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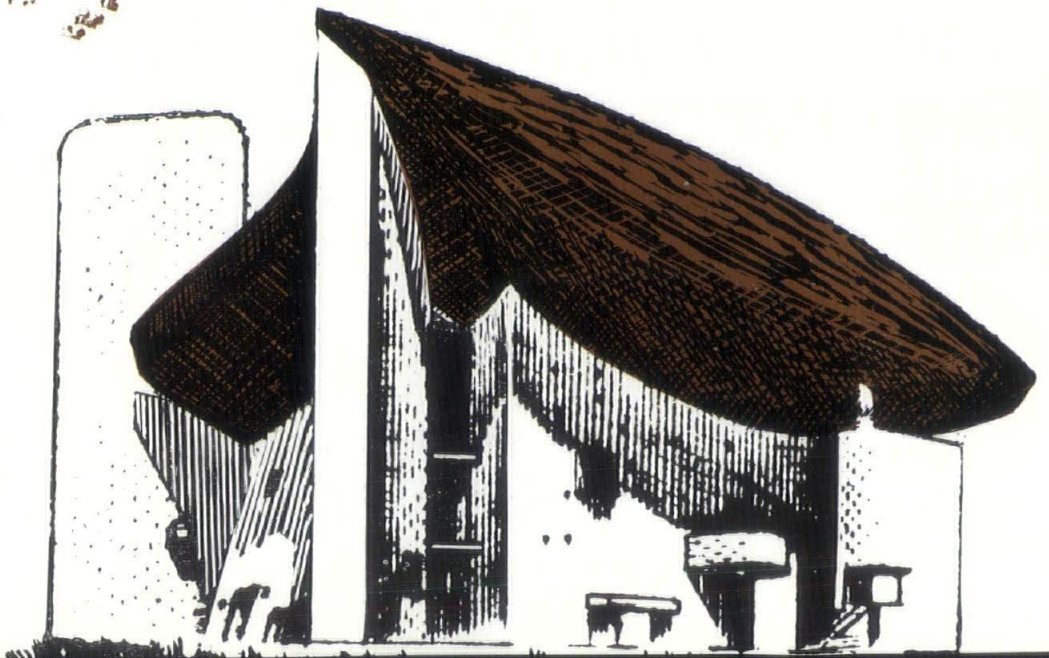
Quality in Architecture

wisconsin architect

october/1965



exposed aggregates

a.i.a. file: 4a

Prepared as a service to architects by Portland Cement Association

clip along dotted line

Exposed aggregate provides concrete surfaces of unusual beauty and variety. To emphasize the gleaming freshness, true colors and textures of the aggregate, architects, today, choose concrete made with white portland cement. It is also an excellent tinting base for mineral coloring pigments.

Reveal of precast concrete panels is largely determined by aggregate size. When panels are to be viewed relatively close, less reveal is needed. When panels are some distance from the main flow of pedestrian traffic, greater reveal is required for a rough textured look.

Polished panels of pastel colors tend to appear white when viewed from a distance due to the high reflectance of the surface.

Shown at right is a table which demonstrates the unlimited range of colors possible with commercial aggregates and white cement.

Write for additional free information (U.S. and Canada only.)

VISIBILITY SCALE

aggregate size	*distance at which texture is visible*
¼"—½"	20— 30 feet
½"—1"	30— 75 feet
1"—2"	75—125 feet
2"—3"	125—175 feet

First National Bank, San Angelo, Texas. Architects: Abel B. Pierce and George Pierce, A.I.A., Architect & Planning Consultants, Houston. Structural Engineer: Walter P. Moore, Houston. Contractor: Templeton & Cannon, San Angelo

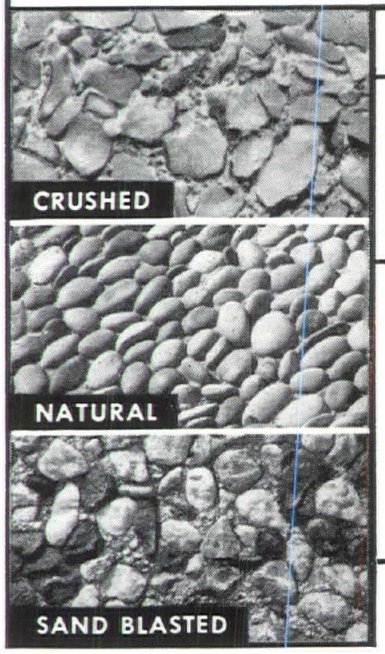


TABLE OF COMMON COMMERCIAL AGGREGATES

		SIZE	USES	SOURCE**	COLOR RANGE
GLASS*	ARTIFICIAL	¼"—1½"	stained glass, walls, panels	Mich., N.J., Texas	brilliant and almost unlimited ranges
CERAMIC	ARTIFICIAL	¼"—1½"	curtain wall panels, ornamental work	Ark., Ariz., Mich.	any color
SAND	MINERALS	fine to coarse	plain or sculptured panels	all areas	white-buff-yellow
PEBBLES	MINERALS	¼"—6"	tilt-up walls, panels, walkways	west & southeast	white-red-orange-buff-black
MARBLE	MINERALS	½"—2"	curtain wall panels	all areas	white-red-buff-yellow-black
GRANITE	MINERALS	¾"—2½"	tilt-up walls, panels, walkways	midwest & west	red-gray-buff-dark blue-black
QUARTZ	MINERALS	½"—2"	curtain wall panels	east, west, south & midwest	white-pink-gray-clear

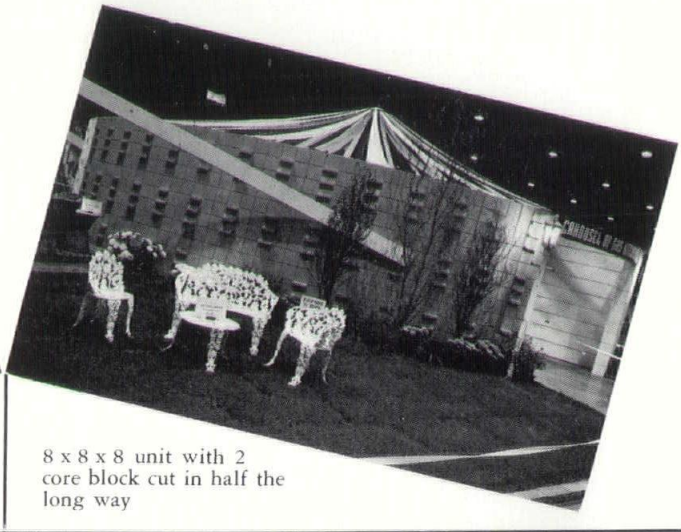
*Reactivity: some glasses may react with alkalis in the cement to cause expansion. Consult glass manufacturer to determine if glass is reactive.

**List of manufacturers available.

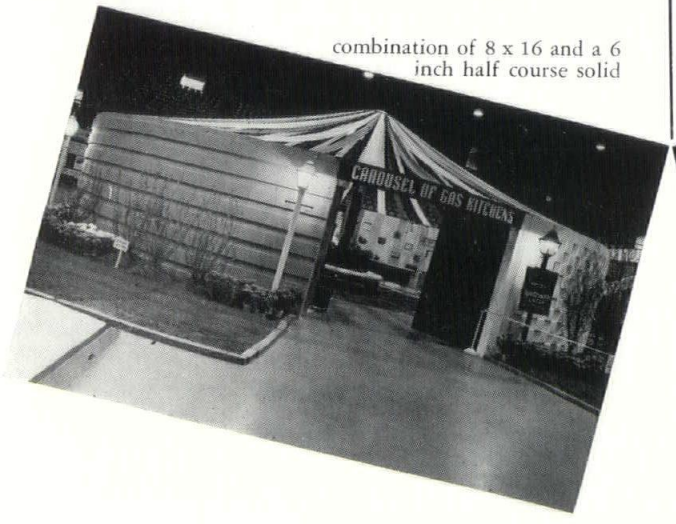
PORTLAND CEMENT ASSOCIATION 735 NORTH WATER ST., MILWAUKEE, WISC. 53202 *An organization to improve and extend the uses of concrete*

BEST BLOCK + Q BLOCK = EXCITEMENT!

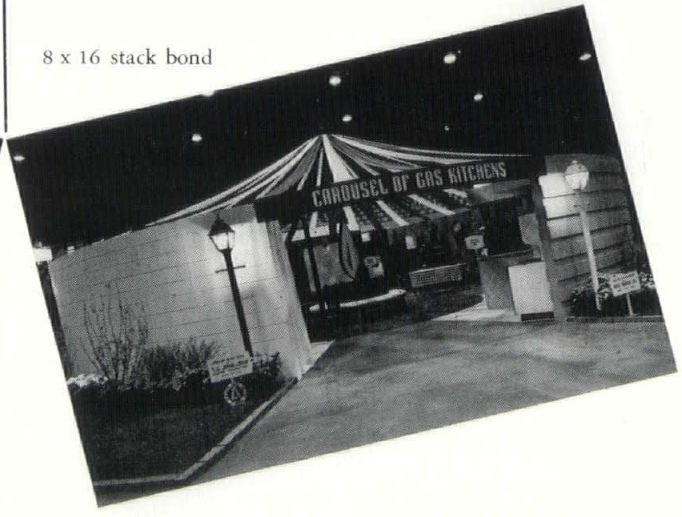
8 x 8 x 8 recessed ½ inch block



8 x 8 x 8 unit with 2 core block cut in half the long way



combination of 8 x 16 and a 6 inch half course solid



8 x 16 stack bond

These are examples of exciting Q block panels by Best Block that were laid up in a circular pavilion which was the feature of the recent Milwaukee home show.

We at Best Block can offer you the know how and experience of many years in the field and cordially extend an invitation for you to consult with us on your next block project.

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Photography by Hedrich-Blessing

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with Super Skylightin

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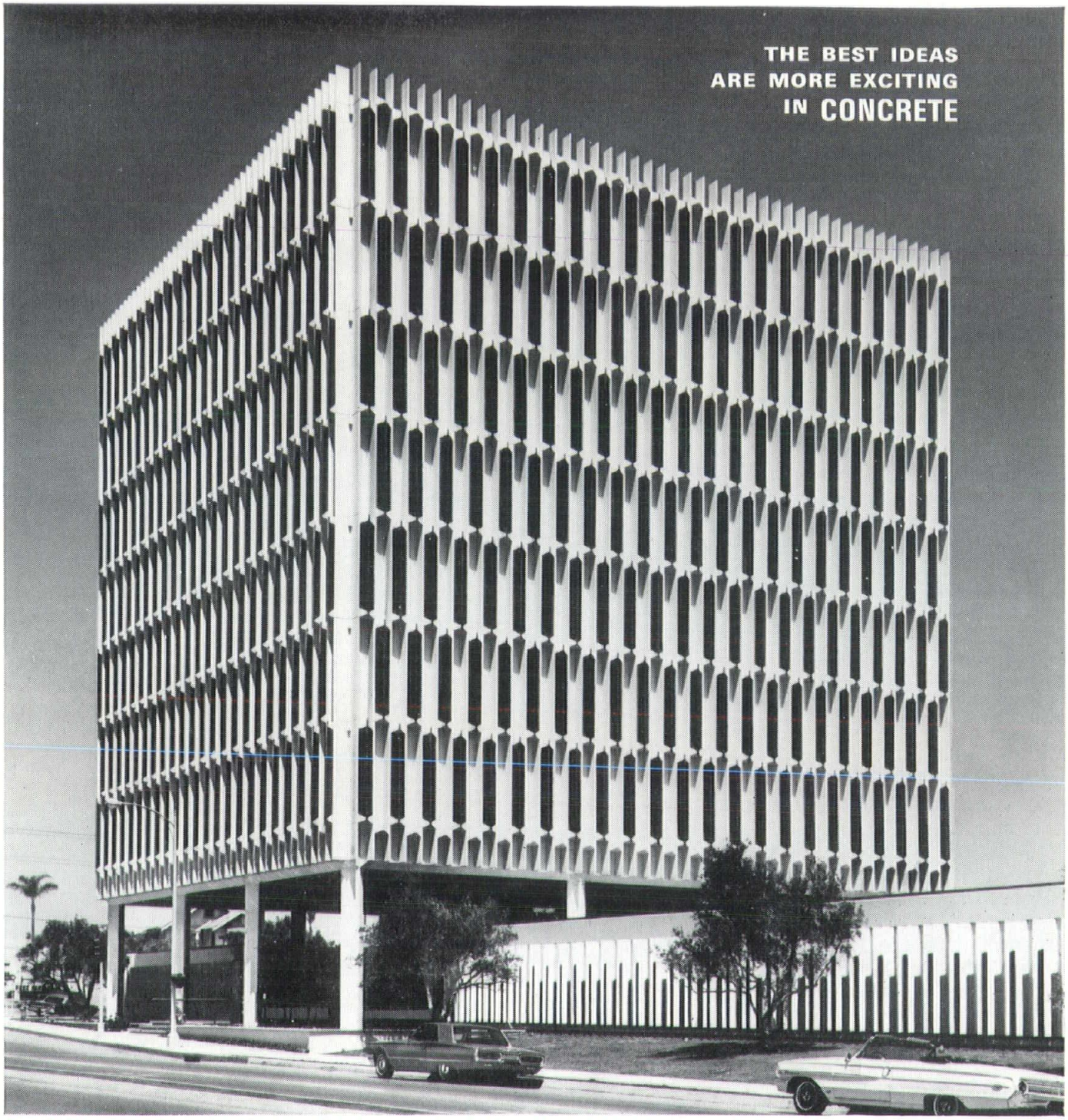
notes of the month

The Research Council of the Great Cities Program for School Improvement under a grant from the Educational Facilities Laboratories of the Ford Foundation is conducting a study on the problems of outmoded school plants. As part of the study and as material for a newsletter to be published on the subject, The Research Council requests information of good examples of renovation and modernization, especially in the educational field. Brief background statements of the projects and any illustrative material individual architects might have will be reviewed. Please contact: Ben Graves, Project Director, The Research Council of the Great Cities Program for School Improvement, 228 North LaSalle Street, Chicago, Illinois. Phone: Area Code 312 332-4047.

Women's Architectural League of Milwaukee — Calendar 1965-66: November 2 — Study Session based on Chapters IV and V of the book "Experiencing Architecture" by Steen Eiler Rasmussen. Hostess: Mrs. James Kurtz, 845 E. Glen Ave., Whitefish Bay. December 5 — Architects at Home house tour and cocktail parties benefiting Wisconsin Architects' Foundation. January 19 — Program meeting with the Wisconsin Chapter, AIA. February 1 — Study Session based on Chapters VI and VII of "Experiencing Architecture." Hostess: Mrs. Alvin Grellinger, 647 N. 77th St., Wauwatosa. March 9 — Program meeting and luncheon with Chicago WAL as guests at the Mitchell Park Conservatory. April 5 — Study Session based on Chapters VIII and IX of "Experiencing Architecture." Hostess: Mrs. Bruce Koerner, Birchwood Lane, Mequon. May 19 — Program meeting and Annual Luncheon. June — Picnic Auction at the Sheldon Segel's, 2914 E. Newberry Blvd., Milwaukee

Photo credits: Olmstead photos pages 14, 15, 16, Barry Sweet, Madison; page 20 — Montejo Palace, Lisa Little, The Museum of Primitive Art, New York; Stairway, San Juan Cathedral, and Ceiling — San Jose Church, Samuel A. Santiago, Puerto Rico; Torre Tagle Palace, M. Gonzalez Salaz, Lima, Peru; page 21 — Cathedral Tower, Cartagena, Bertha Kitchell White; University of Yucatan, Lisa Little, Museum of Primitive Art, N. Y.



Owner: The Whitson Company, San Diego, Calif. Architect: Deems-Martin, Associates, San Diego, Calif. Structural Engineer: A. J. Blaylock and Associates, San Diego, Calif. Contractor: Peter Kiewit Sons Company, Arcadia, Calif.

OUT OF THE GEOMETRY OF STRENGTH... a dramatic pattern in beauty for walls of precast concrete

The new 8-story Hillcrest North Medical Center in San Diego achieves exceptional wall interest. The imaginatively-designed wall panels, with tapered sides and wedge-shaped spandrels, provide multiple facets that catch the light in ever-changing patterns. ☐ This striking effect grows out of the structural design itself. The panels, of structural lightweight concrete, are actually vertical load-bearing channels which also enclose space. Panels are anchored integrally with the structure by cast-in-place connections. In this way, beauty is combined with high structural efficiency and economy. ☐ Such stimulating ways of using concrete are opening up a whole new field of architectural design. More and more, you see the beauty of concrete expressed in buildings of all types and sizes.

PORTLAND CEMENT ASSOCIATION
735 NORTH WATER ST., MILWAUKEE, WISC. 53202
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president's report

by Mark A. Pfaller

Left to right: Morris Ketchum, Jr., President of The American Institute of Architects; former Postmaster General John A. Gronouski, recently appointed Ambassador to Poland, and Mark A. Pfaller, President, Wisconsin Chapter, The American Institute of Architects at the National Convention in Washington, D. C.

The biannual Regional Conference was held in Minneapolis on September eighth. A.I.A. Regional Director Victor C. Gilbertson presided. It is expected that your president and secretary attend these conferences and Emil Korenic and I represented the primary officers of the Chapter. We were further represented by Tom Eschweiler, president of the Southeast Section; Gordon Ihbe, president of the Northeast Section, and Doug Smith, president of the Northern Section. Other Chapter and State organization officers were there from Minnesota and North and South Dakota.

Reports on the activities of Chapters, business health of the various areas and development on the "War on Community Ugliness" were made by all the individuals attending the meeting.

It appears that everyone is busy and, as always accompanies that, there seems to be difficulty in finding men.

We gave a report on the work that the State of Wisconsin is doing through the State Highway Commission and under the direction of Mr. C. E. Aten, Chief Maintenance Engineer.

Lloyd Krueger, president of the Western Section, unfortunately could not attend the meeting, but I am fortunate this month to find substance in his report to partially quote here for the benefit of our membership and others who receive this publication. Mr. Krueger's report is the result of the Executive Committee's request and it is much more lucid than anything I could say.

"Upon contacting the Governor's office it was discovered that Wisconsin has been engaged in a program under the direction of Mr. C. E. Aten. Mr. Aten presented the A.I.A. with a most comprehensive report covering the existing and projected programs to beautify our state. This detailed document was proposed by the Maintenance Section, Wayside and Landscaping Unit of the State Highway Commission.

"The report is separated into four areas relating to roadside beautification with detailed descriptions, exhibits, maps and photographs showing solutions to ugliness and projected plans. The four areas covered, in great detail, are: 1. Rest areas and scenic overlooks; 2. Highway landscape improvements; 3. Screening unsightly areas; 4. Scenic easement acquisitions.

"One has only to drive on the existing miles of our Interstate system to realize the work this department has done. These roads are clues to what we can expect throughout our state in the future. The rest areas, the lack of billboards and the retention or restoration of the natural beauty of the varied geological areas are all very evident as one drives along Interstate 90 and 94.

