no precedent ties such patterns or materials to horizontal surfaces.

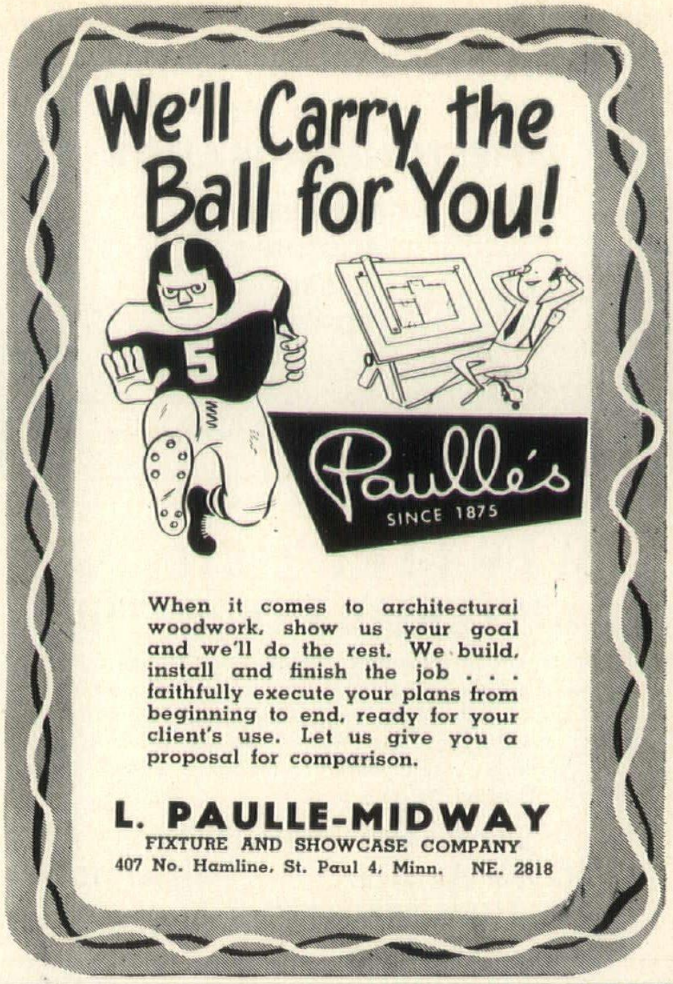
Scale

For the purpose of increasing or decreasing the apparent scale of an area there is no medium so elastic as ceramic mosaic tiles. Scale is usually involuntarily determined by the observer's association of a known unit with the whole. While the size of a ceramic mosaic tile is a relatively well-known unit, it may be varied and lost by the use of pattern and color. Apparently large units can be created by the use of small ones. Directional lines can be developed in the floor pattern to increase apparent length or width. This same medium may be applied either vertically or horizontally to the wall with telling effect. Horizontal lines increase the apparent spaciousness while lowering the apparent height. Vertical lines do the reverse. Scale is a variable thing entirely at the mercy of the designer. Usually spaciousness is desirable, which calls for small units, natural receding colors and horizontal wall or wainscot treatments. There are times, however, when a small intimate effect is highly desirable. Large areas of more than one color are a very real assist here.

It is worth calling attention to the fact that history records endless precedent for mosaic treatments of both floor and walls in any known style of architecture. Modern architecture will find today's plastic tile no less an advantage in adaptability.

Color

Color is a very individual thing. Seldom will any three critical persons be entirely satisfied with a color combination as "correct." There are many scientific theories regarding the use of color, which we feel complicate the problem unduly. If a tile bathroom in Mr. Jones' house satisfies Mr. and Mrs. Jones then it is a good color combination. Architects often are reluctant about choosing colors—and wisely so—since the client's opinion in this



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case is sometimes more important because *he* will use the area or building.

A sane procedure is to advise the client but concede to unusual personal beliefs, if necessary. We have never seen a tile color combination that did not entirely satisfy some individual. This may be explained by the large number of partially or totally color-blind persons of male sex.

There are a few simple items that may be kept in mind in selecting colors. A cold color—such as the average blue or green—is a receding color—lends spaciousness, is believed quieting to the nerves, usually restful to the eye. A warm color, such as yellow, red or orange, seems to come forward, excite and attract the eye. Used together these *may* neutralize each other, depending on their proportion. Because various people may use a building, whether it be a public building or a home for re-sale, large areas of tile should be of greyed tones of color using bright primary or secondary colors only as points of interest or decorative accents.

