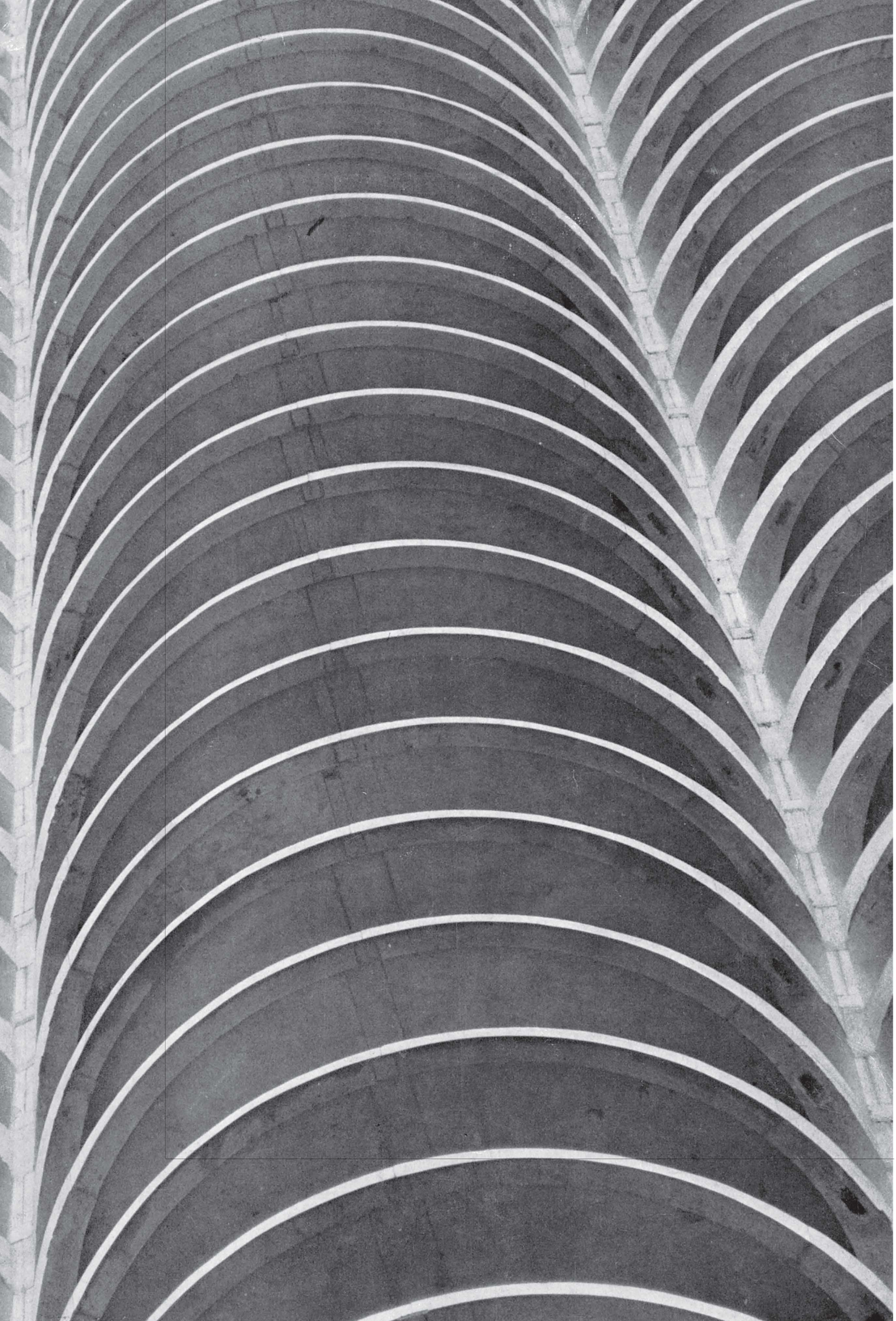

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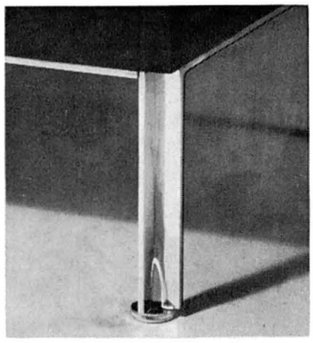

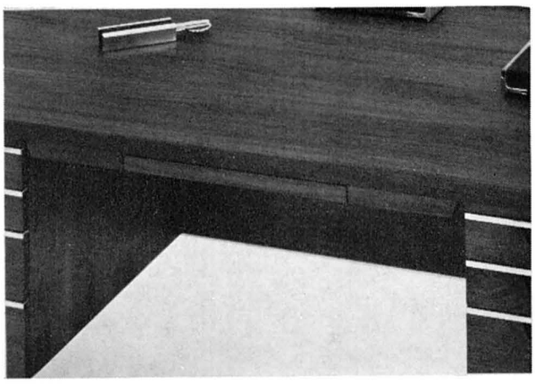

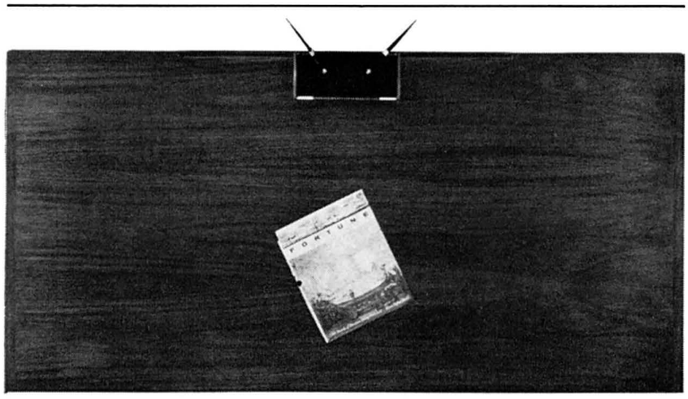

executive
FEATURES

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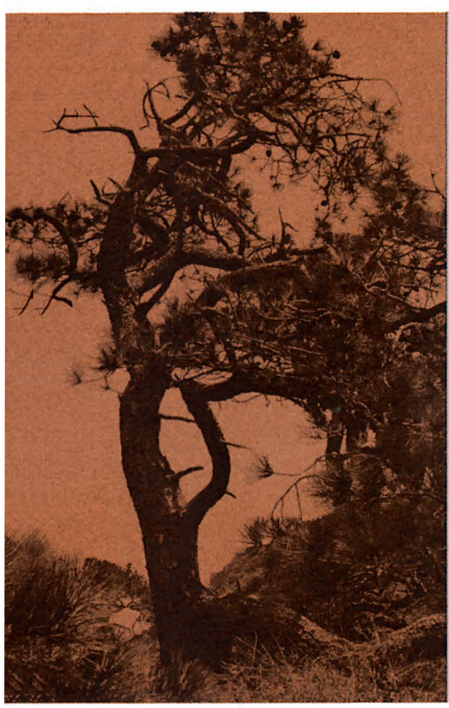
SERIES-P3100

WOOD/LINE *accents the texture and patina of real walnut with the cool (allover glow) diffusion of milk white plastic to provide the handcrafted look in lighting.*



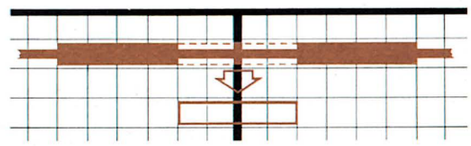
WOOD/LINE is constructed for the quality conscious user whose building demands an integrated specially designed atmosphere that specifically yet subtly infers quality. **WOOD/LINE** provides that aura and still fulfills its basic photometric requirements to provide lighting and brightness levels that are in keeping with quality illumination. **WOOD/LINE** is structurally engineered to take into account the permanence and beauty of natural hard woods and the structural strength of the reinforcing steel which form its basic backbone. **WOOD/LINE** is specially designed to be installed as a basic part of the GLOBE unitized electrical system. (see page 3)

ORDERING INFORMATION

FIXTURE NO.	No. of Lamps	Length
RAPID START		
P3102-48RS	2	49
P3104-48RS	4	49
TANDEM FIXTURE *		
P3102-48RS-2	4	98
P3104-48RS-2	8	98

***Tandem fixture supplied using 1-96″ wiring channel, 2-48″ UEA's, and 2-48″ diffuser assemblies.**

GLOBE ILLUMINATION COMPANY • 1515 West 178 Street, Gardena, California

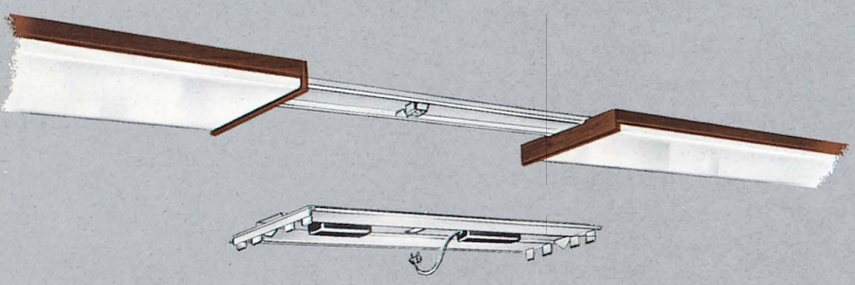


WOOD/LINE is the newest fixture series which has been specially designed to integrate with GLOBE's unitized electrical assembly system.

This unique system permits instant fixture replacement and rearrangement by its plug-in construction, for tomorrow's changing lighting needs

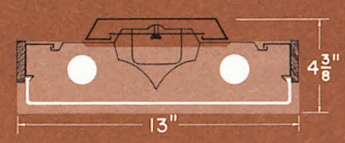
Since the **WOOD/LINE** U.E.A. system may be specified as a complete fixture or as various components for specific lighting arrangements, complete flexibility is assured when wireway closure plates are specified to close off sections where the U.E.A. has been removed.

As shown in the cross sections below the installation characteristics of the remote wireway prevents ceiling temperatures from exceeding 70 degrees C . . . Isolation of the ballast outside the lamp chamber provides ballast temperatures that are well below maximum recommended rating. Lamp heat is conducted away and radiated into free air space.