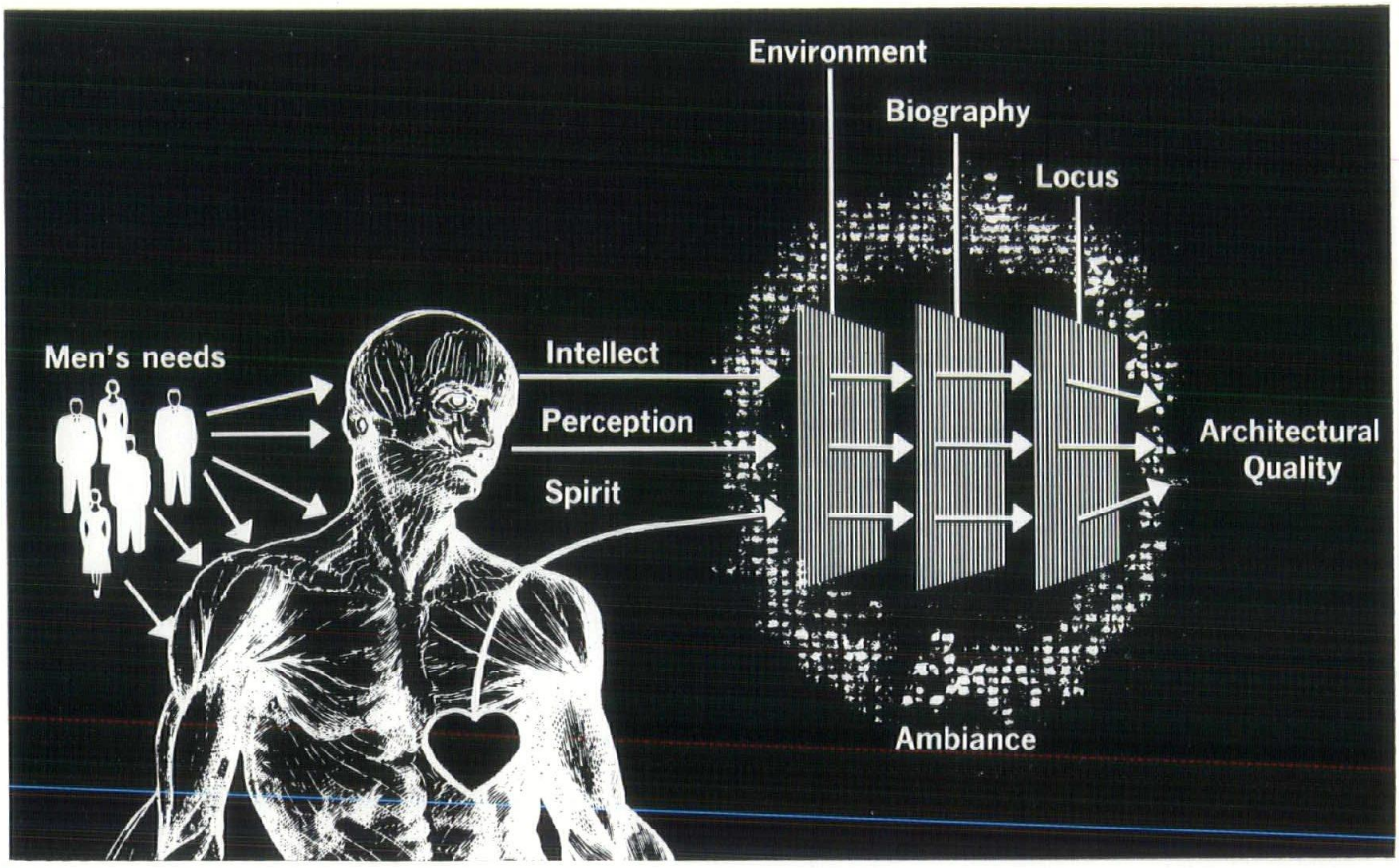
"The data provided in the report is generally based on information submitted by the nine Highway Commission District offices. It goes into great detail covering the major projects that have been completed in the last few years. It also sets forth the aims for the department for the next ten years, with projected plans that have been worked out for some of the problem areas."

Mr. Krueger concludes his report by observing that the state is doing a magnificent job and Wisconsin is truly waging war on ugliness.

Thank you, Lloyd!

what is quality in architecture?

by Herbert H. Swinburne, F.A.I.A.



INTELLECT — *Power or faculty of knowing.*
LOCUS — *America — its culture and challenge.*
PEOPLE — *Their heritage and aspirations.*
ENVIRONMENT — *Those links between architecture and its ambiance.*
BIOGRAPHY — *Those links between man's acceptance of the known past and explorations of the unknown future.*
PERCEPTION — *Those links between man and and his ambiance.*
SPIRIT — *The breath of life, mediating between body and soul.*
QUALITY — *Is the creative vectoring of these seven forces into an expression of a whole work of architecture, that will contribute to this generation's imprint on the stream of time.*

Quality is a word difficult to define. Quality in architecture almost defies definition, but let's try it. Much has been said and written on the subject, but still it's difficult to be satisfied. What we need is a short statement, no longer than a single page, on just what Quality in Architecture ought to be.

The personal, subjective statement shown was put together to crystalize my own thinking. It took much thought, much consideration, much rejection to arrive at a final, direct confrontation with quality. I've been asked to review it with you.

Let's begin like this:

First, we'll establish a position. This will say that quality is a composite concept and goes beyond the idea of beauty alone, that it springs from a different base found in dictionaries and expounded by academicians. Quality will be separated into its three dependent parts, and from them will be distilled the very essence of quality.

Next, we'll take the seven forces you've seen in outline form and vector them, one by one, into the whole concept of Quality in Architecture.

Position

There is no such thing as Quality in Architecture, alone.

Quality does not exist singly, pulsing in a vacuum.

Quality in architecture is a composite interaction . . . of three parts. Architecture itself is the first of these parts.

Although architecture has a positive existent state — it mingles with other things, other space, other beings. Its very self is influenced by this otherness, this ambiance. The quality of its inherent character is

altered as these external stimuli simply exist in juxtaposition, or move about or change.

Architecture requires a human beholder, Man, to evaluate and understand its glory; and man has individual and collective attitudes. As this perceiver absorbs the stimulation of an architectual statement, he mixes his personal set of values with what he sees and senses, and the response varies as infinitely as do those values.

It is this state of interaction then that generates true quality in architecture — not just architecture alone. Quality is found in the triality of architecture, ambiance and man . . . its essence exfoliates from the subtle blending and union of these three living, inseparable parts.

Essence

. . . three living, inseparable parts.

Pygmalion would not settle for magnificence in marble, his Galatea was not complete without the breath of being. Love and prayer wrought the ultimate in quality: Life.

Quality in architecture must not settle for firmness, commodity and delight; this concept is not complete without the breath of being. Its strength and purpose and form must be brought alive within an aura that evokes the love of those who experience such a miracle.

The dimensions of evocative architecture, the harmonies of exquisite excellence . . . sound, and motion and the changing, beckoning flow of space and its interpenetrations, these are all counterpoint to human activity, human participation, human perception.

Life is the key; its very essence.

Human life, interacting with living responsive space, all within the framework of vibrating, pulsing locus.

Architecture . . . Ambiance . . . Man. The three interfaces of Quality . . . all alive.

WITH LIFE COMES SPIRIT, AND WITH SPIRIT THE SOUL IS BORN. ARCHITECTURE IS NO LONGER AN OBJECT, IT IS AN EXPERIENCE. IT HAS LENGTH AND BREADTH AND DEPTH AND TIME NOW, AS PEOPLE MINGLE WITHIN ITS MEANINGFUL WHOLE.

Architecture, Ambiance and Man; these are the interfaces of Quality.

Three external but centripetal forces drive inward on these faces holding them in balance, four unifying forces vibrate among them giving meaning and understanding.

The final vectoring of these seven forces determine the degree of quality in architecture.

Let's examine them.

Force 1 — Intellect

Architecture is a creative act of the intellect. The intellect separates, evaluates and synthesizes. Its judgment and selections evoke quality.

The intellect must conceive flawless perfection in form that will visually captivate and arouse one's sense of sheer delight and pleasure and beauty. The intellect must generate an atmosphere of fitness, and of sure purpose; it must define strength and structure in a way that is reassuring, protective, and scaled to man. Finally the intellect must create within the disciplined framework of a philosophy anchored in esthetics and searching for true expression.

All this must be done to arrive at great architecture; and its most flawless manifestation, its most absolute perfection can only be reached, the academicians tell us, when the individual architect dominates his architecture and his intellect alone produces its total concept; it is personal and his alone. Architecture above all is an art-form; its greatest fruition is found only when full latitude is given to the architect-designer, the architect-artist.

For some forty-five centuries or so this was true. But if we're to examine quality and find its greatest expression, we have to look further into the force of the intellect because the full concept of architecture and the intellect needed to cope with it have changed significantly in the last two centuries.

Most of our architectural heritage is the product of relatively simple cultures. In spite of the violence and strife of history, social structures were generally stable, evolved slowly; cities were small with defined boundaries; power was water, wind or animal energy attached to some fulcrum; transportation was limited to the horse and hard wheels, to sail and a few rivers and oceans.

In this climate of few societal demands, the individual intellect thrived in great minds and produced great architecture in individual buildings, and often clustered them beautifully in small cities. The force of intellect was direct, firm, and far above challenge from the man in the street.

Great architecture often was the expression of a great intellect for an elite few. From Stonehenge to Sixtus — from Pharaoh to the Medicis and Louis XIV. The intellect created magnificently, with a latitude that a discerning patron dispensed with power and appreciation. This was the individual intellect; it was self-centered and found personal expression as architect and as artist. It was perfection, flawlessly extant, and visual esthetics was its measure.

Not so today.

The architect no longer dominates an architecture whose very scope and sweep has recently changed. Twentieth century man lives in a different world and his way of life is fuller, more complex; it is expanding, accelerating and probing beyond its own place in the sun. A new architecture is needed; new ways of measuring its totality must be found, and a recognition that the intellect of individual architect-designer-aesthete is not able to cope with this alone. His personal decisions are now too limiting in terms of man's deep reservoir of knowledge.

Make no mistake; we need this architect. It is to him we look to re-direct all creative energies into channels that will measure up to the demands of our times. We repeat: *"re-direct all creative energies."* The myth that the individual has all this within him must be challenged. It's time that recognition be given to the intellect from the many disciplines needed in our architecture of today. It's time for the architect to recognize that other people, other minds, other research must be absorbed into the design concept.

If the architect can pull together all this intellect and give recognition to this creative talent and the part it must have in today's architecture, he could give positive direction to the main stream of architecture and once again dominate it, as indeed he should. There

are those who say the architect does; this is lip service, a scratching of the surface. This concept is hardly getting off the ground in our schools of architecture; it is rarely practiced in the profession.

Where is the main stream of architecture? There is none. The stream passed the architect by many years ago. He is rowing alone, and proudly, in his own Sargasso, enmeshed with self-satisfaction . . . the horizon is familiar and comfortable; he knows it well.

INTELLECT is the first ingredient in the mix of quality, and its most important.

Force 2 — Locus

Quality is positively affected by the force of Locus — the WHERE — the influence of all factors physical, meteorological, and social contained within an orbit that surrounds a community. The community of locus may be small, intimate; or it may be as large as a nation and its culture.

The final character and quality of a work of architecture cannot be separated from its place; perfection is wedded to a specific locus and time. Architecture cannot be judged as an independent, universal statement; it would fall apart, its quality evaporate.

A primitive village on the Andes will never resemble one in the Aegean. It ought not. Nor should sophisticated regionalism in Scandinavia echo customs and their expressions found in western America. Quality recognizes the variables of life in many parts of the world.

The total ambiance of a place, however, is subtle, even mercurial.

New concepts are causing a metamorphosis in the *where* of our regions today. The boundaries and customs that once defined regions are shifting or expanding or dissolving. Advances in science and new forms of transportation have reduced this world to a few hours' spread.

Communication systems and international television can reproduce new ideas anywhere on earth in an instant, and the technical press can follow-up in depth a few days later. Industry can deliver anything within weeks to any part of the world — all wrapped up and ready to erect. The same curtain walling is found in Jacksonville and Fairbanks. Prestressed concrete is as valid in St. Louis as in Istanbul.

New regional concepts are a fact. They are not limited to the great ports and river valleys of our older civilizations. This is the world we live in today, and we must cope with it. The classic styles of isolated cultures took centuries to evolve. The world once was huge, the people few, and ideas interchanged slowly. Not so today. Some things, some ideas, are becoming part of our newly formed super-regions, or even a common, world-wide culture.

Quality, however, will seek a warp and woof in its architecture, and this can be found only by developing the total ambiance within organic regions. In America there is a challenge to develop an expression that reflects a character peculiar to our own heritage of only 300 years. There is an enormous driving force in our national locus that in turn contains living, expanding, changing sub-regions of tremendous vitality.

LOCUS is basic to the mix of quality. It can never be excluded from the creative process.

Force 3 — People

Architecture has three positive physical dimensions, and extends through the years in the fourth dimension of time. People and their activities, however, are the true reason for an architecture and generate its fifth and most important dimension.

The quality of architecture should match the vigor and quality of the people it serves, because architecture is a social art as well as a fine art.

Here in America our heritage has been the courage of a people who could sever ties with the old world in the name of freedom and within a century build a nation to the Pacific, and who then had the imagination to buy the top of the world to develop in the next century. Ours is a heritage that sought a Northwest Passage and split two continents at Panama.

These people captured the minds of men and built a great nation. These same people are with us today. They will not settle for an incomplete architecture.

A complete architecture recognizes people as an inherent part of the creative act of design. People are not only the perceivers of an architecture; they contribute to it, they are directly involved in it. They must be given equal consideration with the physical, technical, and environmental concepts of space and buildings. An esthetic without people is not architecture; it is mere architectural sculpture.

For centuries the pace of the world was slow and annual growth rates were hardly measurable. Then within two centuries the clock of acceleration came loose and great numbers spawned everywhere. More things, more knowledge, more speed, more power, and more people. These numbers had an affinity for each other and clustered in ways that concentrated great pressures on old social mores and institutions. Our architecture is only now coming to grips with people, and particularly their numbers that have been compressed into cities which no longer can contain them and have burst into extrusions along strips of transportation.

People participate in architecture; they give it man-sized scale, pedestrian speed, and warmth of human interaction. In social groups of many kinds they pursue simultaneous activities, in diversity and unity, along bustling city streets, in a cheering stadium or hushed concert hall. People moving continuously; moving in random clusters or surging crowds, migrating by the cityful from here to there and back again.

PEOPLE are the third element in the mix of quality and are the reason why we have an architecture at all. The enigma of their complex interlocking needs must be unlocked, before we rearrange the world to their liking.

Force 4 — Environment

Environment deals with space: exterior space and interior space, and one cannot be truly separated from the other. They each link, interconnect, or penetrate into each other to such an extent it can only be said that one dominates the other.

Exterior space beats down on man, and he adjusts by generating conditions of equilibrium and comfort. Architecture, in part, is man's ecological response to nature's enormous energies over which he has no control. Man lives over most of this planet within a skin

of atmosphere some two miles deep and within a temperature range of some 200 degrees. He is buffeted about on a cosmic scale: radiant energy from outer space combines with the equinoctial play of the seasons and the mutable mystery of day and night. Meteorological forces of astounding magnitude or unbelievable serenity challenge him with patterns of hurricane and tornado; of Chinook and mistral; of lightning, torrential rain and blizzard; of gentle dew, soft sunshine, starry night, and dependable westerlies.

Exterior space narrows down as environment zeros in on latitude and longitude. Here is land with its natural cover — water — convolution and contour . . . all modifying and changing forces of larger scale. These shape and locate our cities and villages and the communication lines between them. These shape our architecture.

They do more than that, they shape man himself. After millennia upon millennia, man has acquired different physical characteristics necessary to remain in balance with his environment and his brothers. Physical anthropology merges with cultural anthropology as we consider the full effect of environment upon our very selves, in our everyday lives.

Interior space and its environmental factors usually begin with comfort, whose elements are temperature, humidity, air motion, and control systems. However, we'll demonstrate later that comfort of interior space is a variable largely determined by age, sex, metabolism and authority and is a factor of perception, not environment.

Interior space is that personal ambiance that extends just a few feet in any direction and blends us with small groups of people with whom we communicate one at a time; it is a small slice of the universe that is the final measure of environment.

Interior space must be sensitive to beauty and function, but it also must understand how people will tend to group themselves or seek isolation; how they will move around in space, find a comfortable distance one from another; how they will enjoy or use all the things in a room, or of the room. Such things are light, color, and texture; group dynamics; geometry and sound; lasting works of art and ephemeral spoken word; furniture and fabrics; equipment and process; machines and all necessary gadgetry.

ENVIRONMENT and its elements are the physical stimulators that link ambiance to architecture. The intellect and creative design can group these elements in a way that radiates a pattern waiting to be perceived. Human receptors will capture and deliver these wave energies to the mind of man for interpretation, and he will add his own anthropological, psychological and sociological images to the scene. The resultant mix will determine final quality.

Force 5 — Biography

One is what one is, and his genetic link with his ancestors gives him a serial number that forever sets him apart. Add to this ethnic and family identity, his personal life and associations, his education and environment, his social experience and status, and you have a complicated individual who possesses a unique biography.

One is always anchored to the eternal present, but biography tends to accept and rely on the known past when one finds that personal and family performance were greatest there. Others are more ready to explore an unknown and challenging future when their legacy from the past adds up to little. Some look back to recapture or maintain an architecture that fits their ideals, others scorn the status-quo and search for a completely new expression that matches their ideas on how to live a full life. Rare is the man who can bridge the past and the future as he seeks quality in architecture.

Perception, through all the senses, stimulates a response in an individual that varies with his biography. His evalution of all those things that mean true quality to him will not necessarily conform with those of others. For example, let's take a look at the concept of Beauty, as we think of it here in America in the second half of the twentieth century.

Architecture must have Beauty . . . but What is Beauty?

Is it elegance and grace . . . finely wrought?

Or is it direct and bold . . . knowingly coarse?

Beauty has: many palettes, many octaves — subtle, delicate, sophisticated . . . simple, brutal, primitive.

Beauty needs: many moods, much focus — balanced, poised, modest . . . dynamic, trusting, challenging.

All these are true — and all can be beautiful.

Beauty means different things to different people.

Quality means different things to different people.

AND BOTH CONCEPTS VARY WITH THE PERSPECTIVE OF HISTORY AND GEOGRAPHY.

BIOGRAPHY is a force beyond the reach of reason. One's evaluation of quality may not be informed, but it is unassailable. Quality in Architecture requires more than excellence in itself; it requires excellence of mind in the beholder as well. It also requires even more that is sometimes difficult for the creative artist to accept: Biography generates a set of values that is used to judge quality. A beautiful thing may finally have little quality. The artist may insist the beholder has no understanding of beauty when the real positive difference is a comparison of divergent sets of values. True, lasting quality then is a complex thing. It is also a variable, it will never be unanimous . . . and isn't this a wonderful thing? How dull it would be if we all agreed on quality and found it monotonously dispersed over a homogenized world.

Force 6 — Perception

Perception links man to ambiance, environment, and architecture, and these all combine to form an interlocking pattern of simultaneous events, each one of which contributes to awareness in its own way. These groupings create delicate nuances that challenge the senses . . . all vibrating and tumbling — calling for attention. Instant cognition of these arrangements and their appropriateness we can call intuition, a sort of mysterious knowledge of rightness, a feeling of ease. Too often, however, we rely on intuition. If we had a fuller knowledge of all the elements in the perceptive forces communicating with us, we could use them creatively with less dependence on intuition. Full perception gives greater quality to architecture; it gives life to ambiance, and it gives flavor to human experience. Creativity has neglected or minimized some of the facets of perception; let's look at just a few.

KINESTHETIC PERCEPTION — The thrilling, positive sense of knowing precisely where one is, of outstretched arm, or foot on the stair, or waist near a railing; or coordinated sense of muscle in motion, of eye and ear tracking a moving situation. This is a peculiar sense in that stimulation comes from within the person himself; it is not generated externally. Properly manipulated, this sense gives three dimensions and flavor to static architecture; it adds motion, human speed and scale, flow of continuing perspective, the way a view opens up or closes or turns a corner. The way people sense how they are moving in and through space. This is identification of one's self with the scene, true participation, not that of an observer alone. This is life.

AURAL PERCEPTION — The intangibles of the way a voice echoes or is muted, the way a heel rings on hard pavement between buildings or loses its click-clack in deep carpet. Thick, close, intimate sound beneath low ceiling. Full reverberant sound immersing thousands of people with the mix of tones and overtones in low register and stiletto high frequencies. The sound of a city by day, pure cacophony struggling for recognition above the background of white noise; or by night where self-identifying sounds ricochet off empty buildings and empty streets. Aural creativity needs more investigation and exploration; this siren of the senses lures many onto the rocks of misunderstanding.

EQUILIBRIAL PERCEPTION — That sinking feeling near the edge of space at 40 stories, or 5 feet — vertigo. That confused, rotating dizziness and loss of vertical stabilization on ramps, spirals, and diagonals. Leaping cantilevers made easy with new materials and technology become optical impossibilities. Soaring space frames and no familiar columns, tenuous catenaries just hanging there. These new forms and expressions must go beyond exhibitions in engineering. Quality requires understanding of the internal perceptive factors within an individual and how they are locked to a labyrinth of canals in the inner ear and to personality and experience. These factors are extremely sophisticated; they are not obvious as the crushed, suffocating panic of claustrophobia.

TACTILE PERCEPTION — The concept of surface and its character ought to be a study in human reaction, not a thin film to be cleaned and maintained. Surfaces are to be touched, or failing that, they project their very feel to our memory. They can be warp and woof of softness, or glistening hardness of crystal. Surfaces are cold or warm, rough or smooth, reflective or absorptive, abrasive or prickly, wet or dry. Surfaces have personality; they influence all those who touch them; they have a dimension beyond vision.

PHYSIOGNOMIC PERCEPTION — Why is it that anonymous space often invites one to relax and be comfortable, to feel at ease without really knowing why when the surroundings are visually uninspired? And why is it that in other stunning areas of visual architectural achievement we are uncomfortable, tense, even hostile? These things happen because certain visual statements evoke definite subconscious reactions in people, and inner character is interpreted by its outward appearance. The very shape, convolutions and texture of plastic form; the line, the edge or lineal development in a space do produce a positive reaction commensurate with that form or line such as anxiety, love, strength and all the emotions. Architecture and its ambiance project and communicate, nonverbally, these complex patterns. Physiognomic perception makes direct emotional translation. Creativity involves human beings and must knowingly emphasize those things that give quality of emotion. Beauty of emotional expression can be as forceful as beauty of visual expression.