Pattern

Pattern in tile design is very often determined by the architectural style of the building. History records various period designs. Pattern is determined by the shape, size and color of the units and their relative positions. Endless patterns can be developed from one size by changing the distribution of color. By adding to this a group of sizes and shapes the possibilities become limitless. Pattern usually has a definite design function. It helps indicate the scale, and contributes to the style. Often it lends purpose to the area—for instance, to indicate direction in a hallway. An intricate pattern shows up best with a minimum number of colors.

Cost

There are few areas to be tiled where cost is not a factor. While the cost of the material itself is important, it is less effective in the final analysis than installation costs. The items that affect the materials' cost are as follows: glazed tile is usually more expensive than unglazed, because of the additional firing for gloss. In unglazed tiles the small units are usually slightly less expensive and such colors as blue, green and black are usually in the higher priced bracket. Special mountings, such as tile murals, usually cost more.

The important considerations from the labor-saving standpoint are as follows: mounted ceramic mosaic can usually be floated and set more rapidly than individual units. The joints of this tile are grouted rather than pointed which is slightly less expensive. Broken up or irregular rooms are much more expensive, because of additional cutting, and additional trim, as well as time in layout work. Borders cost more to lay than areas of one design. Intricate and varied selections of tile in various spaces or in one space complicate labor and overhead. Large units usually are installed more slowly because of additional cutting and fitting at sides of area. Known patterns are installed more rapidly because practice increases speed. Broken joint patterns (especially on floors) usually cost less because they eliminate lining up joints.

THEY SAID IT

Edited by William Gray Purcell

♦ **NEWS vs. ADVERTISING** ♦

We have quoted before: "The more convinced I become of the truth of any proposition, the oftener I begin to see that its opposite can also be true."—Emerson.

Readers who did not wholly agree with some of the general conclusions of our "crumbling tower" piece, with implications of a crumbling campus democracy, not confined to California, may be interested in a comparison of American and English universities by a recent English traveler. *He approves* of much in American campus life of which *Americans themselves* are critical. The book is: "AMERICA IN PERSPECTIVE," edited by Henry G. Commager, a Mentor book by the New American Library, 245 Fifth Avenue, New York 16. The particular chapter is "A CAMBRIDGE PROFESSOR CELEBRATES THE AMERICAN PUBLIC SCHOOL" by Dennis W. Brogan. It can be bought for 35c at most book stores and many newsstands; most encouraging reading for nervous U. S. citizens listening daily to *"over the age of thirty"—"Oh! I wisht I had a nickle," "L/S, m. f. t."* (to the eye,) *"ell ess, em eff tee"* (to the ear), etc., etc!, etc!! — words without end and with what usable meaning?

I may be wrong. Perhaps 1952 students are actually not so infantile as are those slanted advertising "commercials" which are sold to tobacco fixers; given free to sports; and headlined over smart stories about the college senior frosh in Frats and Sorts. One can only hope that irresponsible pictures in *LIFE* will not be seen by people in other lands whose good opinion must be gained. What do you think?

—

♦ **SPUDS** ♦

* "Society for the Prevention of Unwholesome Diet"

From the "Monthly Newsletter Journal" published by The American Academy Of Applied Nutrition

MOST OF A TWENTY ACRE demonstration plot was planted with organic fertilizer, but as a check, and for the sake of the 'experiment,' eight rows of potatoes were planted in the regular 'orthodox' manner, using 800 pounds of ammonium sulphate per acre with the seed. Then we waited patiently to see what, if anything, would happen.

"During the growing season, both 'check plots' seemed to be doing equally well. There was no apparent difference between the chemically fed and the organically grown plants. As harvest time approached, both plots were producing heavy crops of good-sized tubers.

"At maturity, numerous samples were taken from both tests plots, and these were sent over to the Pan-American Laboratories for careful analytical tests. When the reports came back we could hardly believe our senses; for the laboratory tests revealed what we could not SEE—a vast difference in the NUTRITIONAL VALUE of the potatoes grown side by side with the two types of fertilization. Space forbids a detailed report of Dr. Carlos Warriner's findings, but the highlights are these:

"The organically grown potatoes contained from 15 to 20 per cent less water than those grown with the help of ammonium sulphate. There was from 200 to 300 per cent MORE calcium present in the potatoes grown with the help of Kellogg's Nitrohumus. The organically grown spuds also contained from 15 to 30 per cent more phosphorus and potassium. There was nearly 40 per cent more ash. And that, Dr. Warriner tells me, means more minerals of every kind, including a generous supply of the precious 'micronutrients.' In fact, the average *increase in minerals was 94 per cent* over those grown in the regular 'orthodox' manner! That made us stand up and cheer!"