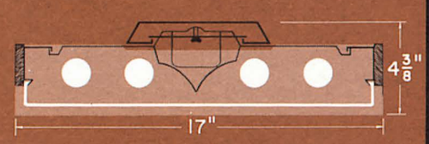


U.E.A. by GLOBE . . ."plug-in" interchangeability of 2 and 4 lamp assemblies into a common wireway, achieves a lighting system that is rearrangeable. Troubleshooting and fixture maintenance is done away from the ceiling line. Simply plug-in a spare Unitized Electrical Assembly as you remove an inoperative one. No more office staff interruptions or lengthy "on ladder" maintenance. Movable polarized receptacles adapt to modular requirements.

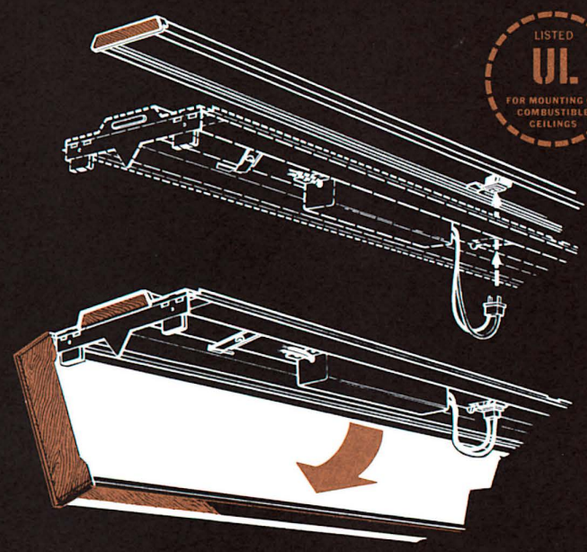
All parts in the WOOD/LINE Unitized Electrical Assembly are guaranteed against defects in materials and workmanship and failure under normal use, for a period of three years from date of shipment to specific job.



2 lamp 40W R.S. cross section
2 lamp unit interchangeable with 4 lamp on unitized electrical system.



4 lamp 40W R.S. cross section
For additional mounting or dimensional information see Mounting Dimensions



LISTED UL FOR MOUNTING ON COMBUSTIBLE CEILINGS

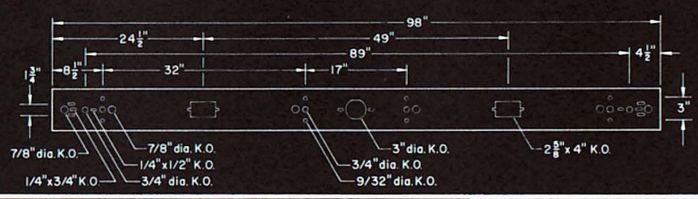
GLOBE's unitized electrical assembly system

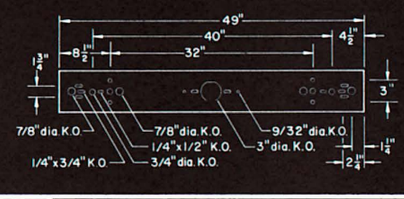
Lightweight continuous wireway with sliding female power receptacle permits instant fixture rearrangement.

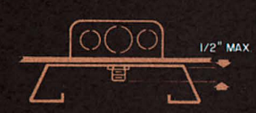
Completely prewired unitized electrical assembly with sockets, ballasts, and lamps "plugs in" for light — plugs out for fast maintenance.

Hooks on .. lift and hinge diffuser basket provides immediate access to lamps.

WOOD/LINE is designed for ceiling mounting. However, it may be pendant mounted by means of GLOBE'S S2-H stem assemblies.







WOOD/LINE SPECIFICATIONS

The fixture shall consist of three separate and complete assemblies . . . a wireway, a unitized electrical assembly (U.E.A.) and a hingeable and removable shielding assembly. WIREWAY — for ceiling or pendant mounting, individually or in continuous rows. Each 48" section shall accommodate a polarized female receptacle. Suitable joiners shall be provided for continuous row mounting and alignment. U.E.A. shall be a complete assembly consisting of reflector, sockets, ballasts and associated wiring, terminating in a polarized male plug. Ballasts shall be ETL certified, thermally protected.

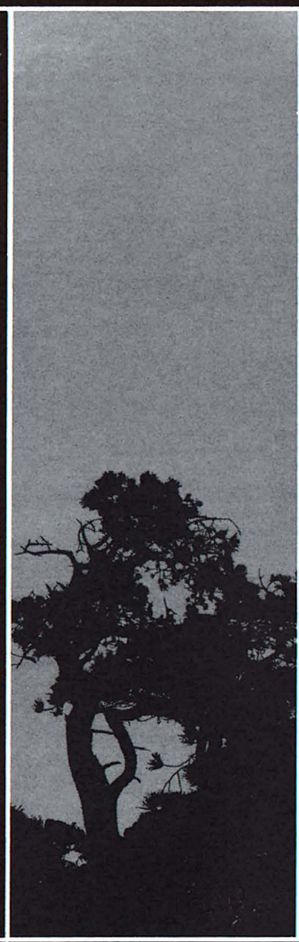
DIFFUSER BASKET assembly shall be constructed to hinge from either side without latches or other mechanical devices.

Full length all steel metal reinforcing members shall be affixed along the entire length of the wood structure. This member provides additional structural stiffness to the entire diffuser assembly.

FINISH — white enamel, electrostatically applied over zinc phosphate undercoat. Bonderite labeled.

All visible wood surfaces shall be manufactured from select clear grain walnut. All mitered joints shall be of doweled construction, with glued tongue and groove interlocking sections. All walnut surfaces shall be clear satin gloss lacquer over natural walnut.

MOUNTING — Fixture shall be UL listed . . . approved for direct mounting on combustible ceiling.



PHOTOMETRIC DATA

LUMINAREA ESTIMATOR — Based on 2650 lumen lamps

Fixture Number	Room Size	30 FC	50 FC	60 FC	75 FC	90 FC	100 FC
		Number of luminaires per 100 sq. ft. approx.					
P3102	Large	1.419	2.364	2.837	3.547	4.256	4.728
	Medium	1.72	2.87	3.44	4.30	5.16	5.73
	Small	2.79	4.65	5.58	6.97	8.36	9.29
P3104	Large	0.722	1.203	1.444	1.805	2.166	2.407
	Medium	0.90	1.50	1.80	2.25	2.70	2.99
	Small	1.44	2.41	2.89	3.61	4.33	4.81

P3102-48RS COEFFICIENTS OF UTILIZATION

CEILING		80%			70%			50%			30%		
WALLS		50%	30%	10%	50%	30%	10%	50%	30%	10%	30%	10%	
Room Ratio	Room Index	30% FLOOR REFLECTANCE			10% FLOOR REFLECTANCE								
0.6	J	.24	.19	.17	.23	.19	.17	.22	.19	.17	.19	.17	
0.8	I	.30	.26	.23	.29	.25	.23	.28	.25	.23	.25	.23	
1.0	H	.36	.31	.29	.34	.30	.28	.33	.30	.27	.30	.27	
1.25	G	.41	.36	.34	.39	.35	.32	.38	.34	.32	.34	.32	
1.5	F	.46	.41	.37	.42	.39	.36	.41	.38	.36	.38	.36	
2.0	E	.51	.47	.44	.47	.44	.42	.46	.43	.41	.42	.41	
2.5	D	.55	.52	.49	.50	.47	.45	.49	.46	.45	.46	.44	
3.0	C	.59	.55	.53	.52	.50	.48	.51	.49	.47	.48	.47	
4.0	B	.64	.60	.57	.55	.53	.52	.54	.52	.51	.51	.51	
5.0	A	.67	.63	.61	.57	.56	.55	.56	.55	.54	.54	.53	

P3104-48RS COEFFICIENTS OF UTILIZATION

CEILING		80%			70%			50%			30%		
WALLS		50%	30%	10%	50%	30%	10%	50%	30%	10%	30%	10%	
Room Ratio	Room Index	30% FLOOR REFLECTANCE			10% FLOOR REFLECTANCE								
0.6	J	.23	.18	.16	.22	.18	.16	.21	.18	.15	.18	.15	
0.8	I	.30	.24	.21	.28	.24	.21	.28	.23	.21	.23	.21	
1.0	H	.35	.30	.27	.33	.29	.26	.32	.29	.26	.28	.26	
1.25	G	.40	.35	.31	.38	.33	.30	.37	.33	.30	.32	.30	
1.5	F	.44	.39	.35	.40	.37	.34	.39	.37	.34	.36	.34	
2.0	E	.50	.45	.41	.45	.41	.38	.45	.41	.38	.40	.38	
2.5	D	.54	.50	.46	.48	.45	.42	.47	.45	.42	.44	.42	
3.0	C	.57	.53	.50	.50	.47	.45	.49	.47	.45	.46	.44	
4.0	B	.62	.57	.54	.53	.51	.48	.52	.50	.48	.49	.47	
5.0	A	.64	.61	.58	.56	.53	.51	.54	.52	.51	.51	.50	

Cover photo: Detail of Marina City by Orlando R. Cabanban.

arts & architecture

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Vol. 80, No. 11

ART

DORE ASHTON

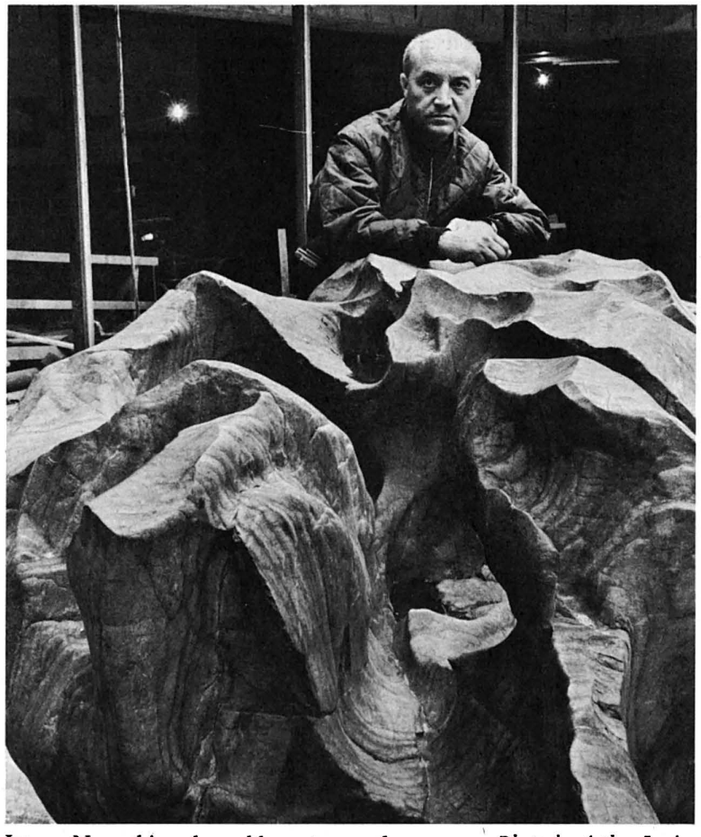
Not many sculptors can permit themselves to dream in Renaissance scale anymore, and when they do, their reveries are usually rudely cut short by economics.