ENVIRONMENTAL PERCEPTION — This area covers so many elements, let's just consider two: physical comfort and physical irritation. As we have said, physical comfort is more than temperature, humidity and condition of air. Physical comfort depends on factors beyond the handbook, and quality demands their consideration. For example, the balance in age levels of our population is shifting, and we need to take a second look at comfort standards. One third of America is 60 years old and more, or 10 years of age or less. Here are 60 million people whose rate of metabolism won't agree with standards and authorities that control a thermostat. Woman has never agreed with man on comfort — and can't physically; distribution of subcutaneous fat tissue is not the same in the sexes and nature gave them different thresholds and ranges of comfort levels. As we live together in ever-increasing numbers, shouldn't we explore these factors of comfort?

Physical irritants, and a need for their control, are increasing as constantly as our population and its mechanization. Vibration, noise and traffic produce nervous strain. Brightness and glare on the highway and in the office set up tensions hard to dispel. The ugly chemistry of production and the malodorous wastes of civilization offend more than anything nature ever conceived. Under certain weather conditions, whole families of irritants join together in the atmosphere and create lethal conditions over great regions. Under other circumstances a whole world faces a different lethal contamination that extends to yet unborn generations.

Finally . . . and properly, we have —

VISUAL PERCEPTION. No question about it, it's our most important perceptive sense, and the most over-rated.

PERCEPTION senses the elements of quality and presents them for understanding. Creativity involves a full range of esthetics beyond visual criteria, and architecture must knowingly encompass and satisfy all these perceptive senses.

Force 7 — Spirit

Spirit is that compelling urge to create a complete architecture and identify it as a dynamic segment of destiny.

The very soul yearns for it.

SPIRIT calls upon the intellect to meet the needs of a people . . . to structure that whole platform on which they stand as a civilization.

This then, is Quality.

These are the seven forces that hold its essence in focus and balance. Creatively vectored, they determine an architecture that will contribute to the aspiration of all mankind.

waf Wisconsin Architects Foundation

Tuition Grants 1965-66

The Directors of Wisconsin Architects Foundation met on August 28 to give consideration to providing Tuition Grants for needy Wisconsin students of architecture for the academic year 1965-66. First they re-evaluated the nine students who were up for continuation (from the thirteen aided last year, of which four had graduated in June). The review included progress report and grades supplied by the out-of-state school attended, a letter from each student in which he included his summer employment and, in some instances, a report by President Frederick J. Schweitzer on a personal visit with the student. Architect Charles Haeuser, a guest at the meeting, praised one of the students currently employed by him. The nine candidates were found to be highly qualified for further grant. These students are listed as follows:

Victor Aufdemberge '66, Berlin, U. of Nebraska
Ann Esch '66, La Crosse, U. of Washington
Robert F. Potratz '66, Oconomowoc, U. of Oklahoma
Charles J. Radloff '66, Oshkosh, U. of Minnesota
Thomas Orlowski '66 (Feb.), Milwaukee, U. of Illinois
Michael J. Plautz '67, Willard, U. of Illinois
Jack Smuckler '67, Milwaukee, U. of Minnesota
David C. Adams '67, Milwaukee, Kansas State U.
John Kreishman '68, Wauwatosa, Washington U.*
*(*6 year course; others 5 year.)*

In evaluating four new students (junior year or better) which had been selected as eligible from among other applicants, the Directors took into account a comprehensive letter of application from the student, with photograph; recommendation by an official of the school attended together with grade transcript; and the President's report on personal interview. In two cases, comments on character and ability were supplied by another guest, architect Jordan A. Miller, in whose office the students were employed for the summer. The four students who were judged to be eminently qualified for Tuition Grants for 1965-66 are:

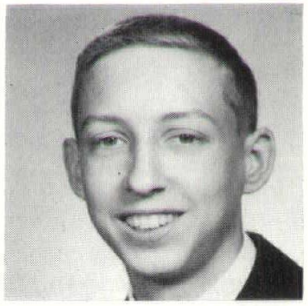
Steven W. Bach, Manitowoc, U. of Oklahoma, 3rd year (Summer employment: Edgar Stubenrauch, AIA, Sheboygan)

Robert D. Cooper, Greendale, Carnegie Inst., 4th year (Summer employment: Miller & Waltz, AIA, Milwaukee)

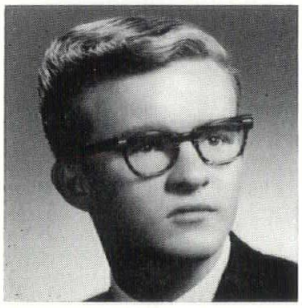
John H. Williams, Racine, Princeton U., 5th year (Summer employment: Miller & Waltz, AIA, Milwaukee)

William T. Meyer, West Salem, U. of Minnesota, 4th year
(Summer employment: Hackner, Schroeder & Assoc., AIA, La Crosse)

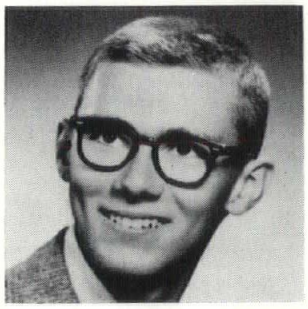
Steven W. Bach



Robert D. Cooper



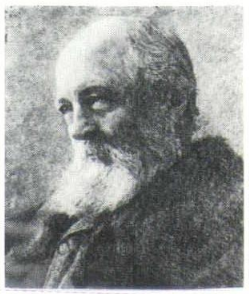
William T. Meyer



John H. Williams

When the Directors meet in January, they will be provided with progress reports and grades prior to issuance of checks for the second semester. Tuition Grants amount to $200/Semester, $400/Year. With the outlay of $2,600 for the current semester and another of the same amount committed in February, it should occur to the Wisconsin AIA membership to wonder from where the funds are derived. The answer is simple: From YOU, your friends, and organizations associated with the profession. Frankly, it is going to be another struggle to provide the money needed in February. Won't YOU do YOUR part?

President Schweitzer and the executive secretary met with ten students during the summer. During these rewarding experiences, they wished each time that other practicing architects might have the same opportunity. They were impressed by the earnestness of these young men, the scope of their training, and the odds they face in financing their education with constant rising costs. Without exception, tuition for the coming term has been increased; the increase ranging from approximately $100 to $500.



america's environmental design pioneer

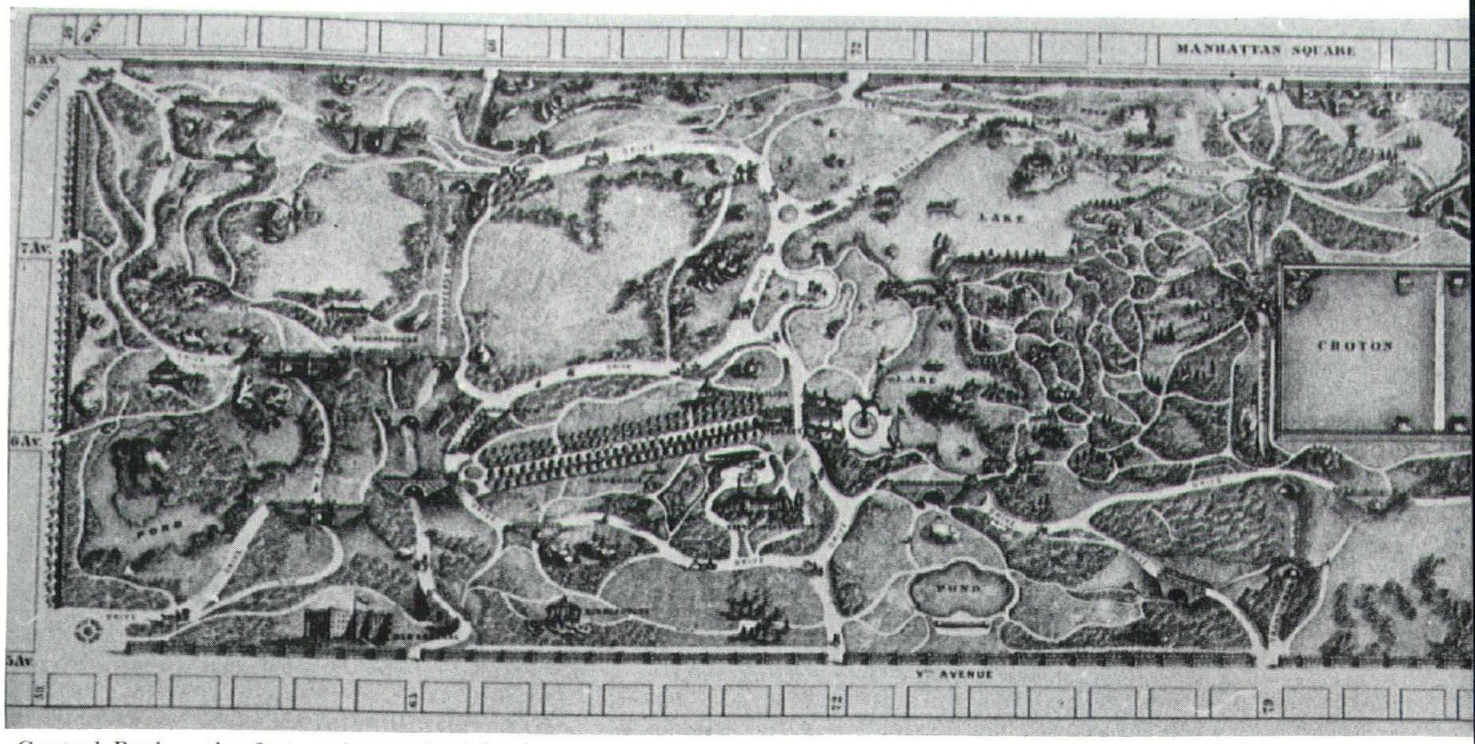
by William H. Tishler, Assistant Professor
Department of Landscape Architecture
University of Wisconsin

The author is a native of Wisconsin's scenic Door County Peninsula where he first became familiar with landscape architecture through the work and influence of the pioneer landscape architect, Jens Jensen. William H. Tishler holds degrees from the University of Wisconsin and Harvard University, where he studied under HIDEO SASAKI. Mr. Tishler is presently an Assistant Professor in the new Department of Landscape Architecture at the University of Wisconsin in Madison. He is also in private practice as Associate in charge of design with Hugh A. Dega and Associates, Landscape Architects and Site Planning Consultants of Madison.

The demand for a comprehensive approach to the design of our environment is one of the primary challenges of our complex age. Recently, the architectural profession has attempted to answer this challenge by expressing concern for the *total* surroundings of man. This concern is a significant continuation of an environmental design philosophy pioneered in America, over one hundred years ago, by Frederick Law Olmsted; founder of the profession of landscape architecture. The work and ideas of this visionary designer, author and humanitarian offer many important lessons to those who are concerned with planning our natural and man-made surroundings.

Born in Hartford, in 1822, Olmsted's early years were strongly influenced by nature and the landscape. He was forced to abandon his formal education due to an eyesight weakness, but he continued to gain an insight into his environment from a wide range of travel, combined with shrewd observation, intelligent reading and a successful try at farming. All would later contribute to his perceptive powers as "master builder of the landscape."

At the age of 28, he sailed for Europe. In England, he examined the western world's first planned industrial city, Birkenhead, with its large civic park -- the first example of public open space provided and paid for with public funds.



Central Park — the first major work of landscape architecture in America.

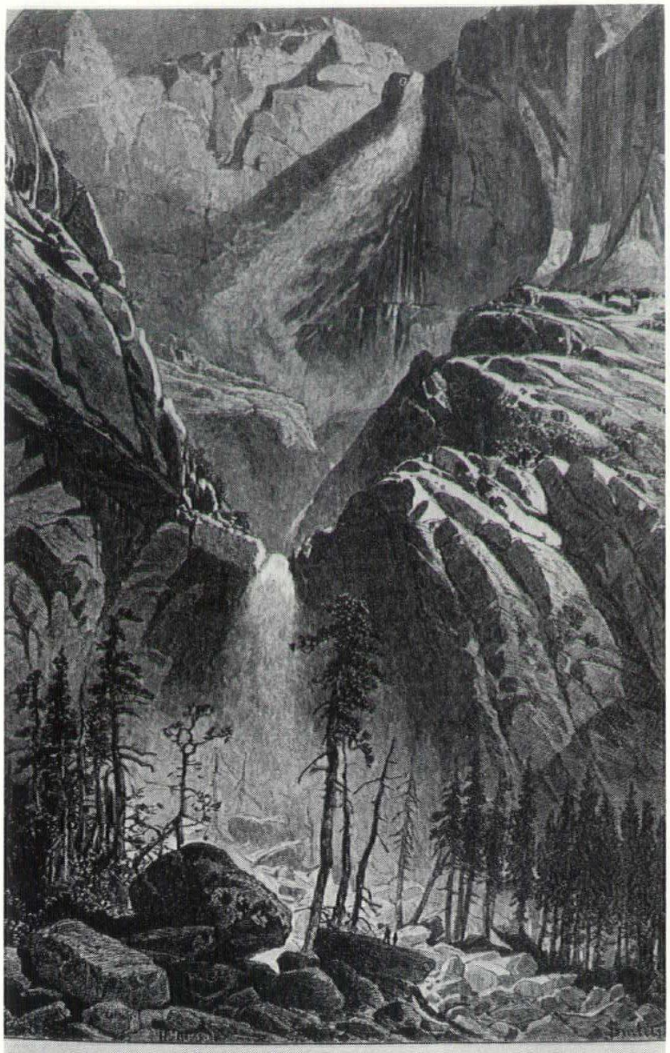
Impressed with this revolutionary planning and social achievement, Olmsted wrote of it in letters to the *New York Times* and urged that similar parks be established in New York and other American cities. His published observations on the scenery and social conditions in Europe so impressed the *Times*' editor that they commissioned him to make three long journeys, on horseback, into the South. Olmsted's first-hand accounts of those trips are among the most valuable historical documents on this area prior to the Civil War.

In 1853, officials of the State of New York succumbed to the public pressure being exerted by Olmsted and others. They authorized that land be acquired in mid-Manhattan to be developed as Central Park — the first public park of its kind in America. A commission was established to manage its development, and Olmsted was selected to be the park's superintendent.

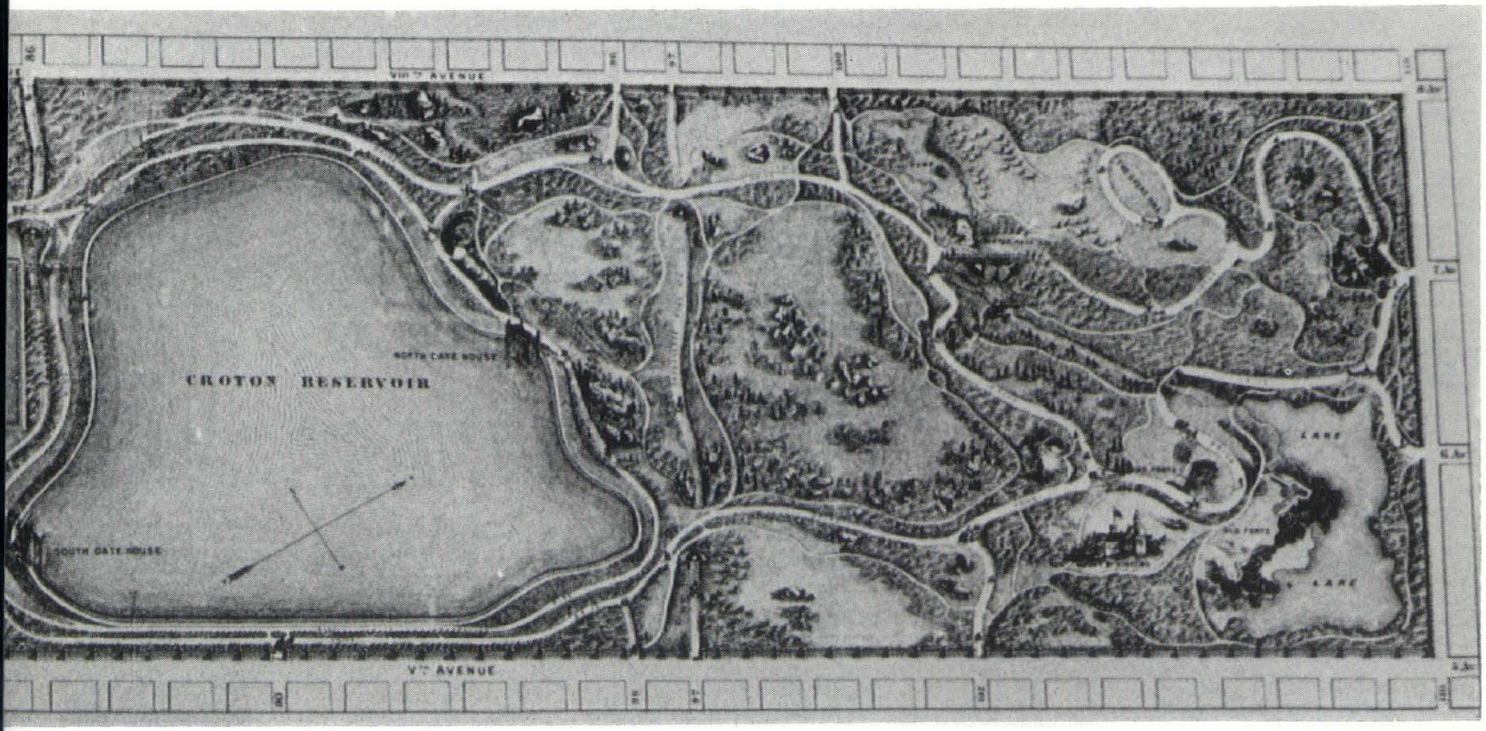
This event marked the turning point of Frederick's career. The young journalist from Hartford went on to establish a new profession, landscape architecture, and almost single-handedly laid what Louis Mumford, writing in *The Brown Decades*, called "the foundation for a better order in city building."

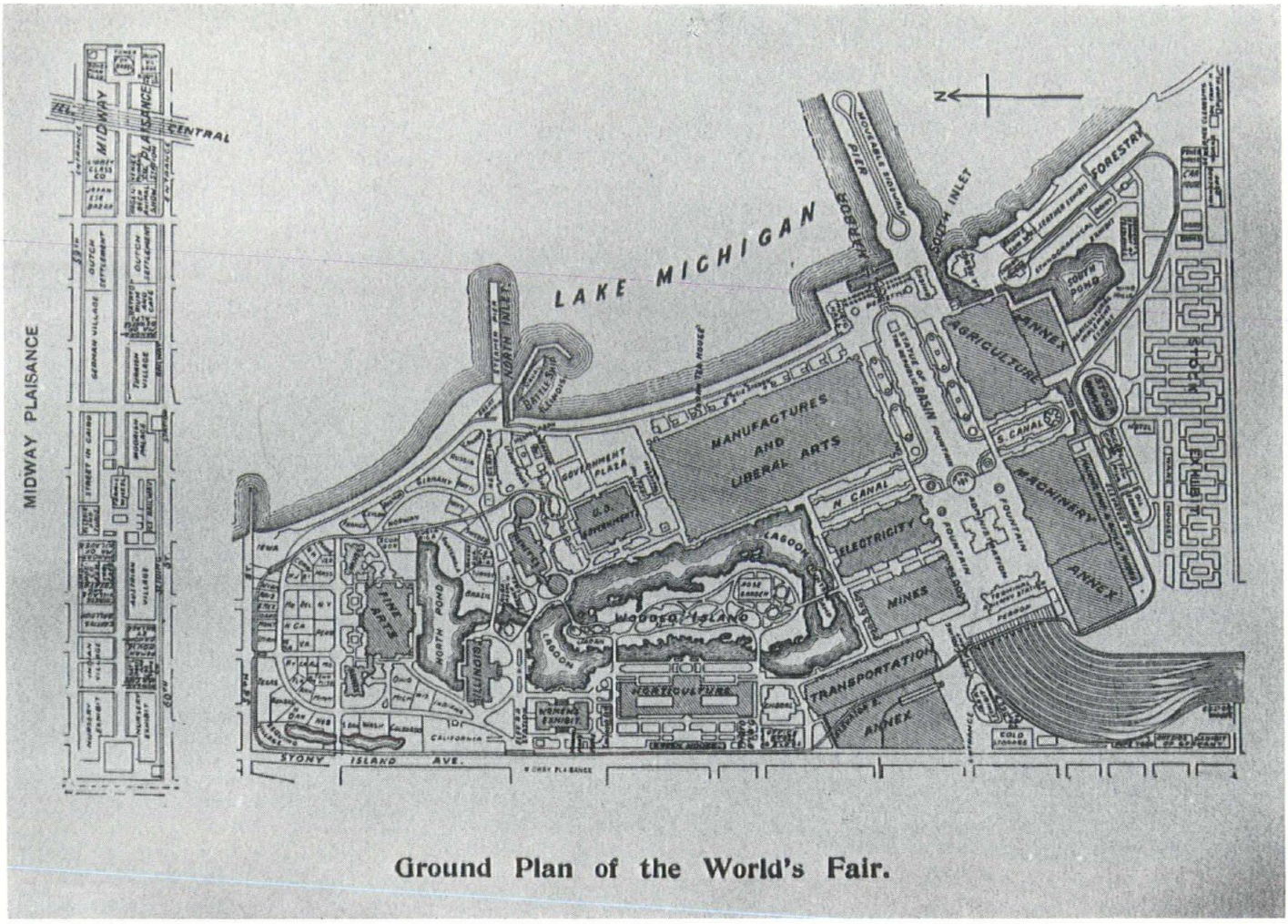
Olmsted's fame as a writer on the parks of England and as an ingenious and inventive farmer brought him to the attention of Calvert Vaux, a young English architect, who recognized Olmsted's great potential. After the Park Board announced a competition for the design of Central Park, Vaux wrote Olmsted and asked him to collaborate in the preparation of a plan. Olmsted obtained the permission of his superiors and entered the competition submitting, with Vaux, a plan under the anonymous signature "Greensword."