** That silly society of 1650 provided the world with the slang word "SPUD." And the French king, Louis XIII, could induce the French people to eat potatoes only by hiring some thieves to "steal" potatoes from his Royal Farm, thus making them seem something special.*

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♦ ELECTION YEAR ♦

This should make you feel less discouraged when you think about professional politicians, domestic or foreign.

". . . he often spoke of the diverse elements in the American population and kept asking the same question—'What makes Americans stick together?' "

"Was Malik Surprised?"
by Lillian Anshen Seidel in
"NEW YORKER" July 9,
1952, Page 32

—

♦ MONEY THAT DIDN'T WORK ♦

What is thrift, anyway?

In our U. S. A., since 1786, there have been 21 financial crises — depressions, panics, recessions. That is one on an average of every seven and a half years!

In these money debacles many, or probably a majority of people, lost most or all of their savings and "capital." The "thrift" slogan so dear to the cash custodian was, as far as one's personal *money* was concerned, only useful to the professional financeers. The people who didn't save, but spent their money, at least still possessed, either the things they had bought, or the benefits they had enjoyed. It looks as if these thriftless spenders without realizing it were actually the economic patriots who kept the economy prosperous.

Footnote from fireside comment on the above

Becky M. "Post card rate is now two cents. They've taken away the 'poor man's letter.' "

Cecily P. "Nonsense. The poor man uses air mail."

Walter M. ". . . Or telegrams!"

—

♦ HOLLYWIT CALIFORNIA ♦

And no radio comedian

"*You know* my mother; she's a terrible businesswoman — all she has is wisdom."

Johnny Mescal

—

♦ THE FORCE OF NECESSITY ♦

Self-consciousness of one's talent may polish the means, but muff the object.

"*Emanuel de Falla,* the Spanish composer, invited a well-known musician and critic to his studio and played and sang for him his own just completed opera "The Three Cornered Hat."

"Later the critic heard Artur Rubinstein play the same composition better. But he felt that the inner quality—the genuineness—of the composer's less adept playing was more satisfying."

"The Gypsy in Me" page 178
A delightful book by Conrad Bercovici,
Prentice-Hall, N. Y., 1941