Among the few 20th century sculptors fortunate enough to realize their visions in monumental scale is Isamu Noguchi. With several previous large-scale projects under his belt, Noguchi was ready to tackle a truly classical problem when he was approached to design a sculpture in a closed court of the new Beinecke Rare Book and Manuscript Library at Yale.

The result is the marble "garden" recently completed – a prodigy of thought, skill and topographical perfection. Closed in by four glassed walls, the courtyard can be seen either from above, where the spectator sees a resplendent marble plaza on which a pyramid, a circle and a square block standing on its point, compose themselves in a singular unity. In its marble totality, this plaza takes on a sacred, aristocratic, classical aloofness entirely congruous with the principle of a rare book library (although it is not damply sepulchral as the building itself is.)

Seen from below, that is at ground level, the courtyard is like a great Renaissance plaza. There is a feeling of extending prospects, cleverly induced by Noguchi's patterning of the marble pavement in intersecting circles and squares. The arcs and straight lines, controlled like magnet filings, radiate and give the illusion of great expanse. One portion of the expanse is dominated by a pyramid which rises in perfect symmetry, catching the sun in all its seasons. Off-centered, and close to the glass wall, is the giant pierced disk, like an ancient bracelet, carved so subtly that as the spectator moves his eye on its surface, the circular center appears to be an oval. As the pyramid, rising from the marble pavement, symbolizes the earth, so this towering circle symbolizes the sun, or a magnet, or just plain energy. Noguchi, with his characteristic interest in cosmic mechanics, has made of this shape a crucial gathering point for all the shapes in the ensemble. The sharp edges of the marble block on its point, and of the slanting walls of the pyramid seem to refer back to the continuous circling motion of the great disk. Here, by the way, the wonderful quality of inner illumination germane to Vermont marble, is enhanced by the way Noguchi has disposed the pieces, so that they echo light in the four corners of the quadrilateral space.

As the sun symbolizes energy, the pyramid, earth, and the square (like a die) symbolizes chance, the totality of the sculpture is a parable of life itself told from a high and detached plane congenial to a philosophical mind. But there is another aspect as well, one far less intellectual in origin. Noguchi has always had a strong feeling for the "real" spaces, the spaces a man knows just because he is planted on two feet which feel the resistance of the earth, and moves about on a vertical axis, experiencing the pull of gravity so intimately that he is scarcely aware of it. Even in this lofty conception at Yale, the reality of just proportions and laws of nature is seized and exploited in terms of contrasts. That is,



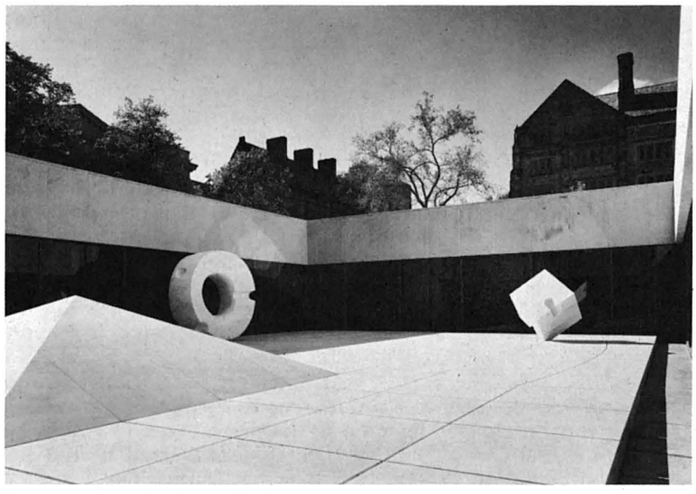
Isamu Noguchi and marble water garden. *Photo by Arthur Lavine*

Noguchi likes to fantasize the possibility of defying the ineluctable laws – which he does in the dense block resting so precariously in air.

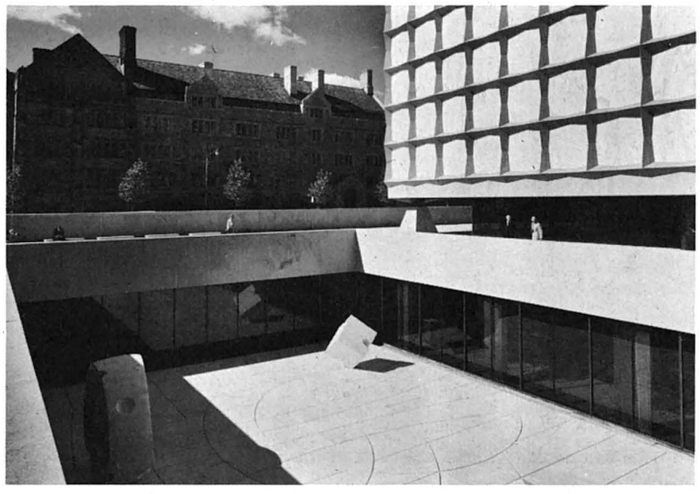
This instinct for the natural space man experiences – that is, the spaces he not only knows, but *feels* – is dominant in another project almost completed, the water garden for the Chase Manhattan Bank in New York. This is again an enclosed space – a glass-walled, circular well sixteen feet below an open plaza. It is intended to be a pool punctuated with a landscape of natural rocks, its bed designed by Noguchi to undulate in concentric patterns.

As the water patterns were not yet worked out when I saw the garden, I can only speak of the ingenious way Noguchi handled the rocks. Varying in size, they were selected by him in Japan for their shapes and patinas. They come from the swift-flowing Uji River whose current has fashioned Bernini-like concavities and bosses, or smooth-walled, massive curves. Noguchi has placed them irregularly, some standing on points (which is what I mean by fantasy). It is his defiant answer to the oriental rock garden, intended to be at one with earth and the principle of gravity.

The sensation of levitation, characteristic of much of his recent



Isamu Noguchi, *Court Sculpture.*



Photographs by Ezra Stoller Associates

work, is not only counter to the oriental principle, but counter to the nature of the rock itself. The assertion of the artist is made in such audacious terms that it convinces.

It is to Noguchi's credit that in this "garden", nestling in the heart of skyscraper canyons, he did not attempt a classical oriental rock garden, as he did, for instance, in the Paris Unesco building.

* * *

The odd career of Morris Louis, a Washington painter who was born in 1912 and died in 1962, is incompletely explored in the present Guggenheim Museum exhibition. The show limits itself to works from 1954 to 1960, when, according to Lawrence Alloway who selected it, Louis arrived at his characteristic style.

But arrived from where? The exhibition avoids the question. Its purpose is to show that even though Louis only attained recognition in his last few years, he is an authentic representative of what is known as the New York School. Once identified as a New York school painter, Louis then moves back into the perspective of his own generation – those artists who were born before the end of the First World War, and whose rebellions were so important for American painting.

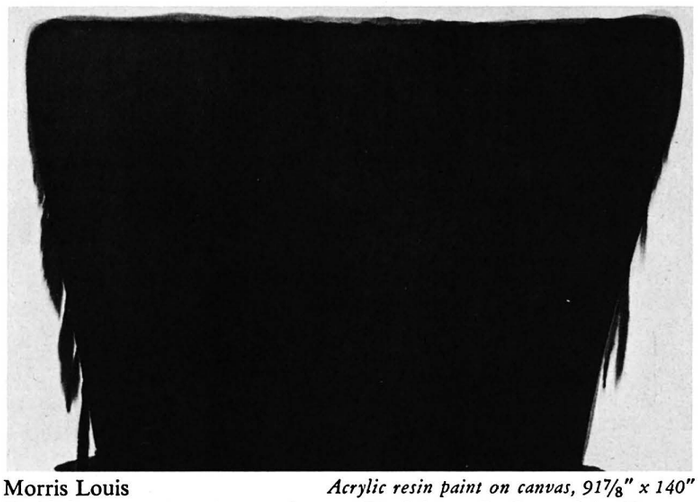
I don't object too much to this emendation of the record, since it really doesn't matter who is first or last in the exploitation of a living style. But I'm not so sure that the careful selection of his paintings doesn't leave out too much. I feel that Louis' tentative explorations of the early final statement. The very unity of the exhibition, its polemical intention, gets in the way of understanding Louis' temperament.

For as I remember, Louis himself had a difficult time determining how, exactly, he felt. The first paintings I ever saw by him were frankly indebted to Jackson Pollock. Louis had taken the whipping arabesques of Pollock's abstract works and set them in fine turmoil on unprimed carvas, accelerating his tempo with overlays of gold and silver paint and creating feverish commotions from edge to edge.

These paintings were probably dated 1955 and 1956, although they were exhibited in 1957, and Alloway tells us that Louis destroyed many paintings from that period. But surely not all? At that time Louis would already have been influenced by Helen Frankenthaler, whose technique of floating thin color on unprimed, unstretched canvas on the floor, he had adopted. Signs of her conception of space – as an unlimited ether in which loosely determined forms glide – were apparent in those paintings where thinly stained backgrounds provided a sensation of depth.