Of the 35 designs considered, the "Greensword" plan was awarded first prize. The popularity of the



YOSEMITE FALL





Olmsted's site plan for the Chicago World's Fair.

plan was truly justified for it proved to be revolutionary in these major aspects: its provision for overpasses that separated footpaths from the roadways, thus avoiding pedestrian-vehicular conflict; its respect for existing topographic features; and, most important of all, its appeal to all citizens, regardless of class, race of ethnic background. Olmsted's cognizance of this latter fact is obvious, for a short time later he wrote: "It is of great importance as the first real park made in this country — a democratic development of the highest significance and on the success of which, in my opinion, much of the progress of art and esthetic culture in this country is dependent."

Olmsted proceeded to carry out his plan, supervising construction of the park's 843 acres. His dedication to this task and his devotion to public service, while battling the corruption and destructive influence of New York's Tweed Ring politicians, stand as a model for those who are today engaged in public service. It was also during this period that he predicted an expansion of New York City that would exceed that of Metropolitan London. In his park reports, he clearly outlined a park system " . . . widely dispersed throughout the metropolitan area and linked together by a system of connecting parkways. . . . " [1]

Central Park proved to be a broad and far-reaching urban design concept and public parks soon became an accepted and necessary feature of American cities. By 1868, there was scarcely a city of magnitude in the country that had not taken measures to provide public open space for its citizens. Landscape architecture came to be the name used to describe both the nature of this larger scale of work and the profession which dealt with it. "It was the firm of Olmsted and Vaux — later the two men independently and their subsequent partners — which gave the name and official status to a field which the construction of Central Park proved to be neither architecture nor engineering nor gardening." [2]

The Civil War interrupted work on the Park. Olmsted was granted a leave of absence and went to Washington to become Secretary of the U.S. Sanitary Commission (now the Red Cross), an organization which he played a major role in organizing. He returned to continue the construction of Central Park, but resigned shortly thereafter and moved to California, where he spent the summer of 1864 camping in Yosemite Valley. He was intrigued by the splendor of this great natural space, and became an active leader in the campaign for its preservation, helping draft national legislation to preserve it and the Mariposa Redwood Grove as

1. *Frederick Law Olmsted, Jr. & Theodora Kimball — Fourty Years of Landscape Architecture — Central Park, New York: G. P. Putnam's Sons, 1928, p. 189.*
2. *Frederick Law Olmsted, Jr., Theodora Kimball,* op, cit. *p. 177.*

public parks. At the same time, he carried on an active private practice designing master plans for the University of California at Berkeley, and for Golden Gate Park in San Francisco.

Because of a mounting work load in the East, Olmsted returned to New York City. There, with his former partner, Vaux, he designed the second of his great urban parks, Prospect Park in Brooklyn.

Meanwhile, the Riverside Improvement Company of Chicago, hearing of the land planning skills of the Olmsted & Vaux office, sought their services to design a new and revolutionary suburban community on a 1,600 acre site west of Chicago.

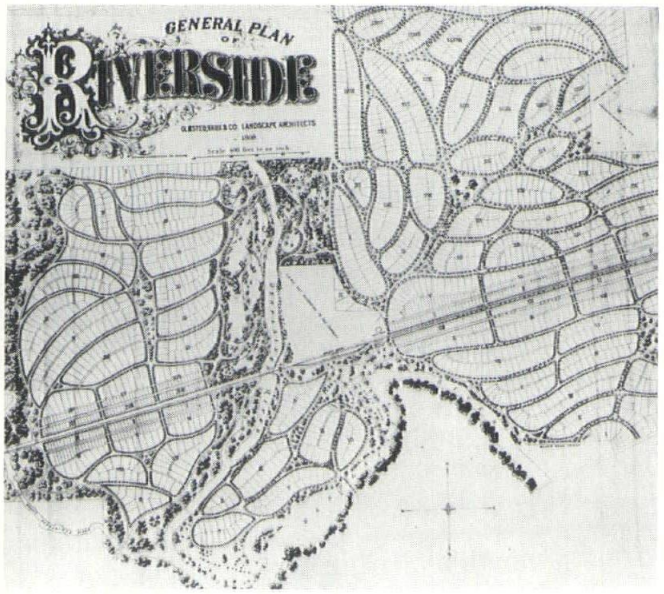
Long disgusted with the monotonous gridiron layouts in previous urban developments, Olmsted introduced a number of fresh and original design concepts which would make Riverside a source of inspiration for community plans throughout the land: First, he insisted upon a total design which would satisfy the social as well as individual needs of the community's citizens. Second, he preserved and enhanced such natural land features as river banks, topography and vegetation. Third, he deliberately depressed and curved the streets to fit the topography and to create a pleasant community environment.

Olmsted proposed connecting Riverside to Chicago by a six mile parkway, the first of its kind in America, but due to the depression of 1873, this feature was never adopted.

Riverside today is an oasis in a sea of urban sprawl. It remains one of America's most successful community developments — a tribute to the genius of its designer.

Olmsted's fame as a landscape architect spread, and his vast scope of work continued to shape the ideals and define the standards of his new profession. He was called in to design site plans for college campuses, parkways, land subdivisions, zoos, cemeteries, town plans and parks all across the country, including a number of parks in Milwaukee, the Chicago South Parks, and the Boston Park System.

His plan for Boston — a brilliant example of regional planning — transformed an unsightly swamp into a linear park strip running through the city. By separating this park from traffic and using it as a connector between Franklin Park and the Arnold Arboretum, he established America's first scenic corridor, tying Boston with its newly annexed outlying areas. Charles Eliot, Olmsted's pupil, expanded this concept of regional design by planning a park system for the entire Metropolitan area, the first of its kind in America.



Plan for Riverside/Chicago, Illinois.

A lifelong pioneer in conserving America's scenic beauty, Olmsted, as early as 1879, helped begin a successful appeal to preserve Niagara Falls from the mounting pressures of ill-conceived commercial exploitation. (He later designed an international plan which preserved the beauty of this upstate New York area.)

Olmsted's grasp of the regional basis for design, which "made his work pre-eminent in his own generation and makes it significant to ours," [3] is fully evident in his plan for Stanford University (1886). Warning University officials against the preconception of emulating the styles of New England's Ivy League Colleges, he recommended that the relationship of function, climate, landscape and soil be considered as the major guidelines for a plan appropriate to the specific conditions found in that part of California. The solution called for one-story buildings — to permit greater flexibility of interior space — grouped to provide small, well-shaded, open spaces that would keep out hot winds of this warm arid region. (Recently, architect Ernest Kump and landscape architects Sasaki, Walker and Associates have used this same design concept with great success in their award-winning design for Foothills Junior College.)

In 1893, during the closing years of a long and active career, Olmsted completed his final crowning achievement: the site selection and planning of the Chicago World's Fair. His work on this epoch-making exposition gave the profession of landscape architecture an equal status in the arts along with architecture, painting and sculpture.

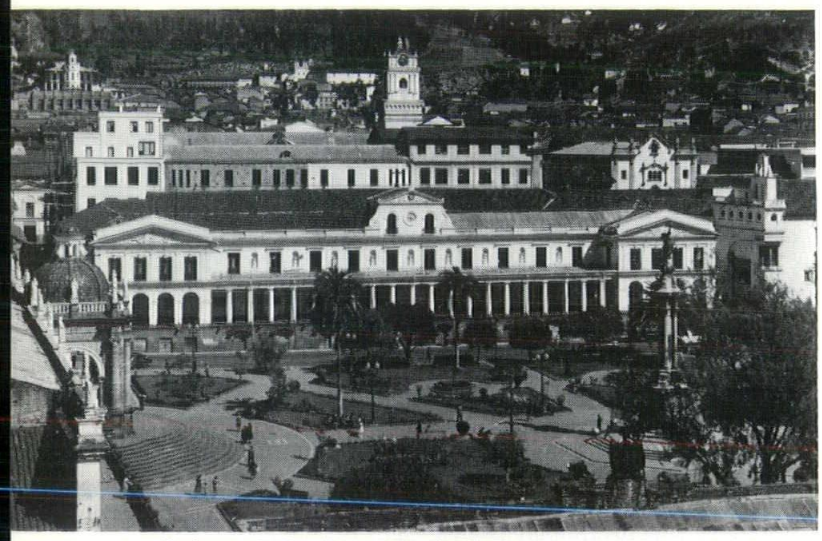
Although the eclecticism of the Fair's architectural motif has long been sharply criticized, the Exposition's site plan stands as a brilliant work of civic design. It exemplified Olmsted's philosophy that a liveable city can be created only when its open space is planned in an orderly fashion. His arrangement of the exposition's buildings, and his artful design of the spaces they formed, created an urban design composition which reawakened America to the need for beauty and order in city development.

Although he called himself a landscape architect, Frederick Law Olmsted was, in the broadest sense of the term, a "prophet" of environmental design in America. In his remarkably productive career, spanning more than 50 years, he pioneered in relating the use of land to the physical as well as social needs of growing industrial America. He introduced the concept of using the landscape creatively, and effectively demonstrated this idea in a vast scope of projects located the length and breadth of our country. His work and philosophy offer a message of hope and inspiration to all who play a role in creating our future environment.

3. *Lewis Mumford*, Roots of Contemporary American Architecture, *New York: Grove Press, 1959, p. 116.*

Coat of Arms of Tunja

Seven treasure cities of Latin America



Palace of the Governor in Quito.

Portal of Casa Vargas, Home of a Conquistador.

In 1954 a delightful and informative book was published entitled "Wisconsin Heritage" by Milwaukee's Bertha Kitchell Whyte. Those interested in our State found Mrs. Whyte's book a rewarding experience.

Wisconsin Heritage, now in its second printing, is followed by a handsomely illustrated, pioneering book about the Colonial Period in Latin America. Author Whyte, wife of Milwaukee attorney Malcolm K. Whyte, has traveled widely in Latin America and in her introduction to *Seven Treasure Cities of Latin America* she explains her incentive to write this book: "To us North Americans, Latin America, in its various aspects, presents a great challenge: Until we understand the heritage and the particular problems of our southern neighbors, how can we adjust our material and spiritual relationships to them? One key is an understanding of their history, of which their art is an expression quite as much as are their political forms and social customs."

Mrs. Whyte, a student and patron of art, was impressed with the fact that though many books had been written about this period few had been translated — and not many Spanish books were properly catalogued in Latin America libraries.

In years of painstaking research and study of the traditions developed in several of Spain's colonies, Bertha Whyte visited museums of art, historic homes, and she found entrance into private collections yielding invaluable material for her account about seven Spanish cities in Latin America emphazising chiefly the art and architecture of the Colonial period and its present remains.

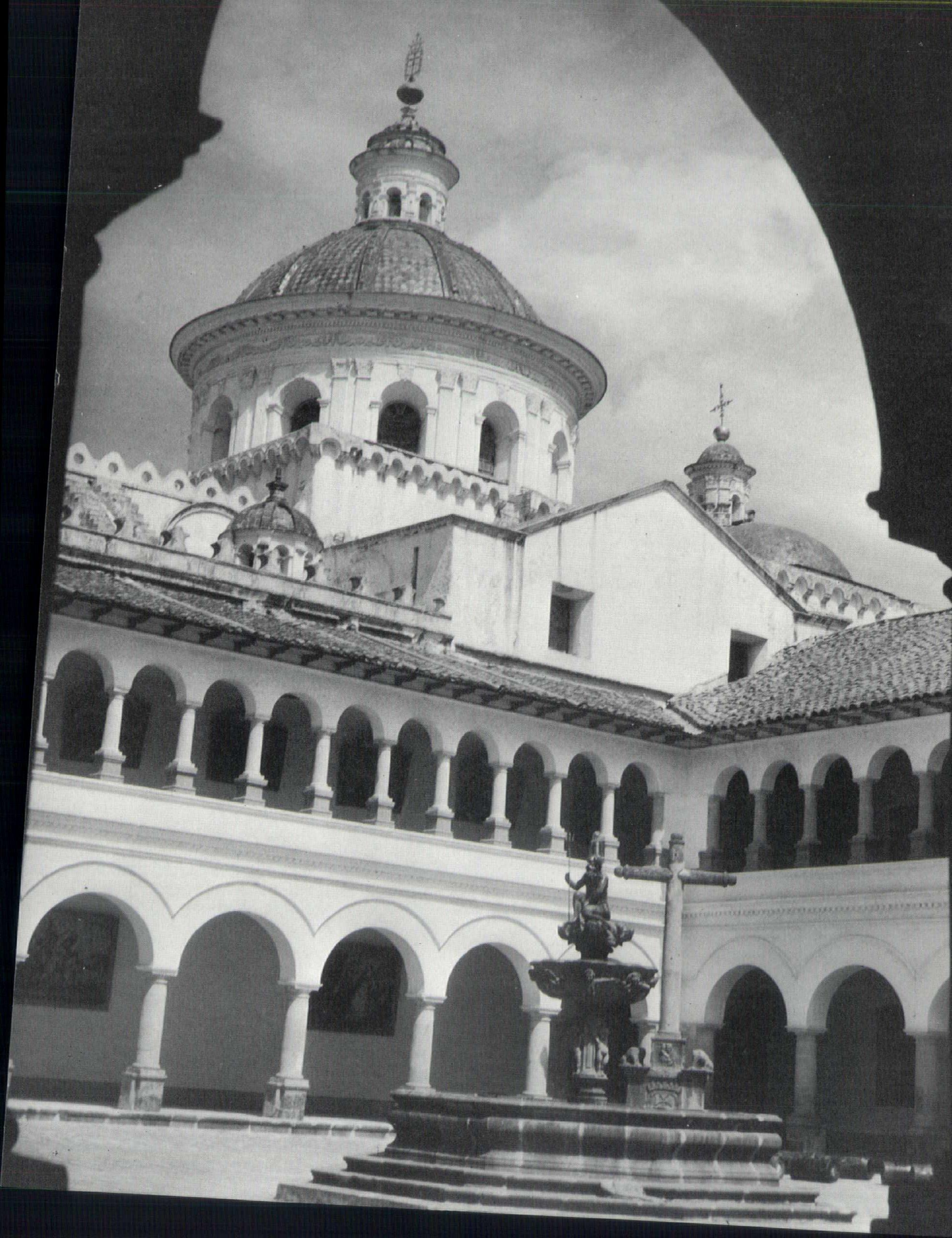
Her descriptions are intended to be non-technical in order to appeal to lovers of art who have no special training in this field. Mrs. Whyte's efforts have been rewarded by numerous favorable reviews. The distinguished and discerning magazine *Arts and Architecture* in its August, 1965, issue said this:

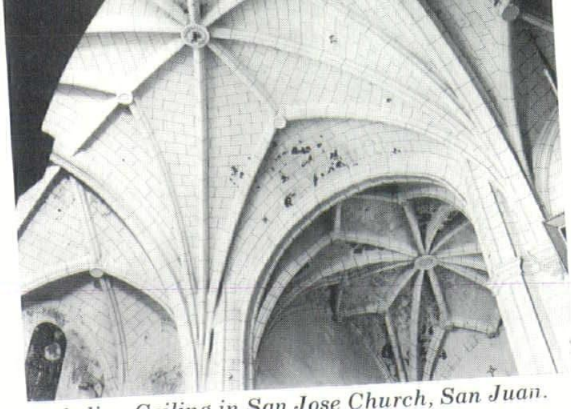
Seven Treasure Cities of Latin America by Bertha Kitchell Whyte (October House, Inc., $15.00).

A magnificent collection of the finest art of the Colonial Period in Latin America in the seven cities in which these treasures are still on view — buildings, religious relics, sculpture, paintings, public edifices, ancient castles. In the four centuries which this period covered, the Spaniards arrived, conquered and colonized a continent-and-a-half and left their indelible stamp. No book on art of this four-century era can ignore the history and politics of its background, and the author has done a remarkable job of relating art and history with a minimum of words and with a judicious use of photographs. Old San Juan, Puerto Rico; Merida, Yucatan; Cartagena; Tunja; Quito; Lima and Cuzco are the cities covered by the author. One may quarrel with some omissions — Mexico City, Concepcion and Asuncion come to mind.

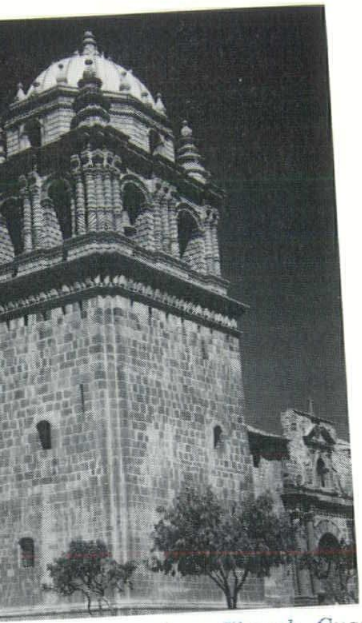
We are here presenting with the author's permission but a few of the 260 illustrations contained in this handsome and perceptive guide to a better understanding of the area and a greater appreciation of it beauty.

Opposite: Cloister of La Merced in Quito



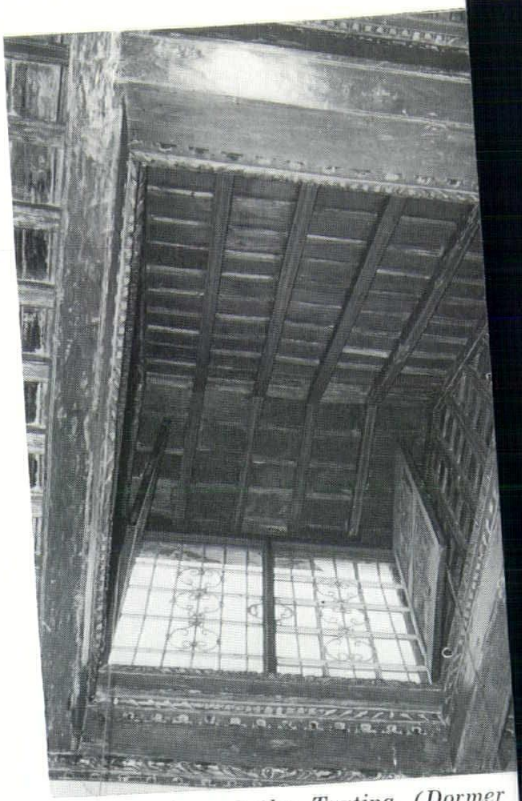


Isabelino Ceiling in San Jose Church, San Juan.



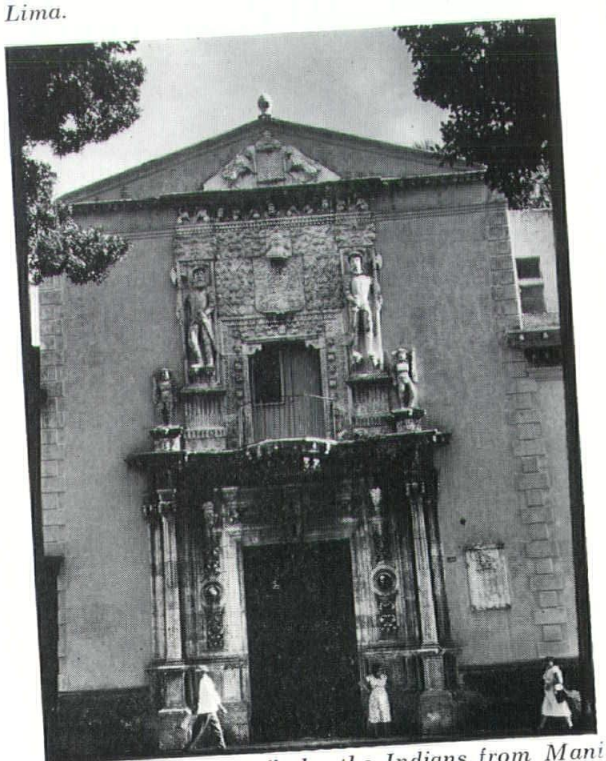
of Santo Domingo Church, Cuzco.