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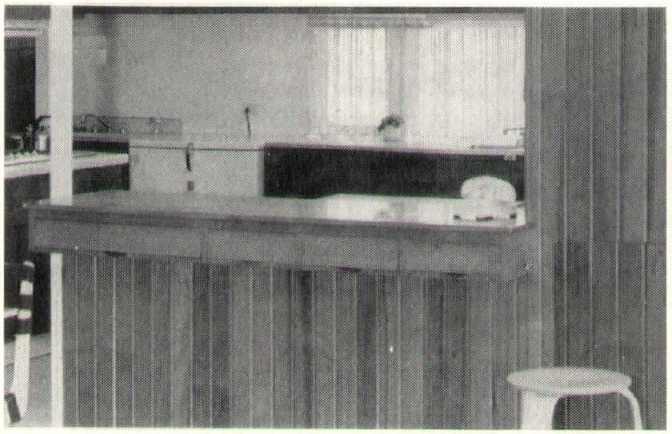
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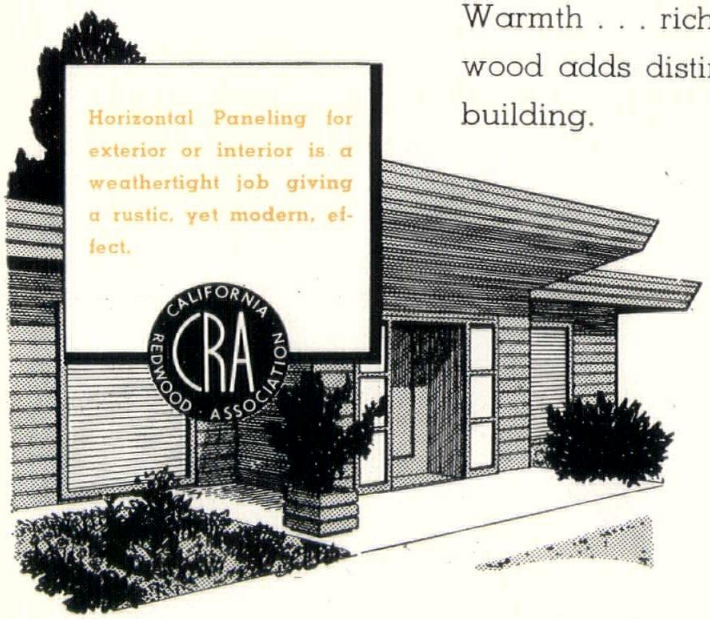
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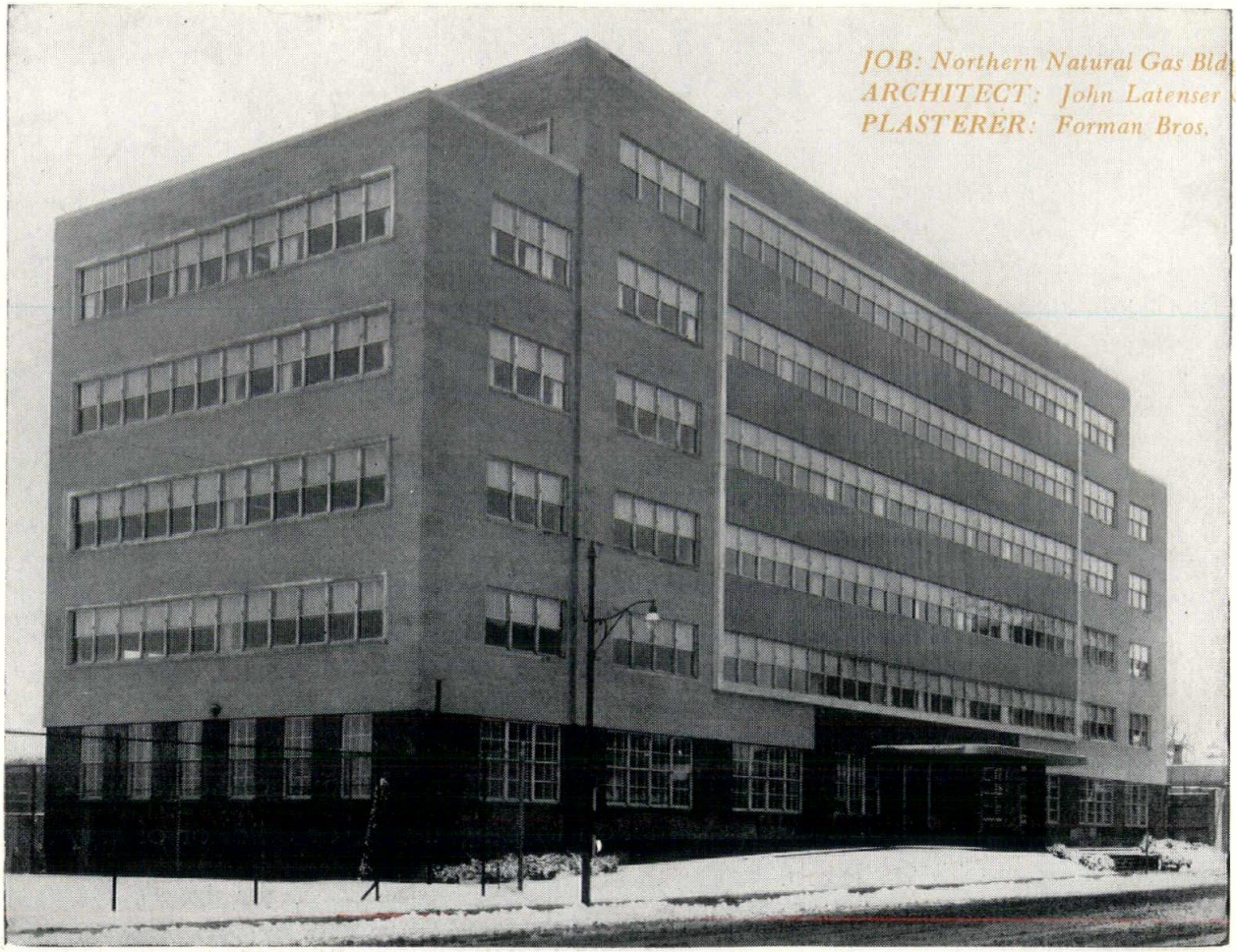
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