The implication in the omission of those paintings is that Louis was temporarily waylaid by a style inimical to his personality. Earlier, as Alloway demonstrates by including paintings from 1954, he had worked with considerable reserve, or rather, timidity. Those paintings are thin and flat, and, in the down-trailing verticals, prefigure Louis' late work. But the early, often very weak paintings still don't cancel Louis' experience with the full expressionist idiom. By leaving out what came in between, Alloway begs an important question: what, exactly, made Louis reduce his means to such a degree that from an exuberant expressionist he became, in one phase at least, a strict and puritanically severe intellectual painter?

I only realized how intellectual Louis' obsession was when I spent a long time at this exhibition and came to understand that what Louis was after was an *idea* of space rather than an illusion of space. His whole procedure throughout his last few years was one of conscious reduction and attrition. Sensuous aspects, which certainly had an appeal for him initially, were subordinated to concept. And what is interesting about his show is not so much the quality of individual paintings – for that often gutters and vanishes on contemplation – but rather, the absorption of the painter to the point of obsession in his leading idea.



Morris Louis *Acrylic resin paint on canvas, 91⅞" x 140"*
Untitled, 1958 *Courtesy The Solomon R. Guggenheim Museum.*

As far as I can tell, Louis' idea was to find a different, entirely personal kind of picture space. If at times his image transcends his "problem", as it does in several of his late paintings, that is still only a secondary concern. What matters is to watch Louis as he cuts down his palette, simplifies his form almost to the point of no-form, applies a principle of symmetry, and uses his colors mainly to create the congealed space peculiar to his own vision.

All this is most easily seen in the colossal (in size) paintings of 1958 and 1959. In these, Louis' habit of floating film upon film of thin acrylic color results in gloomy greenish-rust monoliths – huge, centralized shapes that rise heavily toward a rainbow apotheosis. At the crest of these flattened-out anvils Louis weaves a garish pattern of acid primary colors, the kind you see in Chromo reproductions of sunsets. These rainbow arches are layered, as clouds seen from an airplane. This crest of billowing color is Louis' register. That is, he indicates the origin of the flattened layers below, and poses his problem: how to give a sense of space without portraying space. It is an interesting problem which did lead him to paint several striking canvases.

One of them particularly, a gigantic vertical wall in the shape of a geyser, successfully scales the terrifying emptiness to reach an apocalyptic crest. Its mauve and green understones give dramatic suggestions of portentous, supra-human events. There is something Goyesque in the starkness of this particular image, and I was genuinely moved by it. Even its ragged edges, falling away from the central form, contribute something awesome.

But such sobriety and monumentality only occur in a few of Louis' late paintings. One or two others, with strange phallic and fungus shapes and neutralized color also offer a stirring strangeness, but such paintings are decidedly in the minority.

In other works, Louis' use of scrims of fully saturated color, and his insistence on symmetry have something in common with the ornamental weakness that lurked in the heart of *art nouveau*. Repetitive forms, such as the spear and glacier shapes in a yellow painting of 1958, show Louis indulging in an ornamental facility that makes of so many of his paintings the pleasant, lightweight canvases they are. Ornamental is always a suspect word (ornamental like Matisse, or like Dufy?) and need not necessarily be taken in its pejorative sense. In Louis' case, it would mean only that in his absorption in his "problem", he accepted the handiest solutions too often. His problems themselves are too readable: how to establish the plane, how to make the colors "read", how to avoid conventions of intricacy that would spoil the idea of the flat plane and controvert Louis' concept.

Louis' ornamental urge was most apparent in the last paintings which are unaccountably excluded from this show – the large, simple swaths of stripe huddling at the center vertical axis in which Louis elucidated his congealed space with an economy of means that defied his purpose finally. Via these paintings Louis came to be known as a colorist, although to my eye he was maladroit in getting the most from his saturated canvases. He was far from the optical precision of a Mondrian, an Albers or a Delaunay.

In his introduction, Alloway coins a term for painters such as Still, Newman, Rothko and Lewis. He calls them "field" painters, for whom "the painting must be seen as a single field, a field not devoid of incident, but equally, not reducible to a scale of different sized forms and marks." This is true for Newman, of course, but Still, and Rothko? In Still it is precisely the jagged, different-sized forms and fretted textures that hold the eye to the field, and insist that there is more than meets the eye behind the plane. Rothko also insists on what goes on behind the fore plane, leaving the precise nature of his sub-plots relatively ambiguous. It is only Newman who works with the inviolate plane.

Now where, among these "field" painters, does Morris Louis fit? Somewhere between Still and Newman, I suppose, but lacking their toughness. He was tempted by the idea, came to believe in it with an exclusive passion, and ultimately painted it. But his illustration of the idea shows only that the idea itself is academic and inhibiting.

BOOKS

ROBERT JOSEPH

HISTORY — IS IT A DOCUMENTED LIE?

It is well periodically to reassess our past, but not in the Orwellian sense of correcting or destroying embarrassing portions of it. "So very difficult a matter is it," wrote Plutarch, "to find out the truth of anything by history."

Correction seems to be the intent of *The Gilded Age* (U. of Syracuse, $5.50), an absorbing collection of monographs on the period 1865-1900, edited by historian H. Wayne Morgan. By studying many facets of that earlier ginger-bread and "public-be-damned" era, these highly readable and thought-provoking essays by modern historians, provide some fresh insights into the Age that has been called Gilded and Guilty. Ari Hoogenboom writes in his treatise on "Spoilsmen & Reformers", one of the most provocative of the collection: "All the world loves a scandal, and the historian is loathe to abandon the pleasure of dispensing 'vicarious sin'." This, states Hoogenboom, is the reason for the bad press which the post-Civil War generation has received. Other chapters point out that despite penny-dreadfuls, Horatio Alger and the gimcrackery of the 1876 World Exposition, America could boast of a Mark Twain or a scientist like Josiah Willard Gibbs, second only to Einstein in the field of theoretical science. *The Gilded Age,* a valiant attempt to correct much of the record, fails to dispel the aura of corruption and consciencelessness which clouds the period. Despite the heaping up of facts, the interpretation of trends and moods of the era, the refuters can not wipe away the fact that this was a period of great political, economic and high financial skulduggery. There is one reference to historians — by the same Ari Hoogenboom, Associate Professor of History at Penn State University — which purports to explain the "bad name" which the Gilded Age has received in our history books. "The historian," he writes, "is usually liberal, more often than not a Democrat . . . typically hostile to big business, an advocate of government regulation, of strong executive leadership . . . The post-Civil War era stands for all the historian opposes." If this be the basis of evaluating the history of historians, then historian Hoogenboom ought to re-read Beard, Muzzey, Link, James Truslow Adams and Thomas A. Bailey — all of whom offer a conservative view of American history, yet all of whom are united in characterizing the Gilded Age as the Age of Vapidity, Dishonesty and Nonentities.

H. Wayne Morgan, the editor of *The Gilded Age,* is on firmer grounds in his re-evaluation of the twenty-fifth President in *William McKinley and His America* (U. of Syracuse, $9.00), the first full-length study of President McKinley in many years. McKinley, who campaigned on his Canton, Ohio, backporch and is perhaps better remembered for his death (assassination) than his life, here emerges as a much more dynamic figure than historians have previously depicted. He was a consummate politician who had a great sense of both history and popular will. He was not, Morgan stresses, a Mark Hanna puppet, and was, in fact, far in advance of his Republican Party and of the times. He understood the demands and the needs of Labor; he saw the necessity for an internationalism which his Party then abjured; he was, according to Morgan, a Reformer who meant business. He was on all counts a first-rate figure, the first to occupy the White House since Lincoln. He died before he could begin the monumental task of taming the Trusts, a work which was to be carried on by his successor, Teddy Roosevelt, and later William Howard Taft. McKinley always considered himself a symbol of the people and of its will, and it is this portrait which most clearly emerges in this outstanding biography so filled with excellent vignettes — Mark Hanna, the irrascible politician; Admiral Dewey, the bumbling national hero; Bryan, the Boy Orator; Speaker Reed the brutal politician; Teddy Roosevelt, the conservative, irrepressible demagogue. What is so clearly stated is that McKinley had those qualities which our great presidents have exhibited: a sense of the symbolic and the courage of executive leadership.

What shall the historian of the future say of Jules Henry's *Culture Against Man* (Random House, $7.95), a very perceptive survey of the American scene as it exists in this year of 1963? This is not a moral indictment, an apologia, a justification. The author wisely lets the facts speak for themselves. And what facts they are! We applaud the "somewhere clock" which ticks off our growing population; yet we are not necessarily concerned with the growing problem of automation. Our national advertising is geared to untruths, exaggerations, distortions, paced for the sensuous, the competitive, escapism and sexual conquest; yet we are not fully aware of the problems of our psychotic children, or of the terror of human obsolescence. Henry, a consultant to the National Institution of Mental Health, has written a very sage and a very bitter analysis of our epoch and the poisons which we have spilled into it.

West and Non-West: New Perspectives states the crucial problem which currently exists in the relationships between the Western nations and those of Africa and Asia in an incisive and brilliantly written series of articles, edited by Vera Micheles Dean, Professor of International Development at NYU and Harry D. Harootunian, Associate Professor of History at the University of Rochester (Holt, Rinehart & Winston, $5.95). An initial series of essays set the scene for contemporary events: Western man's emergence from the Dark Ages into comparative freedom, bringing with it nationalism followed by colonialism and imperialism, which resulted in the non-West's first important contact with their European masters. Why did the West seem to reach technological excellence so far ahead of the non-West? Certainly, as one of the initial articles stresses, it has nothing to do with biology or anthropology, but rather with the strictures of the colonial system itself. And now the emergent nations emerge, and we are impatient with them because their democratic procedures are wanting, because they adhere slavishly to tribal shamanism. But there are positive results: colonialism has resulted in political independence; in many cases the West left some of its best traditions and institutions to

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the emergent non-West, although in some African republics the automobile now kills more inhabitants than the bush.

An important section of the book deals with the diplomatic, economic and social inroads of Communism as compared with the legacies of the democratic powers. Here Barbara Ward points out that we have not yet resolved what she calls our own "Deep Souths and Notting Hills," and cannot expect new nations to develop party systems, checks and balances and Western political traditions without going through some history and travail of their own. If some new nations seem reluctant to embrace the West, it is because the West has already been there. *West and Non-West* is current history written by as prescient a group of contemporaries as ever was gathered in one volume of history: U Thant, Arnold J. Toynbee, John Galbraith, W. W. Rostow, Clinton Rossiter, Harold R. Isaacs and Gunnar Myrdal among many others. For those who would understand contemporary affairs, this is a must!