Entrance to the beautiful Torre Tagle Palace, Lima.

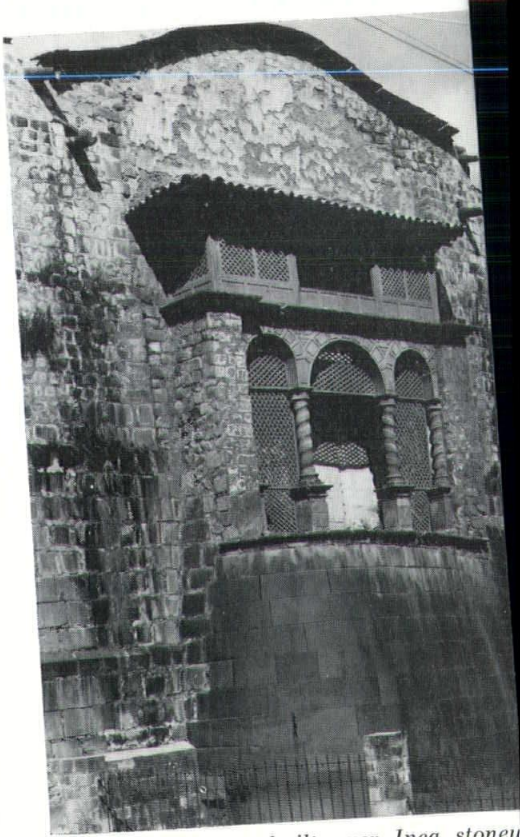


Interior view of the Teatina (Dormer Window) of Trece Monedas.

airway leading to the tower of the thedral of San Juan.

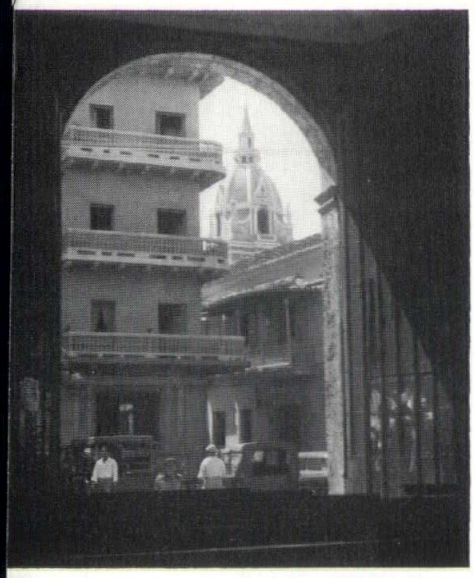


Montejo Palace built by the Indians from Mani in 1551.



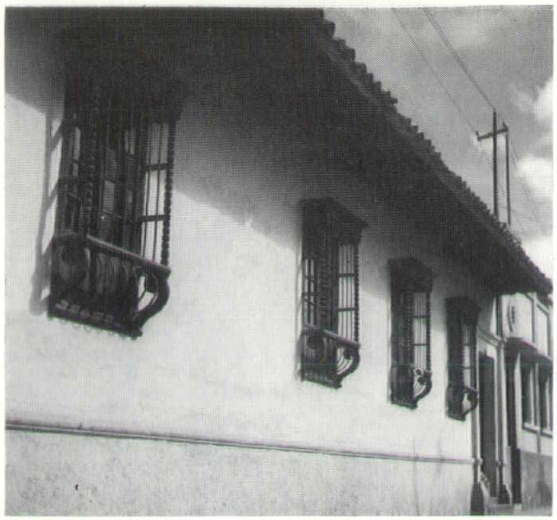
Renaissance apse built over Inca stoneu Cuzco, on the site of the Temple of the Su

he Virgin of the Distaff, 16th ntury, School of Cuzco.



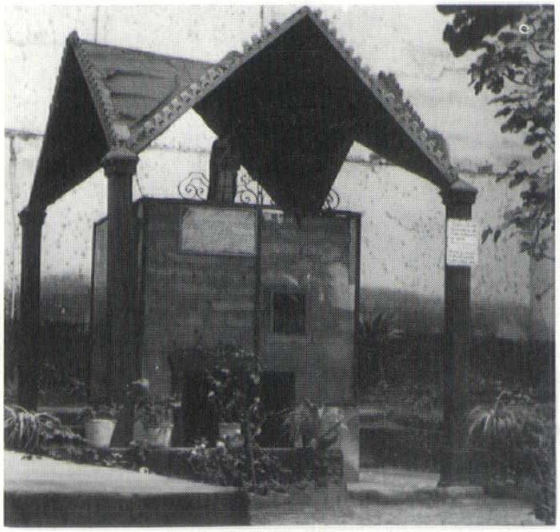
Moorish Tower of the Cathedral taken from a window of the Inquisition Building, Cartagena.

Los Arcos (arches) of the City Wall of Cartagena.

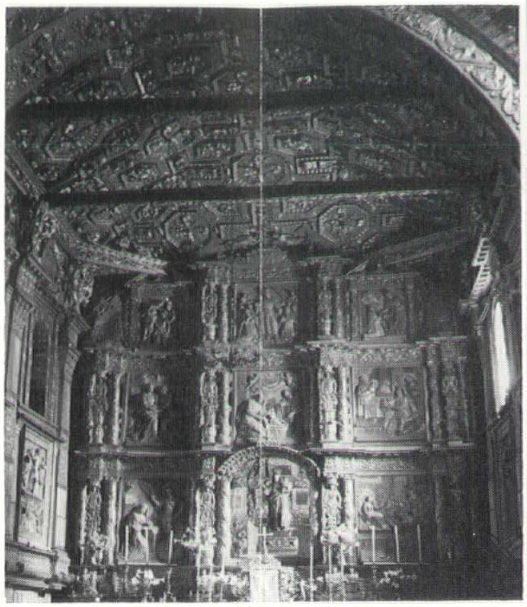


Balconies on a street in Tunja.

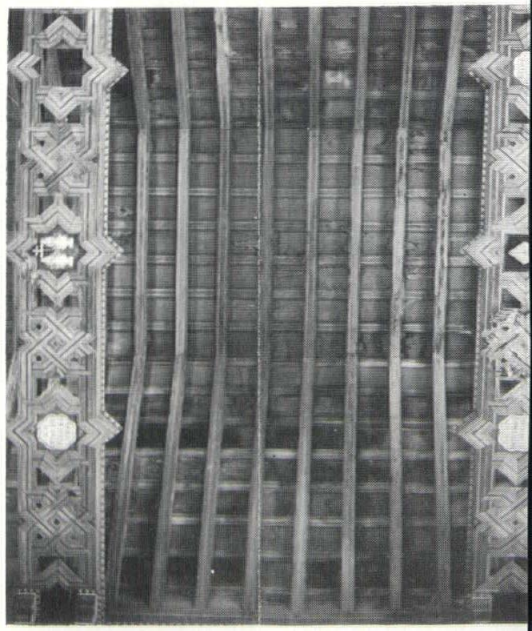
University of Yucatan renovated and renamed in 1938, originally started in 1618 by the Jesuits as the College of Saint Peter.



Hermitage made by Saint Rose of Lima and her brother in the garden of her Santuary.



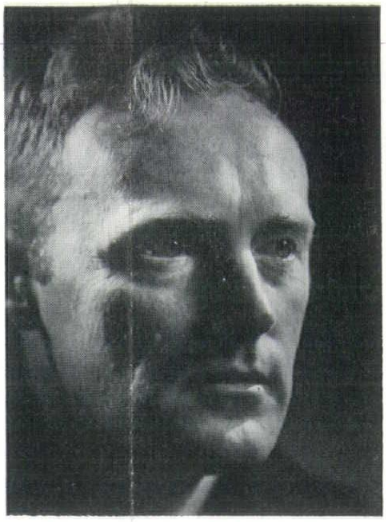
Famous Gold Rosario Chapel of Santo Domingo, Tunja.

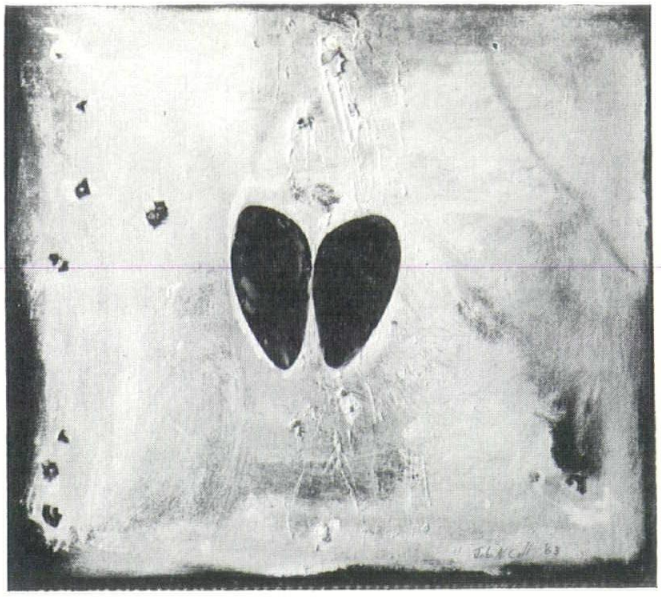


Moorish Ceiling of the Church of Santo Toribio de Morgrovejo, Cartagena.

john colt

by Margaret Fish





Blue Mussel, 1963, Oil-Collage

Unceasing change, embodying chance as well as order and making life precarious as well as brave — this is the obsessive theme of John Nicholson Colt's art. Chrysalis, metamorphosis, passage — these are ideas sensed from nature which he creates into the images of his memorable paintings.

One recent Colt painting seen hereabouts is "King's Crown," the winner of a $600 prize, in the 51st Wisconsin Painters and Sculptors Annual at the Milwaukee Art Center. The motif, as always in his work, comes from nature lovingly observed. Ambiguous winged and crustacean shapes co-exist in radiant but tenuous space. They are among favored forms to which his obsession makes him receptive, that he accepts and reconstructs, not copying their external appearance, except incidentally, but creating them from within to his own aesthetic and philosophic specifications.

This painting is in acrylic polymer, the water soluble medium he has been using exclusively the past year, after having painted in oil and worked in pastel. He finds it gives him a lighter, brighter, more saturated and direct way of painting, in tune with what he has to say. His usual surface is a cotton canvas with a nice tooth which gives his hand just the amount of resistance he likes to feel.

The fanning moth and convoluting seashell are frequent symbolic shapes in his paintings, the latter especially expressive of the yin and yang, or unity of opposites in Buddhist ideology. Whatever forms he accepts become integral to his design which aims to suggest the awesome, joyous cycle of life — birth, growth, change, decay, death and renascence. Forms he has used and uses include the ebb and flow of the sea, the seasons in their passage, the recesses of caves, stones, mussels, gourds, the whorlings of wood and fruit and human skin, transient clouds, the mandrake, mushrooms, ferns, toads, snakes, flowers, islets, parasoled seeds — all expressive of the endless repititions of nature. In a talk he gave a few years ago, he said: "Nature orders itself as the artist orders himself, by repeating — bringing back — a pattern with a purpose."

During the past 15 years, this writer reflected several times in print on artist Colt's work and much of that observation still stands, to wit:

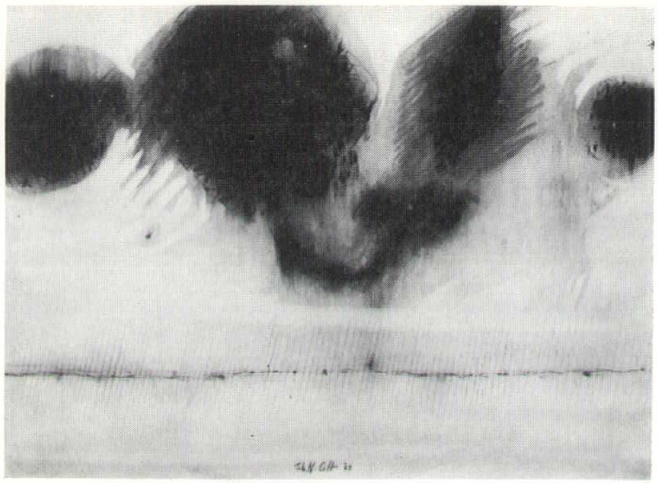
"(Colt) . . . is that rare bird among artists, a creator who achieves inviolable unity between his unique forms and the common materials of his work."

"If any stylistic quality . . . emerges, it is his sensitive placement of forms in space. . . . "

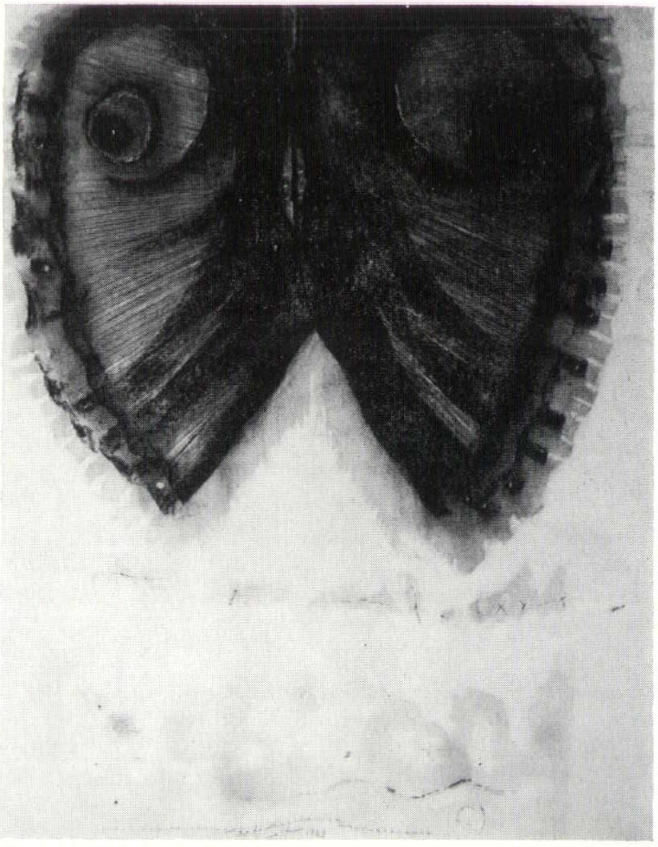
"The colors . . . are a surfeit of light when they appear in a mass; and when the artist laces them into his blacks, they add to the living movement inherent in the shadows."

Colt, who is 40, has won more than 40 awards and prizes for his drawings and paintings in over 100 national, regional and state exhibitions. His works are in a score of important private and public collections. He has traveled extensively, received a study grant for work in Haiti, has been visiting artist at various institutions, frequently is asked to talk before live audiences and on TV and radio, and produced a film on how he creates a painting which is one of the best of its kind ever done. He is one of two Wisconsin artists (John Wilde, the other) invited to show a painting in the "Art Across America" exhibition which opened the other week at the Knoedler Gallery in New York City. He is a native of Madison and took his B.A. and M.A. degrees at the University of Wisconsin. He taught at the Layton School of Art and, in 1957, joined the University of Wisconsin art education faculty and now is an associate professor.

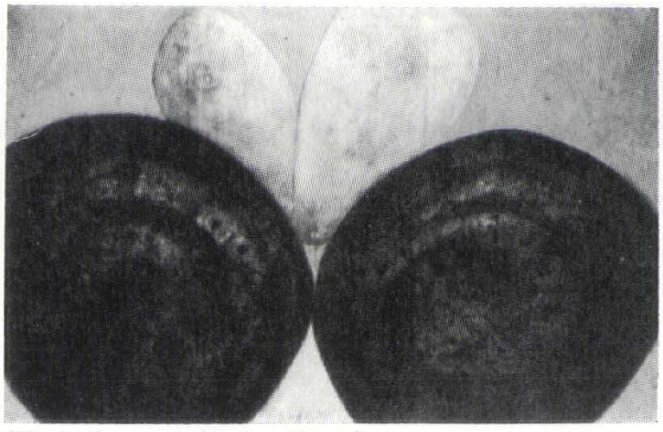
He created a theatrical mural without using any obvious traditional cliches for Teatro Maria of Marquette University about a decade ago. His work could relate fruitfully to the right contemporary architecture.



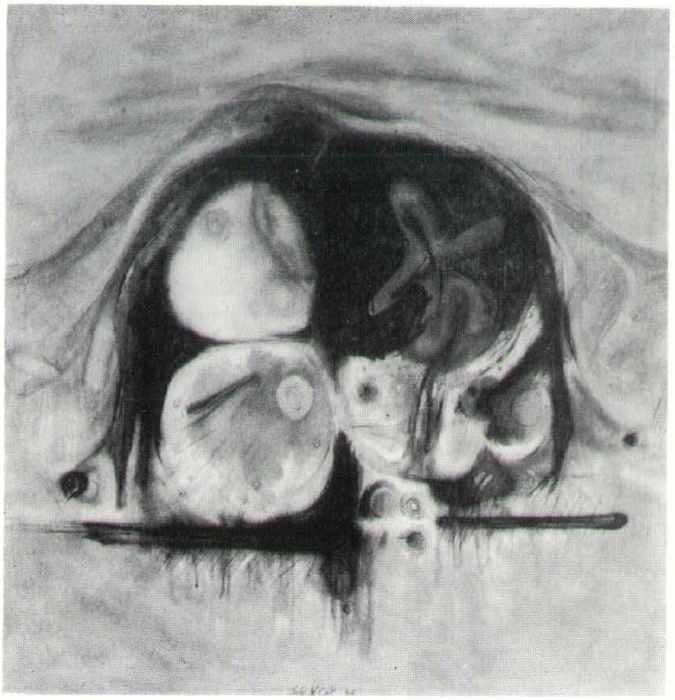
Black Stones, 1963, Pastel



Orange Wings, 1963, Pastel



King's Crown, 1965, Acrylic polymer



Sea Cave, 1964, Oil

Black Toad, 1963, Pastel

light and architectural space

By Leslie Larson

Continued from last month.

The Guggenheim Museum is in design and spatial development committed to movement. Conventional galleries, such as the Museum of Modern Art, base their display techniques primarily on the stationary viewer looking directly at an equally stationary work of art. One can only properly appreciate an exhibition in the Guggenheim by being generally in motion, stopping only to examine a detail. It is a space where the exhibition is conceived not simply as a grouping of individual paintings and sculptures, but as a constellation of art objects having an internal relationship to each other as members of a true collection.

During the years between 1945 and 1959, when construction of the Museum was completed, Wright's original design underwent a number of changes, some major, some minor, some improvements, some not. Most of the changes which proved injurious to the building were related to lighting. These fall into two areas: first, the design of the sources of natural light with the materials employed and, secondly, the design of the electric light sources and the quality and quantity of the light provided.

Briefly, Wright's intention with reference to the lighting was to incorporate variation within an aura of continuity; he wished the light to change within the building as the day progressed, as the sun moved and as days varied in their light quality according to seasons and cloud formations. The dynamics of the structure were to be applied to the lighting as well. Thus a painting could be seen under many different conditions of light, which would bring out various aspects of its character. This attitude toward light as a changing phenomenon was consistent with the fluidity of the structure and its space. A completely unchanging light was considered to be a source of potential regimentation in a space representing the very opposite of conformity.

The Museum was originally to have been lit principally from natural sources. The dome, as a generous skylight, was to have provided a great source of light for the well and secondarily for the ramp. A continuous clerestory following the outer curve of the ramp was meant to be the primary source of light on the art objects. As the sun moved, the clerestory would convey most of the variation from the sun's changing position. Wright recognized that the change in the sun's pattern might present too great a contrast of light and dark within the display area. In order to control the contrast but still retain the variation, a series of incandescent bulbs along with adjustable louvers were to have been inserted between the layers of the clerestory. Additional flexible lighting was to have been provided from a continuous trolley duct in the ramp ceiling.

Two refinements in design, which were lost due to the New York building code and economic problems, would have enhanced the natural lighting immeasurably. One was the general design of the dome and the other was the use of glass tubing as surfaces for light transmission in the dome and clerestory. The dome as it exists today is a forceful statement composed of terminating columns penetrating a twelve-sided polygon. The structural elements are of reinforced concrete and the translucent surface is flat glass. While this design has strength, it lacks the refinement and subtle relation to the form of the building found in the original dome design. This earlier scheme consisted of a structure of tangential rings made of stainless steel glazed with concentric rings of Pyrex glass tubing, a larger version of the dome at Johnson Wax.

The clerestory was also to have been composed of continuous bands of the same Pyrex tubing. The lucid quality of the light would have been excellent for the paintings with the sharply curved surfaces of the glass preventing a continuous plane of brightness. Although the amount of light entering the space would have been greater through the clear tubing than through flat translucent glass, the surface brightness would have been less due to the refractive character of the curved surfaces and hence less distracting from the art objects.