A neglected phase of our contemporary history is the apparent growing conflict between the Soviet Union and China, and none is better equipped to evaluate the epithets, the slights and slurs, the name-calling and the border raids, the ideological pull and haul between the two Mammoths of Marxism than Edward Crankshaw who reports the struggle in the just published *The New Cold War: Moscow v. Pekin* (A Penguin Special, 65¢, not a reprint). Fundamentally, states Crankshaw, the London *Observer's* correspondent on Soviet affairs and the author of some of the most authoritative writing on the Soviet Union today, the rift occurred because of China's economic and agricultural failures, failures which discredited Communism, the ideal and the ideology, in the eyes of Asiatics and the rest of the world. Soviet Communism could not afford such a fiasco, and there was nothing for the Kremlin to do but to disown Mao Tse-Tung's brand of Marxian socialism. For the Chinese there had to be a counterattack, and the clashes of 1956 and 1960 and most recently the border "crossings", told of by Crankshaw in his book months before they were officially revealed by the Soviet Union, are the fruit of this internal dissension in the Communist camp. *The New Cold War: Moscow v. Pekin* for its sharp analysis, its excellent reporting may become one of the most important reports of the decade.

BOOKS TO WATCH FOR

As far back as 1945 the then Secretary of State Edward Stettenius once called Berlin the "world in microcosm." The validity of his description is borne out in *City on Leave: A History of Berlin, 1945-62* by Philip Windsor (Frederick A. Praeger, $6.50,) a history of the quadripartite city (now only divided in half) and a very scholarly and carefully documented account of the early attempts to govern Germany and Berlin on an equitable and harmonious basis by victorious allies. Political trouble, states the author, was inherent as a result of the Teheran and Potsdam meetings, compounded by mutual distrust and the Soviet's understandable yet insatiable appetite for goods and other reparations from the Germans. Even as the Allies discussed withdrawal of troops from one another's Zones, the order had gone out from Moscow to install Moscow-trained German Communists to begin the work of "rebuilding" Germany. The first solid clue to Soviet intentions came in the shotgun marriage of all political parties in the Eastern Zone (including Berlin,) into the S.E.P. (Socialist Unity Party,) by command of Marshal Zhukov in February, 1946. From that point on, ideological, economic, political and cultural cleavage was an established fact. *City on Leave* stresses that ultimately the DDR (East Germany) must recognize western rights in Berlin; and the Bundesrepublik must reconcile itself to DDR interests in the traditional German capital. Till then, says Windsor in this excellent account, Berlin is a tinderbox – waiting for peace or war.

Still Flying and Nailed to the Mast by William Bronson, Introduction by Oscar Lewis (Doubleday & Co., $5.95,) still another view of the American Past and the American Present, is an exciting, illustrated history of one of America's boldest insurance companies – Fireman's Fund Insurance. A fascinating bit of Americana that had its beginnings in the fires and catastrophes of early San Francisco. The Fund has moved far beyond Market Street of the Sixties and *Still Flying* traces its history through disaster, havoc, flood and fury. The Fund touched and still touches on almost every facet of our nation's history, and William Bronson's approach never flags in color or interest.

MUSIC

PETER YATES

MERCE CUNNINGHAM RESTORES THE DANCE TO DANCE

Grimness, social protest, psychological drama portentously wrestling with symbolic narrative, a playing-card angularity of tension-relaxation, whelmed in heavy seriousness and seldom capable of release in comedy: that had been Modern Dance from the mid-thirties through the forties into the fifties.

Beauty had been an unwilling word through all the arts of this period. One could suffer with, one could admire, but one could seldom let go to enjoy this playless art. Modern Dance had become a dedication, on a higher plane of unrelenting emotion, from which audiences fled to relax by viewing the classical ballet.

Modern Dance wrenched backs, pulled muscles, tore ligaments, as if defying any natural movement of the body; it would not be less disciplined than the ballet in requiring the body to subserve its purposes. So while the ballet pirouetted its inherited technique, delivering its annual routine of Tchaikovsky, its perennially vacuous *Giselle,* or bent its derivative habits to accommodate a newer music, Modern Dance symbolically labored to convey its darker overload of spiritual chaos.

Granted that seldom did Modern Dance decline to the blatant theatricality of the Broadway stage. It held its sexuality high and symbolical, however writhing; its imaging might lack variety but would not condescend. Solemn as a ritual, it explored all meanings conveyable by movements of the body.

Between the emotionalized prettiness of conventional ballet and the Mary Wigman, Martha Graham, Lester Horton symbolic emotional extremes (artists who would not evade the years they lived in), individual choreographers created a variety of distinctive styles.

The art of Martha Graham remains for the admirers the concentrated epitome of its thirty-year reign. George Balanchine blended Russian ballet tradition into sophisticated union with a native American experimentalism, each of his compositions a renewed effort to find a balance between the tou-tou abstract and the veristic. Jerome Robbins and Agnes De Mille successfully mingled the conventionally realistic—Hollywood, musical comedy, the short story—with the ballet tradition, to make a pleasurable action at a high popular level of good taste. Carmelita Maracci from time to time brought to New York from Los Angeles her unique composite of intensely personal drama and abstract free movement, with a Spanish slant, over a solid foundation of ballet. Maracci's intricate art of movement, circling the entire stage area, kept free of the static diagonal axes, the St. Andrews cross of Modern Dance. She could move in a single unit between tragedy and playfulness, needing no scenario or mythic reference to explain the *agon* of an art that turned often to the music of Domenico Scarlatti.

I had seen Merce Cunningham's work, a couple of times, as late as 1955, appreciating the individuality of his approach, his manner—clown, Pierrot, fantasist—still anchored to the diagonal axes and the expressive exaggeration of gesture which had made him for several years a leading dancer of the Graham company, though already freed, as I now realize in retrospect, of the mythic, monumental formality. He was aiming at release, an art that, speaking with itself, does not express, does not convey, but tosses its flight of feeling before the public, without effort to persuade. Yet there was in his work a confusion of means which I disliked, even resented.

Already in his movement the curve, the rounding gesture, the weaving path were imparting new dimensions to the expressionistic repertoire. While with Graham, from 1940 to 1945, he taught Modern Dance at the American School of Ballet. In 1949 he danced with Tanaquil LeClerq of the New York Ballet his own *Amores* and *Games.*

Games points a direction. *Amores* is danced to one of the earlier John Cage compositions for *prepared piano* (bolts, washers, fruit jar rings inserted in the piano strings, altering the sound and pitch). Cage and Cunningham met at the Cornish School in Seattle, where Cage came to play for the dance classes and started the percussion orchestra. In 1947 they were commissioned by the Ballet Society (now the New York City Ballet) to do *The Seasons.*

During 1948, 1949, and 1951 they toured together. Since 1951 Cunningham has been gambling his future on the underlying esthetic consistency, within apparently extreme divergence, of Cage's composition by chance. Together they broke entirely with the idea that art should present, say, express, communicate anything, of whatever seeming importance, not intrinsic with itself. In the field of chance — which Cage in more recent years has preferred to call *Indeterminacy* — what are the advantages? One fact is obvious: composing by chance you cannot tell a story.

Great showman though he is, Cage had not been able, before this association, to command a public. His appearances, however exciting, had been occasional. With Cunningham he was able to bring his inventions before audiences, which although not unaware of his presence and influence, need not commit themselves to accept or reject him. This continuity of appearances, supplemented by his individual work as composer, lecturer, and, often with pianist David Tudor, as performer, turned back the repeated rejections, the mockery, which might have overcome him.

Cage's influence helped free Cunningham of the clinging and — in my experience — somewhat cloying symbolic vestiges of Modern Dance. If art, particularly dance, need not present, say, express, communicate anything, then it is free to be only gesture, color, motion, a *field* — turning to the dictionary: ". . . . a sphere of activity or opportunity . . ; a region or space traversed by lines of force . . ; all the competitors in a sporting contest . . ." Or one thinks of a playing field or a field as an open, unobstructed space.

So the *agon* returns to its source, the Greek communal enjoyment of the body in an athletic dance contest, combining beauty, skill, and strength. The associations of such art are in the mind of the beholder, and if they are not nothing depends on it. There is pleasure in merely watching and, when self-consciousness has turned aside or lost itself, pleasure in free imagining. The need to verbalize, to conceptualize or explain, established in habit as the normative response to art, however presented, may feel frustrate. What a release when one becomes aware that one need not! After hearing John Cage's Concert for Piano and Orchestra, a work of indeterminacy, I wrote: "Listening to the Concert is like walking out in the mountains under a night full of stars, a lazy enormousness and nothing in the way of anything else."

Between 1955 and 1963 Merce Cunningham had acquired and trained a troupe of seven dancers, three men, four women, with Cage still musical director, assisted by David Tudor, and the painter and graphic artist Robert Rauschenberg in charge of costume and lighting. Traveling cheerfully by Volkswagen bus in many parts of the country they had given a large number of performances, particularly at universities, learning as they went, steadily adding to their repertory.

For the University of California at Los Angeles this last summer they scheduled two programs with two first performances. As dance teacher for the university summer session Merce Cunningham found himself swamped with students, as many as seventy-five in a class, teaching three times a day. No longer a missionary to the unreconstructed, he has become a central figure of contemporary dance.

Visiting them at the Malibu Beach home where they stayed, I found them as cheerful, unpretentious, non-egotistic a group of artists as I have ever encountered. Cage as cook turned out a splendid simple dinner. Rauschenberg, helped by the dancers, was building a sand castle, reinforcing it with seaweed against the heavy tide. There were no cripples, no complainers, no apologies, no explanations. Let me find out for myself what I might think they were doing.

So we come to the two concerts.

The dances were shown on the program without date of composition. The opening work was a first performance. *Field Dances,* the title symbolic of its new technique. Cage had composed it to eliminate the one element that he had previously thought indispensable to music: time. The composition was laid out as a *field.* At certain points on the field the dancers choose, according to chance factors, from a repertory of dance actions; other points are answered by sounds. The idea of the sound was something in the neighborhood; that it would not be always heard, and that the loudness and softness would change greatly.* Flat voices of announcers describing athletic events, news broadcasts, never quite clear enough to be understood, came through the hall loudspeakers as through open windows. In the hallway outside the auditorium Cage wheeled a cart, loaded with a portable speaker, producing a variety of noises, to the bafflement of some persons in the audience who asked him to be quiet. There was no other music — what had they to lose? Outside a balcony door, several times angrily shut by members of the audience, Tudor periodically stirred up a similar confusion. The *field* was therefore all-pervasive. The order of events (time) was indeterminate. You would wonder how the dancers were able, in the circumstances, to present a coordinate aspect, yet they did; and watching them one began to appreciate the great variety of motion and gesture Cunningham had been adding to the dance.

Modern dance was starved of variety; that was its chief impediment. You felt sometimes as if, having seen one dance, you had seen all there was; the succeeding dances became repetitious. In Cunningham's dance the variety of movement exceeds that of traditional ballet.

(Continued on page 40)

*How closely Cage and Cunningham now work together can be realized by reading the correction each sent me to the original drafting of this paragraph. Cunningham's note began: "My idea for the sound for *Field Dances* . . ." Cage wrote: "I designed only the music. Merce had made the dance thinking of my story in *Die Reihe* about traveling up to Boston & hearing the juke box while seeing the swimmers and noticing they went well together. So I made the music so that most of the sounds would come from 'other' places."

Structural engineering is at the edge of a great new advance. One can see traces of it in the literature. One can hear it being discussed at professional meetings. Hopefully, one will soon see it in practice. The advance is designing a structural member – or the entire structure itself – from a new point of view: the lowest possible cost.

Much work has already been done, especially in the aircraft industry, on providing lowest possible weight designs. Since weight is often a prime consideration in cost, much of this work is applicable to the bigger problem.

The implication that structural designing is not carried out in the most cost-conscious environment may come as a shock to many. It shouldn't, given the conventional approach to a designing problem. The designer uses cut-and-try techniques. He makes a drawing of a proposed structure in complete detail, then analyzes it to see if it equilibrates the given loading and satisfies the functional design. After a series of educated modifications, he finally arrives at a structure which will carry the required load, have the proper spans, accommodate the right size doorways, and so on. This design is then sent to an estimator who costs it out, and then awarded to a contractor who builds it. Because the entire operation – from original concept to finished structure – is parcelled into distinct segments, there is extremely slow feedback from cost accountants to designer. The designer, in fact, has no way of knowing if his design is costly or economical.

Minimum cost design, on the other hand, places major responsibility for the ultimate cost of a structure – whether it is a 20-story office building, a frame bungalow, or a specific span in a bridge – on the shoulders of the designer.

In the conventional design approach, there are innumerable solutions to almost every design problem, but no way to determine the most economical solution. In minimum cost design, on the other hand one expects a unique solution – one design which will carry the load and which is demonstrably more economical than any alternative.

The *method* of minimum cost design is based on the recognition that the design problem may be formulated as a classical problem in maxima and minima. Quite generally, the method involves the minimization of a criterion function subject to certain auxiliary constraints which may take the form of equalities and/or inequalities. In the present context, the total structural cost is the criterion function; this is usually represented by an equation involving such parameters as prices of materials and labor costs, as well as length, depth, arrangement, and configuration of members. The constraining conditions are generally relationships between component geometry and strength and often include certain code requirements in the form of inequalities – for example, minimum thickness specifications. We can see that the mathematical approach to the design problem integrates all the factors that pertain to building a structure, and as a consequence, the solutions reflect the influences of unit cost, design and functional requirements, safety factors, and other prerequisites.

By-passing mathematical explanation, one can perhaps best explain minimum cost design by clarifying what is accepted as given and what is not. In all structural problems, some of the structural parameters are considered closed – that is, given. Many of the others are ascertained by imposing strength criteria. The method by which the remaining parameters are determined will essentially differentiate between minimum cost and conventional design. In conventional design, the parameters are arbitrarily decided by rules of thumb; these might include the depth to width ratio of a concrete girder, the span to rise ratio for an arch, or the inclination of the diagonals in a truss. The result, therefore, is one workable solution out of an infinity of workable solutions.

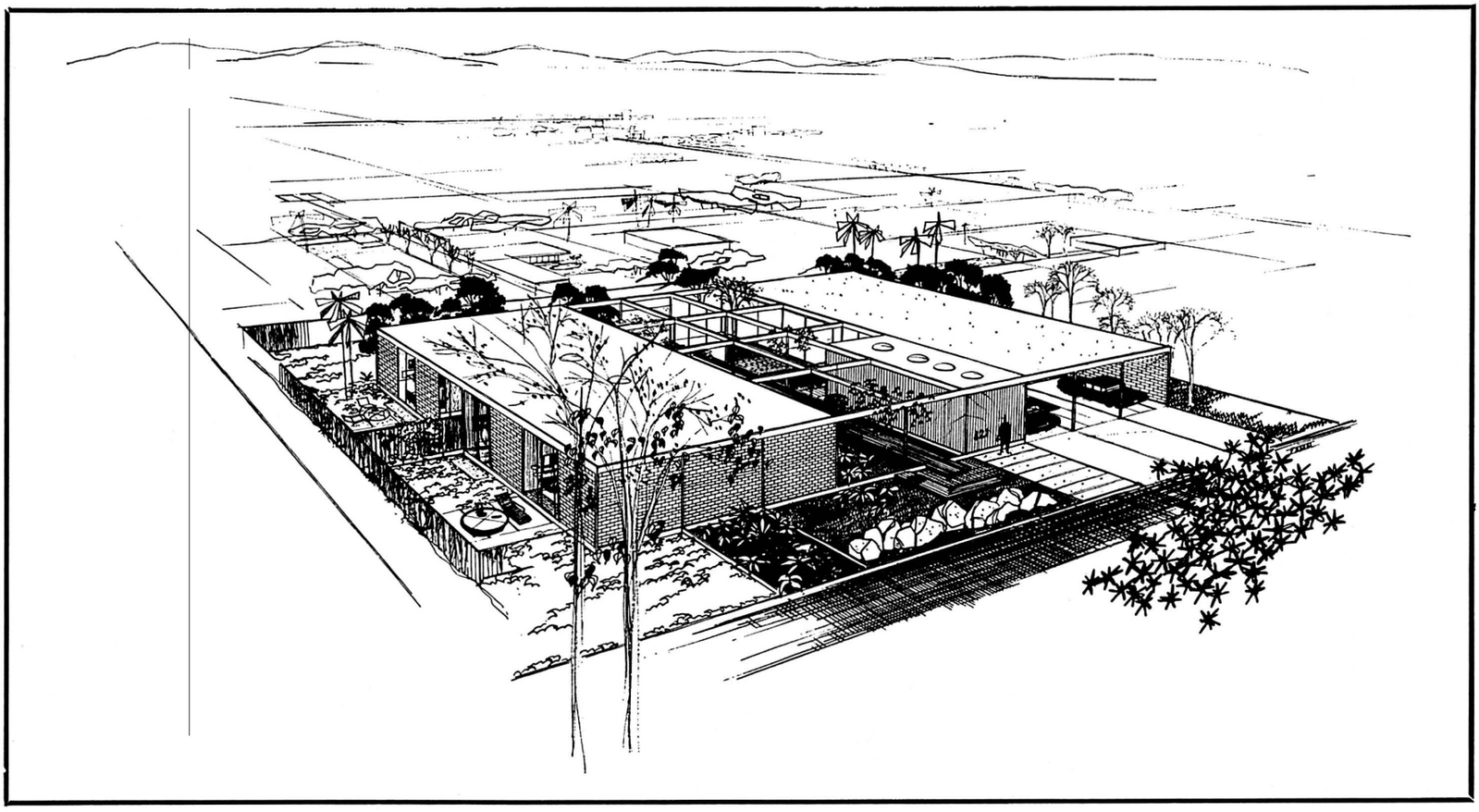
In minimum cost design, on the other hand, the remaining parameters are left open, *i.e.,* they are treated as independent variables. It then becomes possible to find a unique design which satisfies all pertinent requirements in the most economical way.

One important advantage of the minimum cost approach to structural design is that it leads to conservation of materials. It is not uncommon to find mill buildings with columns carrying only 300 or 400 psi when their capacity is closer to 16,000 psi. Engineers will often justify this sort of "over-designing" by appeals to corrosion resistance, longevity of the structure, and future predictions of plant specifications which would overload a structure designed only for present needs. But it is impossible to balance future prognostications with present desires for economy without a rational plan, such as minimum cost provides.

The immediate application of minimum cost design appears to lie in mass-produced, or mass-designed, structures. Design optimization according to the above procedures would usually be too costly for only one structure. Prefabricated homes, mill buildings constructed from the same basic design, and large mechanical elements which can be mass-produced seem logical candidates.