The substitution of flat etched glass for the tubing in the clerestory negatively affected the quality of the light transmitted. The electric lighting system finally adopted is in direct conflict with Wright's intentions and with the character of the building. Two strips of fluorescent tubes were inserted between the layers of the clerestory beneath a plastic eggcrate diffuser. In effect the daylight has been nullified by the combination of cool and warm white lamps.

In an attempt to correct what the museum director considered an intolerable display condition, namely a non-rectilinear space, paintings were thrust from the walls on four-foot rods. As a result the light from the clerestory became entirely back light of a high intensity against white walls. To compensate for this strong back lighting and to illuminate the face of the paintings, surface-mounted fluorescent fixtures were devised and attached to the ceiling in each bay of the ramp. These were painted metal enclosures with plastic diffusing panels slanted toward the art, ordinary in design and completely unrelated in shape and detail to the building. The light produced was flat, even, static and of high intensity, exactly the opposite of the architect's intention. The lighting tended to neutralize the dynamics of the space. The combined fluorescent sources were designed to impose between 150 and 200 foot-candles on the paintings, a ridiculously high level considering the nature of the space, the white walls and the intimate viewing range. In fact when the Museum was first opened the effect of the light was shattering: one emerged from even a hasty turn about the ramp with a severe case of light-shock. This represented a classic example of

illuminating engineering without benefit of architectural design or supervision. It demonstrated the fallacy of applying conventional standards of illumination to an unconventional space.

Since such high intensity was planned for the galleries, the central well was considered not bright enough by comparison. To compensate for this imbalance a continuous band of reflector units lamped with power-groove de luxe warm white fluorescent tubes was aimed at the dome in order to reflect additional light on the floor. As a result the dome became a heavy opaque mass at night reflecting a noxious pinkish light into the well. This again was the very opposite of the dome's intent, which was to transmit light rather than reflect it. As a result the entire space was distorted by a reflector which was flat, dull and heavy. As a transmitter of light the dome was luminous and buoyant and it was Wright's intention that this be the case at night as well as during the day by the use of overhead floodlights installed above the dome.

Fortunately there is hope for the Museum. The present administration is particularly interested in the problems of the lighting and plans to replace and redesign the entire system as soon as economically feasible. Some steps toward improvement have already been taken, such as reducing the illumination level from 170 to about 30 foot-candles on the paintings.

Finally, I would like to consider a great example of modern architecture in which natural light has been used as an essential element to develop the interior space, and whose architect was not interfered with in the completion of his work. This is Le Corbusier's Chapel at Ronchamp.

The exterior of the Chapel suggests mass which becomes largely dissolved into weightlessness by light inside. The outside combines in a substantial concrete mass, arching curves, steeply convex in the three towers and gently concave in the roof line. Clean-edged rectangular wall contours are punctured by an asymmetrical pattern of trapezoidal openings. The exterior forms which envelop the interior space are only faintly suggestive of the dynamics of that space.

The lightness and mobility of the space within comes as a surprise. It is an agile space, alternating between darting and flowing, but never static. Upon entering and allowing a few seconds for the eyes to adjust to the low illumination level, one is first impressed by the weightless interior aspect of outwardly bulky walls and roof. The solidity of the masonry does not overwhelm the space within.

The interior contours exhibit a bold yet intricate interaction between angle and curve. The forms are free, in the sense that they elude the classifying mind. They are not free, however, in the sense of being without discipline. The space within is fluid and in a genuine sense, mysterious. Although it is exciting and non-static, the total experience is one of continuity and the memory is of repose.

The Chapel is best seen by daylight, as the sun moves across the sky. The structure is very selective in its admission of light. In all instances the entering light is squeezed through constricting apertures of different shapes and sizes and bears the marks of its difficult passage. The heavy mass of the roof is raised inches above the supporting walls on small, almost unnoticeable columns. The impression is one of suspension from above rather than support from below. Light seeps in along this long thin line, gently shading the sweeping contour of the dark brown ceiling. Most of the rectangular and trapezoidal openings in the walls are relatively small outside but expand as they enter the building, forming a pattern of large indentations in the interior. Thus they follow the direction of the rays of light which naturally tend to spread out from a constricted opening. Compositions in clear and colored glass augment the light imparting richness of pattern and color.

Tiny openings puncture the chancel wall producing sparkles of light on an otherwise opaque surface. This strongly substantial wall is a kind of inversion of the adjacent wall dominated by the larger apertures.

The only non-natural light source during the day is a rack of candles, almost sculptural in composition, near the altar. This is a dramatic use of an ancient light from within a space so dominated by newly modified natural light. As the candles burn down and some are replaced, this composition of light changes in a manner not unlike the changing of the natural light from the movement of the sun without. The gradual but continuous change in direction of the sunlight entering through the complex of openings causes a perpetual modification in the spatial character within.

There are numerous foci of visual interest resulting from the action of light on evolving structure. From all points within the space the asymmetrical composition of the visual field is agreeably dramatic. The surface of the interior walls, a heavily textured stucco, is overlayed by small shadows, in varying patterns according to the contours of the walls and the direction of the light.

Although the prevailing mood in the Chapel is non-agitating, it is difficult for the eye to remain immobile. The contours, their moulding revealed by the light, draw the eye and eventually the footsteps in a pattern of movement around the space. Movement follows the walls which run straight, then sharply turn a corner, then curve. Along the way the space condenses itself into three rounded chapels, startlingly lit from above. This contributes to the unexpected experience of dramatic lightness which is part of this unforgettable spatial encounter. The narrow height of these small chapels tends to intensify the broad sweep of the ceiling in the main space and vice versa. These towering spaces admit brilliant cascades of light through patterned clerestories far above and behind the observer. The light is reflected by the textured, contoured walls behind simple altars in an even modulation from brightness to relative darkness. The smooth quality of this light contrasts the clipped staccato of the light entering the main space through its wall perforations.

Ronchamp is a complex spatial adventure which is thoroughly dependent on light.

The Portland Cement Association

The history of the Portland Cement Association illustrates what a relatively small industry can achieve through the medium of cooperative effort.

Some form of cement has been used since the beginning of recorded history. The Romans made excellent use of a type of hydraulic cement in the building of the Appian Way, foundations for the Forum and other buildings, and in their famous system of aqueducts. But it was not until 1824 that the type of hydraulic cement called "portland cement" was invented by Joseph Aspdin, a mason of Leeds, England. It was called "portland cement" because when it hardened it closely resembled stone quarried on the Isle of Portland, then popular in the British Isles. It was not until 1871 that it was first produced in the United States. Even at the turn of the century, a total of only 8½ million barrels were being produced annually.

In 1964 an estimated 360,438,000 barrels of portland cement were shipped in the United States. More tons of portland cement concrete are used in construction each year than the tonnage of all steel, lumber, brick and other building materials combined.

The fact that this has come about in a period of just 64 years is due in great part to an early recognition by the portland cement industry in this country that for its product to gain any real degree of use, a great amount of research, product development, technical service, education and promotion would be required. For example, engineers, architects, contractors and others had to be shown how to use the material properly. And for it to be used for more purposes than foundations, dams, retaining walls and similar massive structures, limitations had to be overcome, and new uses developed.

If each individual company were to undertake this task independently, a tremendous duplication of effort and expense would have been inevitable. So it was that, in 1916, in the interest of economy, efficiency and insuring a coordinated and sustained attack on these problems, the Portland Cement Association was established with its headquarters in Chicago. It has been continuously supported since by the voluntary contributions of its members based on cement shipments. Today its members number more than 80 cement manufacturers in the United States and Canada.

The Portland Cement Association is unique among national organizations of its type. An understanding of things which it does not do, it considers almost as important as the functions which it performs.

A capsule description of just what this organization is and what it does is contained in each of the more than 500 technical and other publications it makes available to cement users. It reads, in part, as follows: "The activities of the Portland Cement Association are limited to scientific research, the development of new or improved products and methods, technical service, promotion and educational effort (including safety work), and are primarily designed to improve and extend the uses of portland cement and concrete."

The words "limited to" are very important. The PCA has nothing to do with trade practices. Each of its individual member companies has complete freedom of action as to the capacity of its plants, the amount of cement it produces, the prices it charges and where and to whom it sells. The Association has nothing to do with the production, distribution, pricing or selling of portland cement. It does not speak for the cement industry on commercial matters. It neither formulates nor controls the standards or specifications for portland cement. It does not collect, distribute or publish statistics on costs or prices.

The Association has carried on a program of scientific research for nearly 50 years, and its $10 million Research and Development Laboratories in Skokie, Illinois, are the largest and most completely equipped in the world, devoted exclusively to research in cement and concrete. Inside the main laboratory building, every climate on the face of the earth can be duplicated, from the Arctic to the Sahara.

One of the newest buildings, a Structural Laboratory, is a giant testing machine in itself. The floor and basement are built as a hollow box girder. Through holes spaced in its three-foot thick floor, rods are inserted and attached to jacks below. Several millions of pounds of pressure can be exerted in testing of full-scale bridge girders, roof sections and other structural members.

In the Fire Research Center, 40-foot long beams can be subjected to flames from gas-fired jets. Probably the longest furnace in the world. In addition to the beam furnace, a small furnace is used to fire test relatively small research units and a slab furnace is used to test and demonstrate the fire resistance of different concrete floor systems.

In addition to these facilities, the Association maintains numerous field exposure plots throughout the United States. Most ambitious of the field projects is the Long-Time Study of Cement Performance in Concrete — conducted in low and high altitudes, in arctic and semi-tropical climates, and in fresh and salt water. These far-flung studies are of a direct benefit to the public and will continue to be for many years.

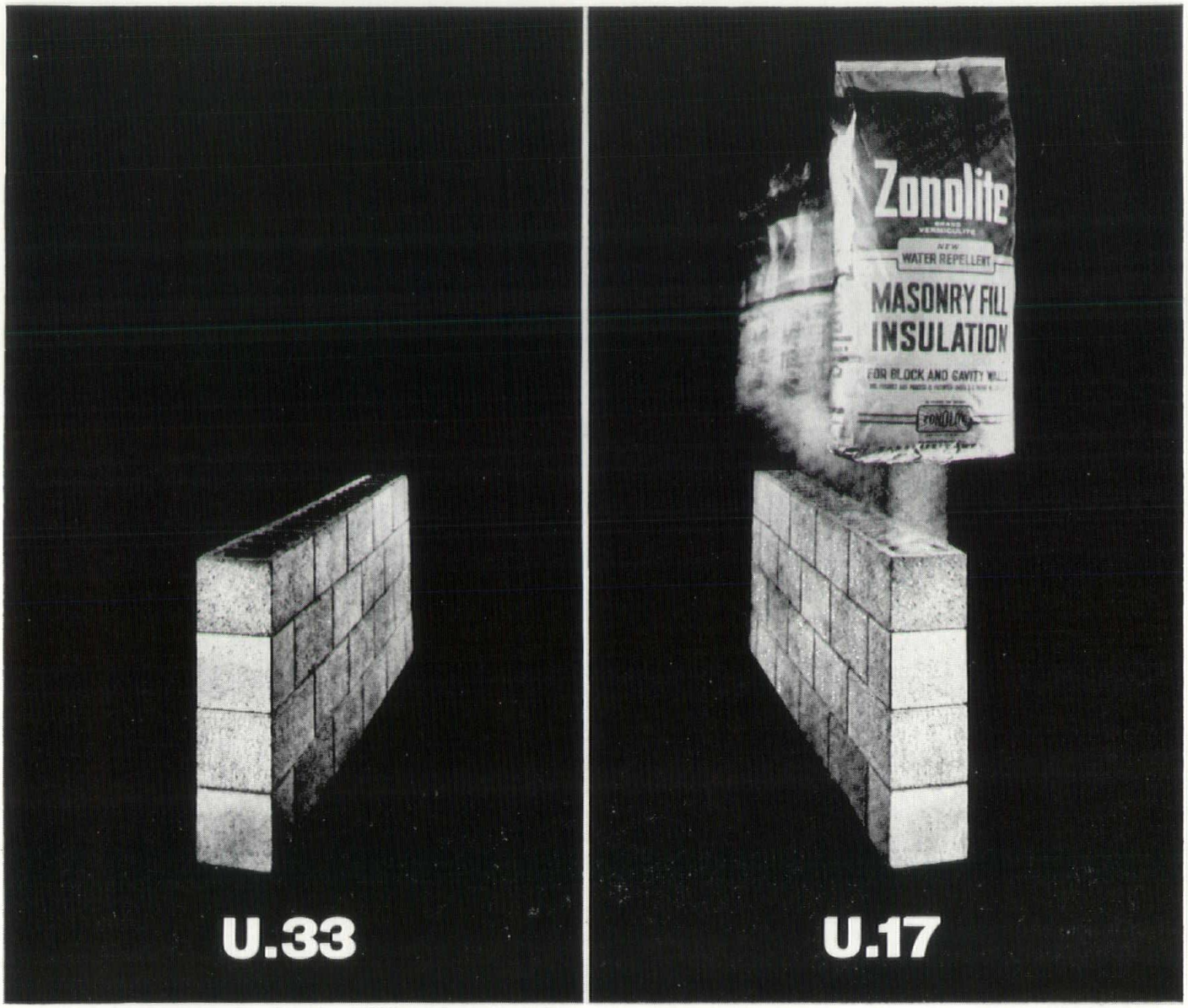
And a new and unique "Mobile Laboratory" is now traveling to highway sites to test soils and pavements under actual traffic conditions.

From this research have come many new discoveries and improvements . . . all of which have been made immediately and freely available. All patentable inventions developed in the course of the Association's work are dedicated to the public.

At the Association's general offices in Chicago, teams of engineers, architects, mathematicians and communications specialists develop technical data and educational aids. In addition to its literature, PCA has produced more than 150 motion pictures on the uses of concrete for paving, structural, conservation, farm, housing and other uses.

A steady flow of information and materials is provided by the general headquarters organization to more than 400 engineers, architects, farm, housing and other specialists working out of 46 regional and district offices

(Continued on Page 36)



Illustrated are comparative U values for 8" lightweight concrete block.
U values of other types and sizes of masonry walls are cut from ⅓ to over ½ when insulated with Zonolite Masonry Fill Insulation.

Need any more reasons for insulating masonry walls?

We need a minimum of encouragement to tell you about them. Zonolite Masonry Fill Insulation often pays for itself before the building is begun, because it reduces thermal transmission so effectively that smaller heating and air conditioning units can be used. Of course, future fuel bills will be much lower. And the occupants much more comfortable. Loudness of sound through Zonolite Masonry Fill insulated walls is reduced by 20% to 31%.

The installed cost is low; from approximately 10¢ to 21¢ per sq. ft. (For example, 8" block can be insulated with Zonolite Masonry Fill Insulation for about 13¢ per sq. ft.) The reason: low material cost and fast installation. Zonolite just pours into the block cores, or cavities of cavity walls. For complete information, write for Technical Bulletin MF-56, to:

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Western Mineral Products Company

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Quality and Dependability

Quality products and dependable service have been teamed together to go far in helping a Wisconsin manufacturer achieve success in his field. For a modest beginning in a structure of just 2,000 square feet and with an employee roll of only five people, Duwe Precast Concrete Products, Inc., has grown to a plant of about 20,000 square feet with nearly 100 employees.

The firm produces, in the factory at Oshkosh, Duwe roof slabs and roof systems as well as specialty products including Wheeler filter bottoms, wash troughs, mausoleum crypts and bumper curbs.

The firm was founded on August 17, 1953, by E. C. Duwe and the factory is located on Highway 41 south of the Highway 44 intersection.

Visitors often express surprise at learning of the scope of Duwe's operation. The firm has supplied roof deck for structures located throughout the United States, excluding the West Coast. By rail and by truck Duwe ships the roof slabs to sites in most any part of the country. To the building site travel a Duwe field representative and trained installers to assure fast erection with no delay of other trades.

Officers of the corporation include E. C. Duwe, president, Killian Schneider, vice president; W. E. Duwe, vice president, sales; S. I. Duwe, treasurer, and W. Robert Bruce, secretary.

Roof slabs manufactured are DuLite, precast of cement with DuCrete aggregate, lightweight channel slabs made from Haydite Concrete and lightweight tongue and groove plank also made of Haydite concrete. The Oshkosh-based company also manufactures precast concrete joists.

Special advantages of the Duwe roof system — DuLite slabs with Duwe joist — include a 2-hour U.L. fire rating, exceptional insulating value, high acoustical sound control, standard structural design for economy, strength and permanence, speed in construction, low maintenance.

DuLite roof slabs are made of a special DuCrete aggregate, the lightest and strongest aggregate available. Three thicknesses (3″, 3½″, 4″), a variety of spans up to 8′ 4″ and a low "U" factor are features that make selection advantageous. These are light grey in natural finish. Painting, recommended, will not affect the acoustical value. Installation can be made the year around in any kind of weather. The slabs are not affected by water and will not retain moisture. DuLite roof slabs have a "two-hour fire retardant value." Three inches of DuLite insulating concrete is equivalent to 2″ of rigid insulating board. DuLite slabs, produced from a very carefully controlled mix, will not weigh over 10 pounds per square foot when thoroughly dry compared to 40 pounds of ordinary concrete. Its insulating value is approximately four times that of ordinary concrete.

When used together with Duwe Joist, DuLite floor and roof slabs carry a 2-hour fire retardant classification. Duwe Joist is cast from 4,000 p.s.i., ultimate compressive stress concrete. They are clean, smooth and straight, free from blemishes and other imperfections.

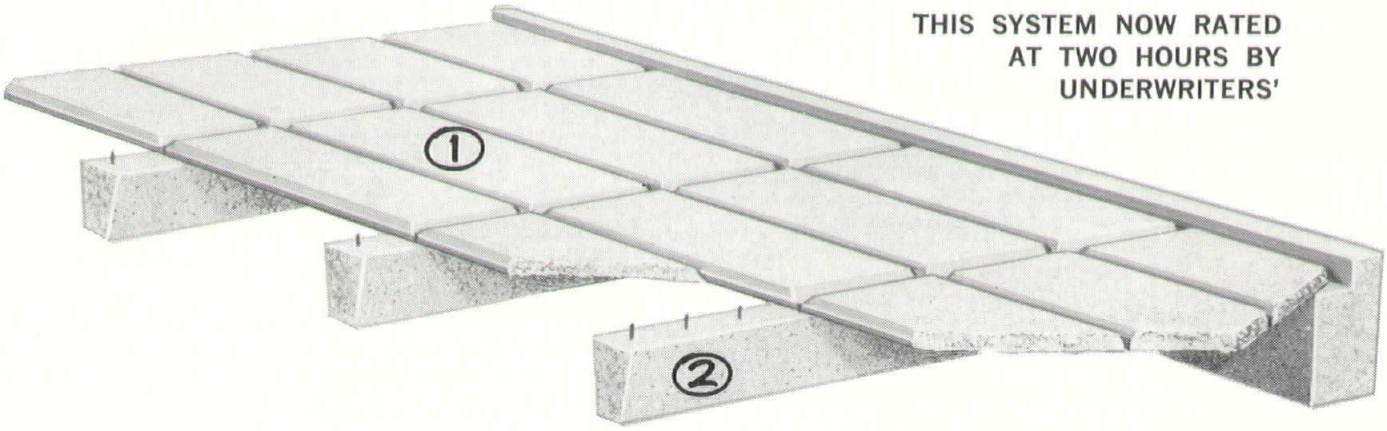
Duwe lightweight channel slabs are made of Haydite aggregate which produces a channel-type slab weighing approximately ⅓ less than ordinary concrete. The savings in dead load reduces the size of supporting members as well as the final cost. The slabs are easier to handle and do not require heavy placing equipment or skilled labor for erection. Precast Haydite roof slabs are manufactured of 5,000 p.s.i. vibrated concrete using high early cement and are designed to carry the required live load with ample safety factor. Cured slabs can be installed in any weather. They form the ideal base for composition roofing, insuring added life for the roof. Haydite concrete is chemically inert, therefore non-corrosive, giving full protection to reinforcing bars. It is resistant to water, smoke, fumes, steam and acid fumes and is fire safe (as established by the National Board of Underwriters and the Bureau of Standards).

Tongue and groove plank, made by Duwe from Haydite aggregate and an approved brand of Portland cement, are designed for an economical permanent fire-safe roof with insulating qualities. Unaffected by weather or water, it provides a roof that will not wear out, deteriorate or disintegrate.

The popularity of Duwe roof decks with Wisconsin architects and with others throughout the country has shown a steady increase.

Duwe Precast is not content to rest on the laurels of quality products and service. New product development is an important part of the firm's desire and interest, indicating the willingness to keep pace with building progress.