With its numerical methods, ordinary maxima and minima, theory, variational calculus, linear and non-linear programming, and steepest descent methods, minimum cost design

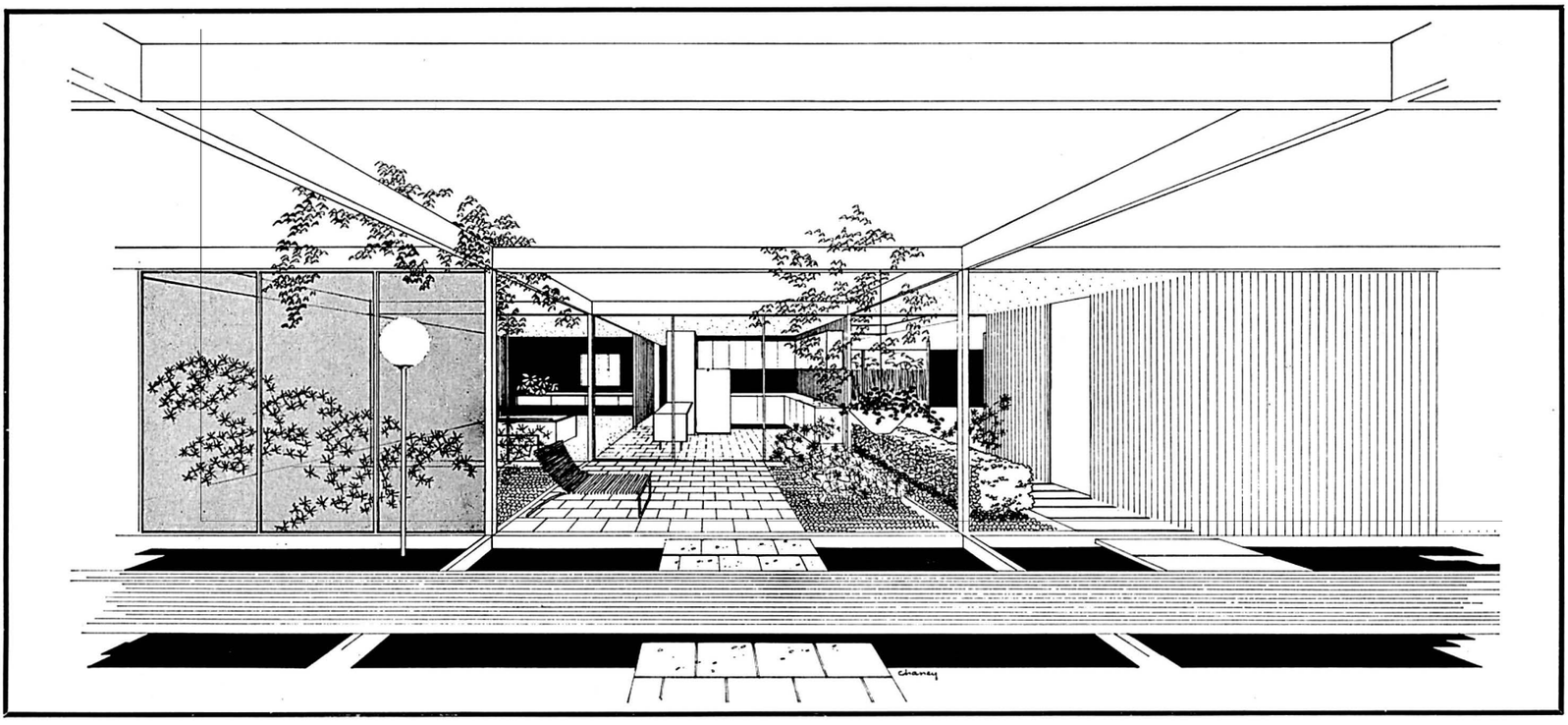
(Continued on page 41)

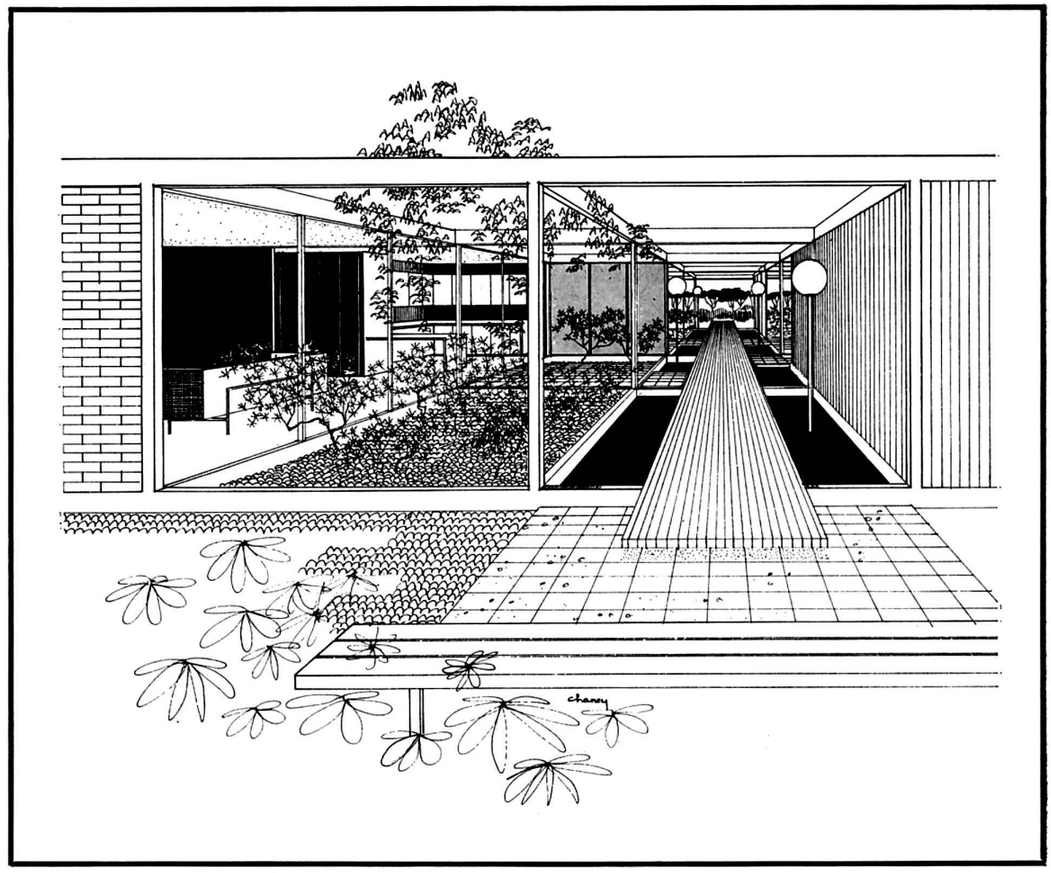


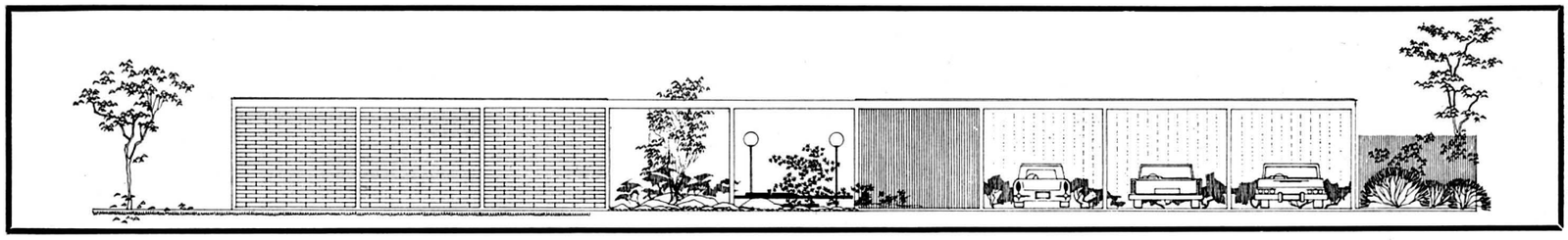
CASE STUDY HOUSE No. 28

A Multi-Family Dwelling by Alan A. Dailey, Architect, & Associates for the Magazine Arts & Architecture.