A Natural Partnership for an Enduring Relationship



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OSHKOSH, WISCONSIN

Tectum Roof Deck Systems

R. W. Nelson Structures, Inc., headed by Roger W. Nelson, moved last year into a new 7,500 sq. ft. warehouse and office building in New Berlin. During this past year the firm has sold and erected close to 20 million board feet of Tectum Roof Deck for a variety of buildings, ranging from schools to hotels, motels and churches.

Roger W. Nelson explains: "We are completely staffed to give architects service in laying out Tectum Roof Decks and selecting acoustical ceilings from a large line manufactured by National Gypsum Company."

Mr. Nelson has been serving the Milwaukee area for over 20 years in sales and service in the building products industry. Bruce Young, in charge of Tectum Sales, and John Werner, in charge of Acoustical Sales, are both experienced men in their fields.

As a roof deck material Tectum offers economy, speedy erection, excellent appearance with minimum maintenance. This single material, quickly erected over beam or joist, provides a lightweight, structural, building material that insulates, absorbs sound, provides a finished ceiling, is noncombustible, has good light reflectance and resists termites, rot and fungus. All this with one erection cost.

Tectum roof deck material is produced in two forms — plank and tile. Tectum plank has tongue and groove edges on the long dimension permitting tight joints. Planks are normally anchored with special clips that lock in the tongue and groove edges; Tectum may also be anchored in other ways. Tectum Tile is rabbeted on the long dimension and is designed for use with bulb-tee subpurlins. The rabbeted edge allows space around bulb-tee for a full grout fill — assures good anchorage.

The third system uses Tectum Plank in conjunction with roll-formed, galvanized, Tectum box-section subpurlins. The lightweight box-sections give excellent continuous beam support, speed erection of the roof deck through use of box-section anchor clips and raise the roof deck plank 2⅜″ above the supporting joists or beams. This space may be used for conduit, pipe or for installing lighting or heating systems. No painting is required; Tectum is factory finished and the box sections are galvanized.

Tectum for form plank applications serves an economical dual role. Its primary function is to provide a form for the concrete. Its secondary benefit as an acoustical product appears when it is left in place after the concrete cures and shoring is removed. Tectum Form Plank makes an excellent acoustical ceiling. It eliminates the need for stripping forms or grinding and finishing ceilings. It also lends warmth to an otherwise all concrete interior. Tectum may be painted with spray, brush or roller according to the effect desired.

Tectum Form Plank is for use under reinforced structural concrete only, and is not to be considered a structural member in the complete building.

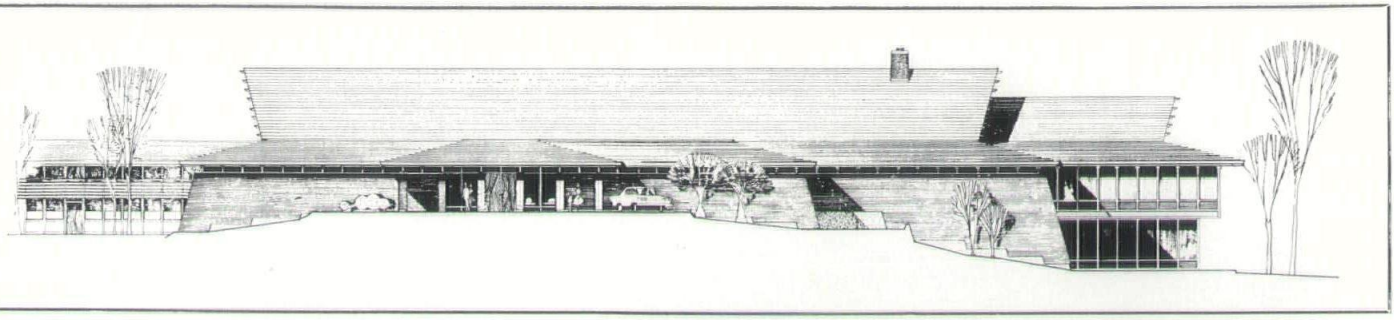
Tectum saves on structural framing. Its light weight permits economical spans and these savings are sizeable in large buildings. It is also rated noncombustible; favorable insurance rates are available in most communities. Savings in the elimination of extra materials, in labor charges, can all be converted into other needed features. Tectum goes down dry — down fast — saves time.

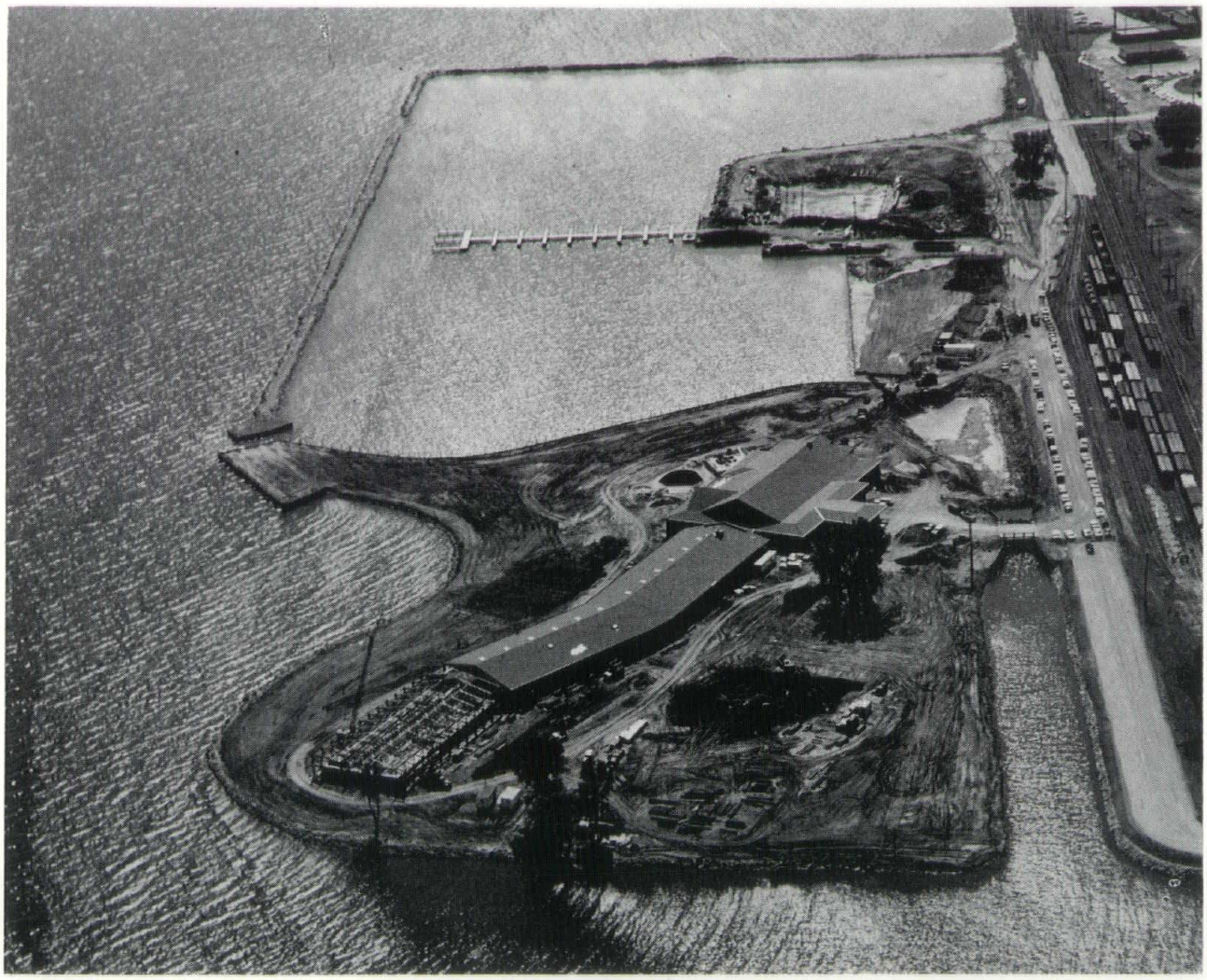
In a handsome and well illustrated brochure, Gold Bond Tectum produced by the National Gypsum Company, the following predictions are forecast:

More leisure time, new and better roads, and an increase in the population between the ages of 21-45, all mean more travel and a large demand for sleeping, eating and recreational facilities. From all reports, it is predicted that the building boom for the hospitality market is yet to come. Competition is, however, getting keener. Building construction and maintenance costs will be an even greater factor in realizing a profit or loss in the crucial first years of operation. That's why versatile building materials such as Gold Bond Tectum are fast becoming important in the hospitality construction field.

In structural roof deck applications, as a form for concrete, in acoustical and decorative applications, Gold Bond Tectum saves time, materials and labor.

As roofing is applied directly to Tectum's top surface, the roof deck job is both simple and time saving. Imagine the dollars saved over the old methods involving sheathing, insulation, roofing; and inside, lath, plaster and painting. Compare Tectum's method of (1) roof deck, and (2) roofing — the job's completed, has a smart distinctive appearance and genuine sales appeal.





Approximately 40,000 feet of Gold Bond TECTUM FORMPLANK and 30,000 feet of Gold Bond TECTUM ROOF DECK was used in the building of the Pioneer Motel and Convention Center.
Architects: Law, Law, Potter & Nystrom.
For further information on Gold Bond Tectum products, Roger Nelson, Bruce Young, and John Werner are always at your service.

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Phone: (414) 782-5730

Special roofing section

The Association of Milwaukee Roofing and Siding Contractors was established in 1927. The prime purpose of the organization is the constant effort to upgrade the industry by establishing high standards of practice and performance. Beyond that the organization strives for new and better application techniques. Through collaboration with manufacturers, new and better materials are achieved. The organization also gives assistance to architects in the solution of the many problems encountered.

The Milwaukee Association through its affiliation with the National Roofing Contractors Association has contributed to and in turn has access to all information obtained through the national research program conducted at the University of Illinois. The Purdue Conference, The Technical Assistance Program and the various seminars and forums held at different times and places throughout the country.

The members of the Association of Milwaukee Roofing and Siding Contractors do not pretend to have all the answers to all the problems. They do feel, however, that they are closer to these problems, and that they are equipped with information and have assistance available to them that puts them into a position to better solve these problems than others.

The Association members are always ready to furnish current technical data, information on new products, specifications and details. Do call on any one member when the occasion warrants it.

ASSOCIATION OF MILWAUKEE ROOFING AND SIDING CONTRACTORS, INC.

The following listed firms are pledged to maintain the highest standards of Good Roofing Practices and Integrity. *For your next job consult one of our members.*

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W. J. Woodruff Roofing Contractors
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A New Type of Roof and Floor Joist

A new type of roof and floor joist which was pioneered in the far west is finding favor with Wisconsin architects following establishment of manufacturing facilities in the midwest last year.

The joist, which has wood top and bottom chords connected by tubular steel webbing is called "Trus-Joist" and was invented by Boise, Idaho, architect and engineer A. L. Troutner in 1956. He and Harold E. Thomas, who serves as the company's president, established Trus-Joist Corporation in 1959 and since then the company has expanded to include plants in Boise; Portland, Oregon; Santa Rosa and Los Angeles, California; Phoenix, Arizona, and Dubuque, Iowa. Other factories are scheduled for construction in the spring in Atlanta, Georgia, and Calgary, Alberta.

The Trus-Joist incorporates the Warren Web truss design with the wood chords selected for strength from machine stress graded lumber. Only the highest grades (2100 and 2400 f) are utilized in the 2 x 4's which go into the standard or L series and the 2 x 6's utilized in the heavy or H series. The chords are scarf jointed and glued with a waterproof glue which, according to the manufacturer, produces joints consistently stronger than the natural flaws allowable in the high grade lumber utilized.

The steel tubing used in Trus-Joists is electrically welded and coated for maximum protection and is joined to the chord at the center line by pressed fit steel pins. Bridging clips are factory installed at proper panel points and bridging stringers are nailed directly to the pre-punched clips. The metal bearing clips are also custom engineered to transmit load from pin to plate.

Because each joist is custom made to the architect's specifications, a wide variety of profiles is available and special designs can be manufactured in almost any shape. Where long clear spans are required, the Trus-Joist can span up to 100 feet.

To date more than 4,000 commercial buildings of every size have been constructed with Trus-Joists including more than 300 schools. Where application has been made, they have been approved by all major building codes including the Industrial Safety and Building Division of the Wisconsin Industrial Commission.

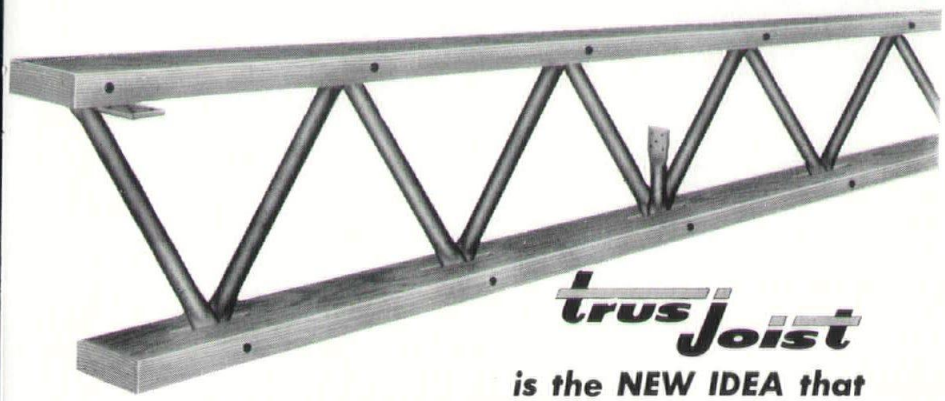
One of the major factors in the rapid growth of the company is attributed to the economies made possible by use of the Trus-Joist. Because of their light weight most joists can be erected by two job carpenters eliminating the need for special trades or heavy mechanical equipment. The light weight also allows further economy in the structural framing system and the wood chords provide for the direct attachment of low-cost decking, insulation and ceiling materials. The open web design permits further savings in simplifying installation of duct work, wiring, plumbing and air conditioning.

Other advantages pointed out by the manufacturer are the elimination of most movement problems due to the stability of wood in its length and low sound transfer in the joist because of the dissimilar materials.

Trus-Joists were specified by Milwaukee architect William Paschke in the design of the Menominee Village Apartment project in Milwaukee and by Schweitzer & Slater Associates of Milwaukee in the Donges Bay School at Mequon now under construction. A building for Johnson Hill Press at Fort Atkinson also utilized Trus-Joists and the firm's Wisconsin distributor, Vector, Inc., of Milwaukee, reports they are now being designed into several more schools and commercial buildings in various parts of the state.

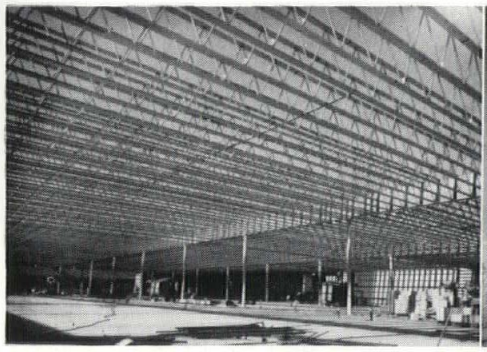
i·de·a (ī dē′ə)

n. 1 a: a presentation of sense, concept or representation. 2 a: a conception or standard of any perfection: IDEAL, etc.



trus joist

is the NEW IDEA that improves an established concept in roof and floor structures



Trus Joist is ideally suited for shopping centers, schools and commercial structures demanding long, clear spans.

Los Angeles architect specifies Trus Joist for rigidity and economy in high rise building.

Trus Joist, the perfect blend of wood and steel, is now in use in over 4,000 schools, shopping centers and commercial buildings across the nation. Light in weight for ease of erection and yet they offer clear spans of up to 100 feet. Wood chords provide the ideal nailing base for low cost deckings and ceiling materials. The architect saves detailing time. The contractor saves time in erection. The client saves money.

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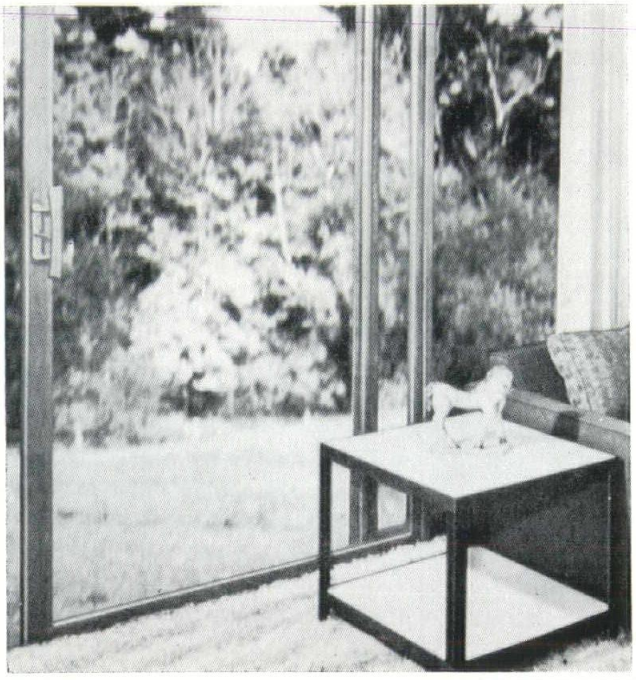

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(Continued from Page 26)

serving cement users in 48 states, and in all provinces of Canada. In an average year, more than 50,000 engineers, architects, construction superintendents, products manufacturers and others attend short courses held by the Association's field engineers on how to design and build all varieties of concrete structures.

It is this latter type of work — personal assistance — that characterizes the Association as a service organization. In no case does the organization take over or interfere with the functions of the practicing engineer or architect. But every day, throughout the country, PCA engineers may be found in the offices or on the construction site with these men, working with them to the end that they may best serve their clients. Field engineers of the Association hold engineering registrations in virtually all states and are familiar with design and construction practices in their areas.

As a result, the Portland Cement Association in its 49 years of growth has become recognized as: Headquarters for technical service to cement users; a clearinghouse for a vast fund of reliable, up-to-the-minute information on portland cement, the making of concrete, design procedures and construction methods; and a leader in research and development studies on cement and concrete.

ADVERTISEMENT

WOOD-LAM IS . . .

Specialist in Wood Roofs

Wood-Lam, Inc., at 230 Sussex st., Pewaukee, is one of the relatively new industries to the area. The company is known as "the specialist in structural wood roof systems."

Formed in Milwaukee in 1955 by Don W. Osenga, president, the plant moved to Pewaukee in 1959. The plant is 80 by 80 feet, the warehouse, 75 by 75 feet, on a five acre site, with plenty of room for expansion when needed.

Business has doubled since moving to Pewaukee. However, expansion of the plant's facilities is not presently anticipated as Wood-Lam is primarily an "on the job" construction company.

Known mainly for three products, laminated beams and arches, trusses and PetriCal, used in large building construction, only the trusses, which distribute weight and eliminate the need for inside wall partitions in smaller commercial buildings, apartment houses and supermarkets, are made at the plant.

The other products are installed by Wood-Lam, with the Weyerhaeuser company supplying the materials.

The operating procedure goes something like this: After plans for a new building are made known, Wood-Lam contacts the architect, suggests use of its materials, and, if successful in its bid for the contract, supplies and erects the materials specified.

Men employed by the plant are mainly carpenters, crane operators and engineers.

Company heads and members of the board of directors, besides Don Osenga, who coordinates materials, men and equipment, are: Norman and Leonard Osenga, field superintendents; Ray Ohlgren, vice president, and Wm. E. Walsh, secretary. Treasurer is Norman Osenga.

On the staff are two registered engineers, a sales estimator, three full time office persons and six draftsmen. Eight men are employed in the shop, plus a mechanic to overhaul trucks and equipment. About 30 men are in the field, mainly crane operators and carpenters.

Wood-Lam's "on the job" crew covers Wisconsin and northern Illinois. "The average job is about a week's duration. We have our own trucks and cranes, with the men out on about five jobs at a time," Walsh said.

At the plant, its engineers prepare the drawings. The specifications are then sent to Weyerhaeuser, where the materials are prepared and shipped back to Wood-Lam.

Each job is a custom job, in that it is designed especially for the building it goes into.

The company, which was a going concern in Milwaukee before moving to Pewaukee, "came to this area mainly because of the location and accessibility to highways," Walsh said. "It is easier to locate in the country, with the large equipment necessary to the business. When you carry loads 80 feet long through a city, a police escort is necessary, as it was on the St. Mary's church job in Waukesha."

Arches have been erected by Wood-Lam in such construction as the Deer Park Plaza shopping center at Oconomowoc, the new Zion United Presbyterian church at Pewaukee, Kohl's supermarket at Waukesha and the huge, new indoor tennis court at Goerke's corners, now under construction.

Trusses, constructed at the plant, were used in the erection of the new educational wing at Galilee Lutheran church, Pewaukee.

The trusses are reinforced with a large, heavy square of pronged metal, which somewhat resembles an enlargement of an old-fashioned cabbage grater. One of these reinforcements is nailed on each side of a joint. It is then treated to about 10,000 pounds of pressure on a press at the shop.

Wood-Lam also specializes in the installation of decking. "This wood ceiling, when placed over the arches, furnishes a finished ceiling and usually, all the insulation necessary in most cases," Walsh said. The decking comes in thicknesses of two to four inches, Another type, the laminated "tongue and groove" decking, is also used.

While erection of arches, beams, trusses and decking in churches, schools and supermarkets are its mainstay, Wood-Lam also installs PetriCal. This product, composed of excelsior and Portland cement, makes a durable wood fiber roof deck, which also acts as insulation. Used as an acoustical tile in gyms and theaters because of its ability to absorb noise, it can also be used as a wall on nonload-bearing partitions. It provides a decorative, textured contemporary finish after spray painting.

PetriCal is made by the Fireproof Products Co., of Cornell, Wis.

Don Osenga, founder of Wood-Lam, lives near Hartland and is the son of a Milwaukee builder. After graduation from the University of Wisconsin, Osenga worked for a laminator at Peshtigo for a short time before going into business for himself.

The first laminated arch, from which the company derives its name, was made in the United States in 1934 at the Forest Products laboratory in Madison, a federally maintained lab.

Wood laminated beams, combined with decking, has been successful in cutting down sound travel in apartment buildings. One of Wood-Lam's most decorative jobs in the apartment construction field was done at Stoddard Gables apartments at Madison, where its builders maintain "major sound-control factors are in the wood framing—dimension lumber, glued-laminated beams and purlins, topped by wood decking—and the specially sound-resistant construction of all unit-dividing walls and the second-story floor."

Good Design Has Dollar Value

In the April, 1965, issue of the WISCONSIN ARCHITECT, W. H. Pipkorn Company announced its intention "to focus public attention on the architectural profession." Alarmed by the realization that the general public has but vague ideas about the architectural profession and its function, W. H. Pipkorn Co. stated: "We want the buying public to realize that good design has a dollar value, and that the architects comprise a profession that can create beauty. To attain this end, the W. H. Pipkorn Company is launching a concentrated promotional campaign designed to publicize the function, purpose and value of architects throughout the state of Wisconsin."

Following this announcement, Fred Marion, Vice President and Sales Manager of W. H. Pipkorn Company prepared and mailed to all members of the Wisconsin Chapter, AIA, a 10 item questionnaire, reasoning that without the architects' views, his program would be of little value.

The ten questions read as follows:

1. What is the most important function an architect fulfills for his clients?
2. Are you kept supplied with enough up-to-date information about new products, new techniques, new building materials?
3. What do you feel is the greatest service an architect renders to his community?
4. Are costs of all items necessary for construction discussed with clients in advance of their being specified?
5. There is general agreement that, so long as the vital necessities are taken care of, any number of structures can be designed to do a specific job. What really makes one better than the other?
6. What do you like about current architectural trends? What do you dislike?
7. How do you go about analyzing a client's needs and desires, and then putting them together in your design for a structure he is going to live in?
8. On what basis are most structural materials selected — price, quality, appearance, endurance, most functional, etc.?
9. What trends in design do you anticipate in the foreseeable future?
10. How do you think the architect can get the story of his function, value and responsibilities across to the public better than he has to date?

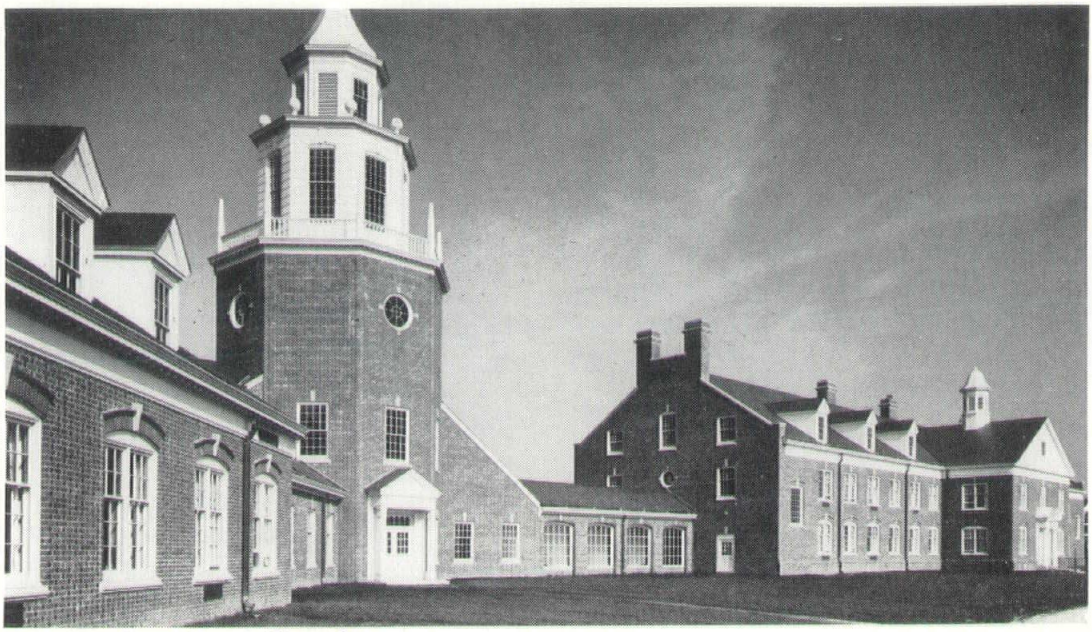
Here are answers to questions 1 and 3 architects have sent to W. H. Pipkorn Company.

What is the most important function an architect fulfills for his clients?

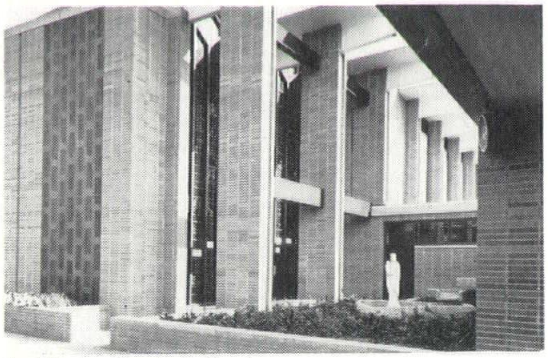
1. Provides a human atmosphere in functional space that is an incentive to improvement of all endeavor.
2. Studying his needs and producing a functional, economical and beautiful building.
3. To provide to the best of his ability the most useful, beautiful shelter his needs require for the established budget, and to do this in a logically creative way.
4. Make a good analysis of the required function of his proposed project. Discuss the budget thoroughly. Design the building to become an asset to the community and reflect the product he is presenting as a quality building.
5. Constructing his building to meet his function within his budget.
6. Skilled, competent guidance to the solution of a problem.
7. To give them inspired design. A building that is a thrill to live and work in — not just well planned shelter — is the unique "plus" function only the architect can give his client.
8. Owner gets a better building for less money.
9. Analyzes his client's needs, and solves his planning and functional problems with proper emphasis on aesthetics and provision for future expansion and requirements within the budget.
10. An architect acts as the professional agent of his client, and in his behalf, on all matters pertaining to his building problems, many times coordinating the work of other subordinate professionals and other assistants.
11. To produce an economical, functional, aesthetically pleasing structure that blends with its surroundings.
12. The architect organizes their thoughts and designs and executes a building to suit their requirements and the aesthetic needs of the community.
13. To give the client a better designed building, and to insure the quality that he is paying for.
14. The Architect's function, of course, is to see that his client gets the building he wants built substantially and economically for the amount of money that the client wishes to spend. A successful project is one in which he produces a result which is satisfactory and stimulating to his client beyond his expectations.

What do you feel is the greatest service an architect renders to his community?

1. He should be an example of appreciation of excellence, and an educator toward bringing understanding and appreciation of this excellence to his fellow men.
2. Logical planning, honest use of materials, lasting and timeless design, dynamic beauty.
3. Be sensitive, compatible and compliment his neighboring buildings for the sake of a total functional and beautiful environment.
4. Design the proposed project to up-grade the community and enhance the dollar value.
5. Attempt to design structures that are progressive yet maintain a sense of stability that can endure time and exposure while yet providing excitement, beauty and fulfilling need.
6. Integrity. Lord knows, there seems to be little enough around in the building industry. An architect may be ignorant, incompetent, unskilled, insensitive, but rarely is he dishonest.
7. *Not* ignoring it when he produces a building in it!
8. Assist in planning if permitted, serve on appeal or review boards, keep the community informed of what good architecture is.



Architects: Kloppenburg & Kloppenburg



Architects: Brust & Brust

Architects: Kloppenburg & Kloppenburg

Architects: Grassold, Johnson, Wagner & Isley, Inc.

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Stop to see us frequently — we will be glad to help you with your brick selection.

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From Earth and Fire

by C. T. Bridgman, Vice President, Engineering and Research, Goodwin Companies

"Color in Architecture" was the theme of the North Central States Regional Conference held in Milwaukee in September, 1959. The chairman was Mr. Karel Yasko. As a member of a panel appearing on the program, I had the opportunity of working closely with Mr. Yasko. This was an inspirational and exciting experience — also tiring. I came away with a new enthusiasm for the future of our industry and a large batch of determination to try to develop and put into production some of the new concepts which had been revealed to me during this interesting meeting.

Trying to sort out the main points or ideas, I think they might be summarized as follows.

1. Architecture is entering a period which will reflect more warmth and humaneness.
2. This trend will result in the use of more color and texture in building designs.
3. The younger group of post-war designers are now taking control and we will see new and interesting design concepts.
4. The Clay Products Industry has a fine opportunity to fit into this picture if we accept the challenge and develop the materials which will satisfy this group of designers who will make their impact on our architecture during the next 10 years.

I believe the industry has been sensitive to the feelings expressed by architects in their search for warmth, texture and color, which we now see being used.

At that time, Goodwin Companies had introduced the Glazed Provincial Line of accent colored, double burned glazed brick. Since then, many colors have been added and the library of additional colors available on special order is ready for inspection. The new colors incorporate many of the more earthy hues, such as browns, tans, rusts and also a wide variety of grays.

From Des Moines Clay comes the Heritage Line Brick with considerable texture. This line breaks down into six basic color ranges. It starts with black, then Van Dyke Browns. The next step up is Dark Tone Reds, which vary from a deep red to reddish purple. Next is the Clear Red Line. Up from this is a Cinnamon Pink; and finally Antique White, which is a red brick with a white engobe ceramic coating which permits some of the red to show through.

The line is flexible in that the Dark Tones can be emphasized and varied by mixing the Van Dyke Browns with the Dark Tone Reds and even the Clear Reds. By controlling the percentages of the mixtures, a variety of effects can be obtained.

To supplement this, we next developed the Classic Line at Ottumwa Brick and Tile Company. This breaks down into six basic blends. All of these except one start out with a buff burning clay. Heights Blend is a flashed brick of burgundy browns. Fall Festival is a flashed brick with warm buffs, tans and with darker tones. Sienna Buff is a range of cocoa to darker browns. Rose Buff is a rose tan range. Buff is a golden and tawny buff color. Apache Red is a bright red running towards the salmon or orange hues. These are all in the Wirecut or Velour texture and can be blended and mixed.

From Des Moines Clay and Ottumwa Brick & Tile, we also have two different types of Gray brick. Both are available in quite wide ranges.

It is of particular interest that many of the predictions made at this meeting have come to pass. The materials we are now supplying to architects today have more range in color than previously. We are furnishing more brick in the rich, earthy tones, such as the browns and mixtures of reds, browns and various other dark tones. We also have found the grays in ranges from light to dark are popular.

Also, worthy of note, that more of our materials are being used for interiors in almost every type of building. We often find that we are furnishing the same type of brick for the interior as has been selected for the exterior. We are also pleasantly suprised when we find that often the amount of brick used in the interior is almost double the amount used on the exterior.

We are pleased with our progress, however, we must always remember, "Pride goeth before a fall and a haughty spirit before destruction," therefore, in all humility, we say we are manufacturers of a material with great flexibility in both color and texture. We do not presume to know what the future holds. We do know that we will need guidance and request that you give us an opportunity to try to create what you need. We do hope you will ask us to keep trying for new and desirable ways to express the natural qualities of earth treated by fire. This is encouraging because then we know you are, at least, thinking about us. And that is good!

what's new from earth and fire?

Classic Line — Designer's Selections — Ottumwa Brick & Tile Company

Ottumwa's Wirecut or Velour Textured Face Brick Line has been further developed by adding several warm, earthy colors. This complete line now is as follows:

Heights — A blend of burgundy browns to dark browns.

Fall Festival — Warm buffs and tans with darker tones.

Sienna Buff — Light cocoa browns.

Rose Buff — A rose tan range.

Buff — Golden and tawny buff colors.

Apache Red — Bright red towards the salmon and orange hues.

These can be used separately or mixed and blended in many pleasing combinations.

Orleans Blend — 801W From Des Moines Clay Company

A white engobe clay coating is sprayed on the red body and partially covers the brick. The overall effect is a light wall with some red showing through. The general effect is the charm of an old, white coated, soft mud brick wall.

Glazed Provincial "Color Library" — Des Moines Clay Company

Many new colors have been developed and are available on special order. These include rich earthy colors in the browns, tans and rust hues. Also, a beautiful selection of grays. Many others are also available. A kit for inspecting these new colors is available.

Perforated Drain Tile — Mason City Brick & Tile Company

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Economy Norman — 4″ x 4″ x 12″ Unit — Des Moines Clay Company

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Dark Brown Range — Wire Cut Face — Des Moines Clay. Also available in the Heritage texture.

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This new office building on the south Beltline highway in Madison features an unusual treatment of concrete masonry. Both the size and shape were specified by the architect and supplied, without difficulty, by the concrete products producer (Wisconsin Brick & Block Corp., Madison). Contact your local producer for the shape, color, texture and pattern you need.

Wisconsin Concrete Products Association

313 West Main Street Madison, Wisconsin 53702 255-6579

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Producers' Council

I am about to depart for Louisville, Ky. The event is the annual Producers' Council Presidents Convention. All forty-eight chapters will be represented along with members of the national office. A great deal of planning and preparation has gone into this affair and it looks like it will be a rewarding convention. I will report on it next month.

Pete Alexander, Harry Wittwer and Bill DeLind have staged the first AIA-PC Gemuetlichkeit meeting at Minocqua, Wisconsin. Other areas being considered are Milwaukee, Madison, Appleton and Green Bay. These programs are a lot of fun and an excellent way for the architect to learn about the newest building products on the market.

In the last two issues, I have asked if any architects or engineers or their staff used to play an instrument. I still would like to organize a small group to play at various outings and the big AIA conventions. If you are interested, contact me as soon as possible.

Russell Sandhoefner
President, Wisconsin Chapter

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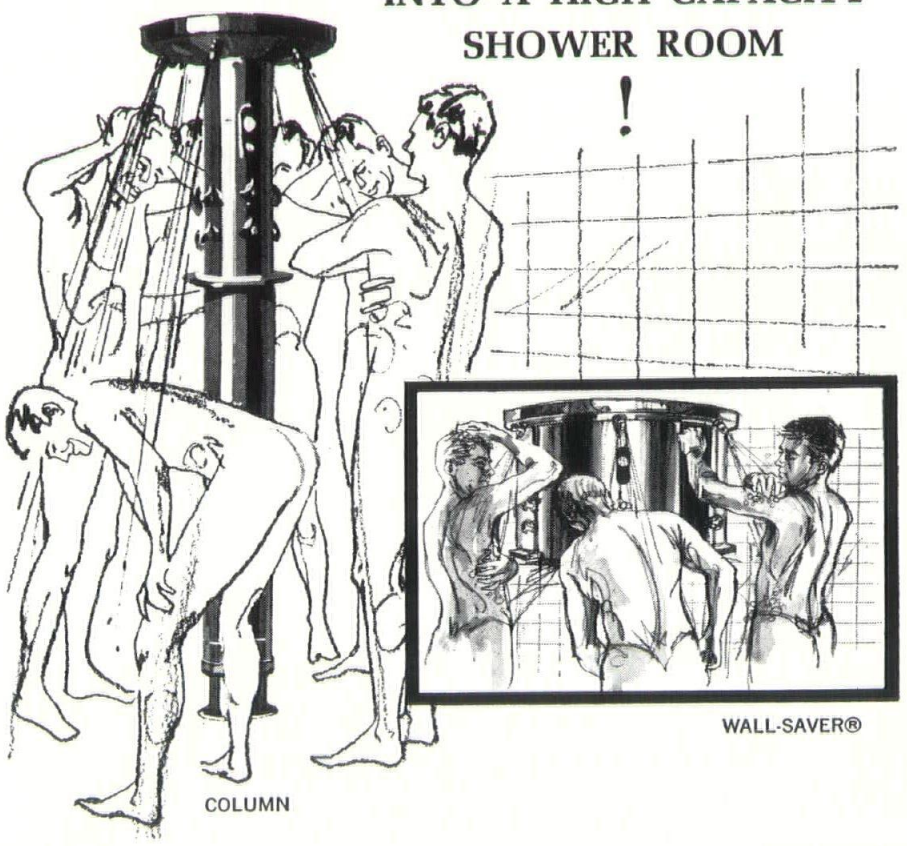

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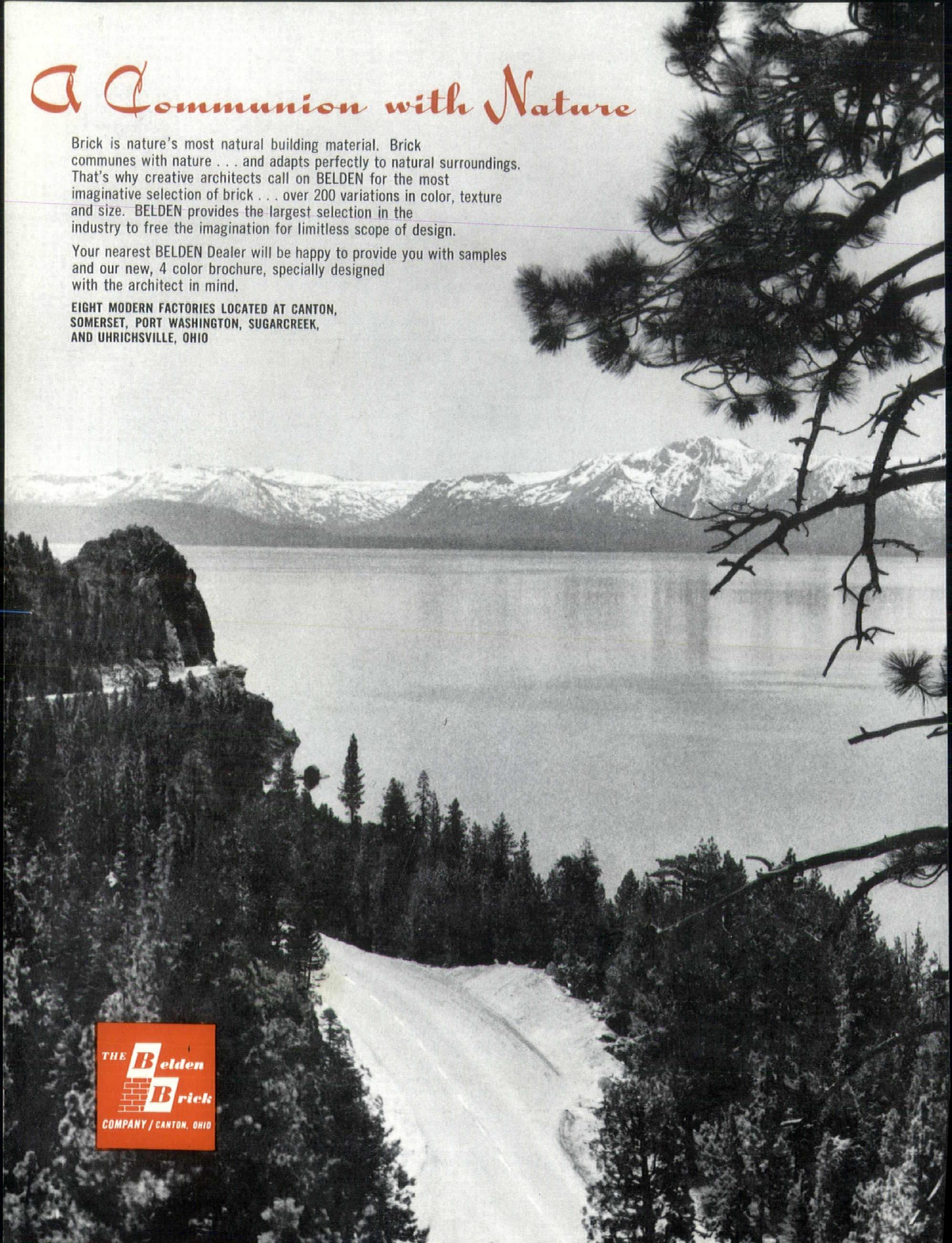

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