Alfred N. Beadle, Designer





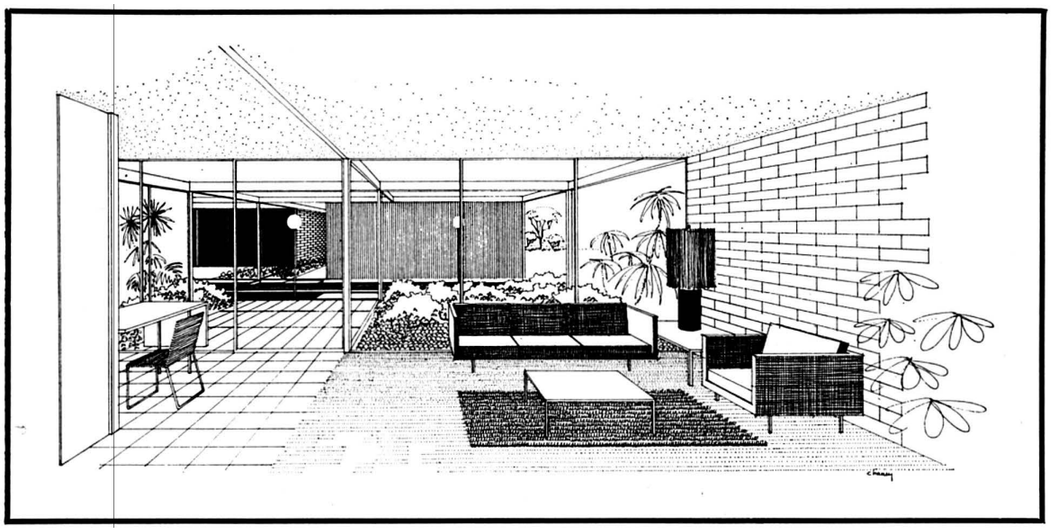


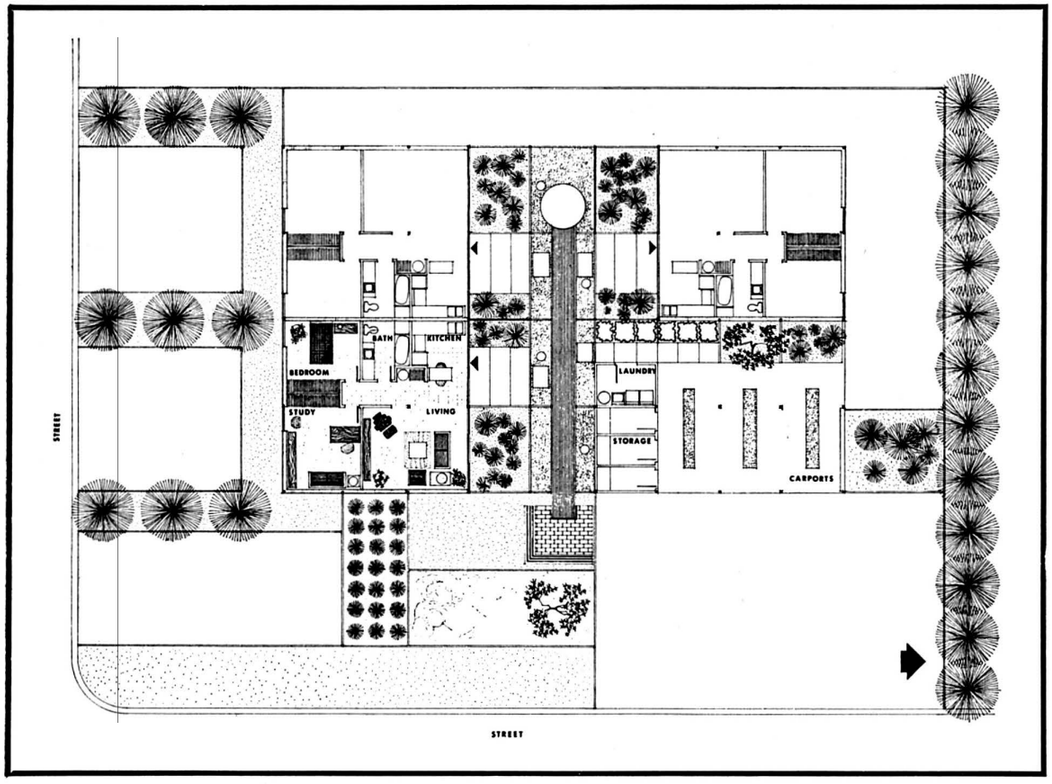
With the initial presentation of this small apartment project — prototype for a large development — we are introducing a new dimension to the Case Study House Program. From its inception towards the end of World War II, the CSH Program has had as its primary purpose the attempt to foster a good living environment for Mr. and Mrs. X through intelligent and imaginative design, use of new and old materials and technology. Many ideas which otherwise might have died aborning have become realities within the Program. Others have gained popular acceptance and (*sine qua* very few) the approval of lending institutions. The open floor plan, glass walls, no dining room, kitchen to the street, flat roof and slab floor are some that have become common nouns in the vocabulary of contemporary residential architecture.

Unfortunately, few of the advances in environmental design have carried over into tract housing and even less into multi-unit dwellings. Perhaps it is significant that the purposes motivating tract and apartment house developers are not those of the homeowner. The tract developer builds to sell; the apartment house owner builds not to live in but to live on. The multi-family dwelling is designed (too often by a contractor) to squeeze as many people on the land — and the last nickel out of it — as the law will allow. The owner's interest is not in good architecture but in the best return on his investment, and he believes the two to be mutually exclusive.

It is our firm conviction that not only is this morally and esthetically indefensible but it is also untrue. It is our purpose in incorporating multi-family dwellings into the CSH Program to try to lay to rest the misconception that good design is an unjustifiable and impractical luxury when applied to income property. The projects — which are to supplement not supplant the single-family CS Houses — will provide for the basic human needs for privacy and a link to nature. Our concern is still for Mr. and Mrs. X. The projects will not be individual "performances" but must be capable of repetition (in rows or groups) in meaningful but not mournful numbers.

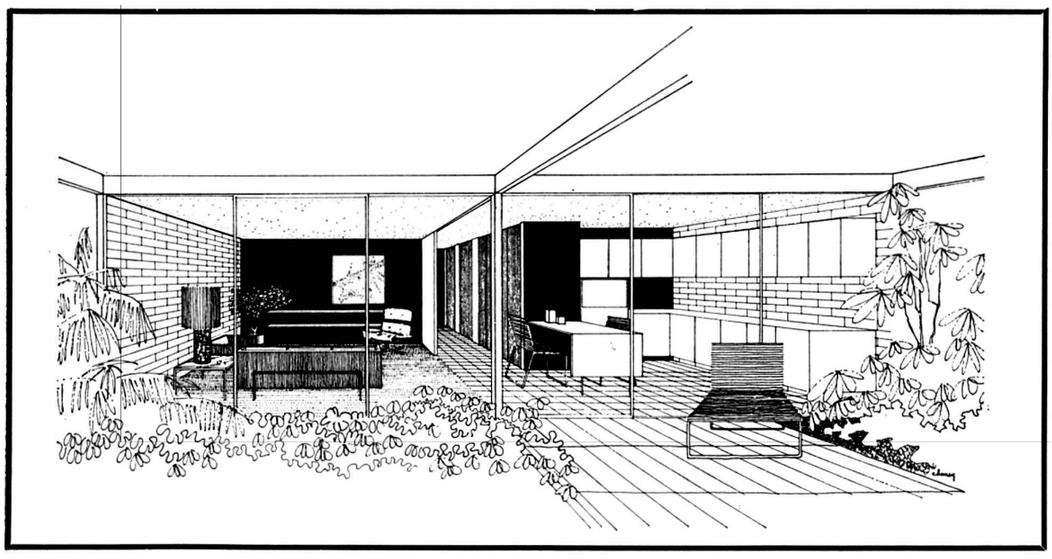
In this project for Case Study House No. 28,





the designer has met the requirements. The three living units are designed around a central court to provide privacy from street traffic. In addition, each of the units, containing living room, kitchen, bedroom, study-bedroom and bath, opens onto a private garden patio. The triplex is adaptable to any level lot of suitable proportions and is the prototype for a development of 80 units, grouped in various multiples. In the larger scheme, however, the designer found that a 12′4″ module would be more economical than the 10′ x 14′ post and beam module expressed in the present plan. The curtain walls are of masonry and wood studs sheathed with grooved plywood.

As in the case of previous CSH projects, additional coverage will be presented as progress is made through preliminary drawings to completion.



IN SEARCH OF THEORY - II

SAM T. HURST

This is the second of two articles by Mr. Hurst, Dean of the University of Southern California School of Architecture, who joins us in welcoming comment.—Ed.

In a June article I pictured architecture *In Search of Theory* and identified certain dominant characteristics of today's world which render inadequate the established theory, the "conventional wisdom" of our profession. I suggested that ecology may be the basic science of architecture today; as the science of *process* it undertakes to deal with changing environment. The new time-scale which governs our living has altered the relationship between *material* and *process* and primacy must now be given to method in the solution of environmental problems. Prediction of change is one element of that method. A new order of values is required to relate present problems to each other and to potential solutions and its clarification must be the task of philosophy.

We may come now to ask the basic question: "What are the critical *elements* of theory and the fundamental disciplines through which we may unify them?" In discussing such a question I understand the term theory to mean a systematic statement of general or abstract principles or methods to be followed. Theory is speculative, it precedes and is distinguishable from practice, it is always "open to objection" and its rightness is only verified by time and events.

Our need is for architectural theory comprehensive enough to embrace all essential elements and relationships of the architectural problem and systematic enough to formulate a body of working principles and ideas that can be made coherent to architect and public alike. Such a comprehensive formulation cannot come from the specialist, though he must contribute to its constituent parts. We have brilliant examples of fragmented theory dealing with the components of architecture in structure, in climatology, in construction, in composition, in visual perception, and yet we lack equally brilliant examples of their total integration. This is understandable in view of the complexity and the limited intellectual pursuits of teachers and practitioners beyond their own special interests. Our skills of analysis have run well ahead of our skills of synthesis, and therefore the principal task of theory today is to establish new working relationships, to reconcile alternatives, and with philosophy to recognize values. Such a task is properly the first concern of education.

President Albert Bush-Brown of Rhode Island School of Design has recently stated what seems to be the imperative for educators in search of theory. "The best education in the arts is neither permissive nor authoritarian. It harnesses discipline and freedom, information and inspiration, skill and ideas; it searches for order in facts and principles, from which form, the circumstantial and personal act, arrives. To be able to discern significant problems, to yearn to solve them, to strive for the full range of satisfactions, and to present solutions persuasively, are the chief legacies of education."[1]

And Paul Rudolph has written, "I participate in architectural education because I believe that action has indeed outstripped theory and that it is the unique task and responsibility of great universities such as Yale to study, not only that which is known, but far more important, to pierce the unknown. My passion is to participate in this unending search. Theory must again overtake action."[2]

Our inheritance of architectural theory in published form may be seen to begin with Vitruvius, whose affirmation of "firmness, commodity and delight" still typifies the level of theoretical involvement of most architects, who fail to distinguish the proper role or the potential force of theory apart from history and criticism. Criticism and history, however, are concerned with yesterday and today. Neither has the generative force — the thrust towards tomorrow — required of theory in the sense that I have defined it, though each is a constant contributor to the larger body of theory which accumulates from the past.

While both historical interpretation and criticism have as one goal the illumination of theory, their past tense and detachment from the creator architect renders their conclusions uncertain. Bruno Zevi in discussing *How to Look at Architecture* outlines a system of criticism based upon social, intellectual, technical and formal premises and a system of historical interpretation following parallel categories but adding political, philosophical-religious, scientific, economic-social, materialist, physio-psychological interpretations. In illustrating these approaches to historical analysis and justification, he demonstrates the unreliability of conclusions drawn too strongly from the particular historian's point of view. He then beautifully makes his own interpretation of architecture as space.[3]

Peter Blake writes persuasively of *Le Corbusier and the Mastery of Form, Mies Van Der Rohe and the Mastery of Structure* and *Frank Lloyd Wright and the Mastery of Space.* Though one can by his own selective emphasis make such a case for identification of each master with a particular element of the whole of architecture, we recognize the subjectivity of such interpretation. But, without full knowledge, the average reader or student may reach very wrong conclusions.

As change accelerates, as mobility of people increases, as density of living with all its interdependencies makes us increasingly an urban society, our need for a truly generative theory increases and the lack of it becomes more acutely apparent. The artist in any field is working to unify experience for those about him, those who perceive his painting, hear his music, experience his architecture in space and material. In a rootless society of shifting values, outmoded symbols and traditions dimly seen, the unification of experience becomes a compelling task. For the architect it is specifically the unification through design from the scale of home and its products to the city and its regional extensions. Such work does not allow us to indulge the isolationism of an individual building kind of practice, which still largely exists, nor to continue our separation from other disciplines and professions which are needed to contribute to the conceptional process of design at the larger scale. It is my belief that the greatest failing of the practice of city planning today is the inability to conceptualize at the necessary scale after all the data are available and to undertake a collaborative "act of design".

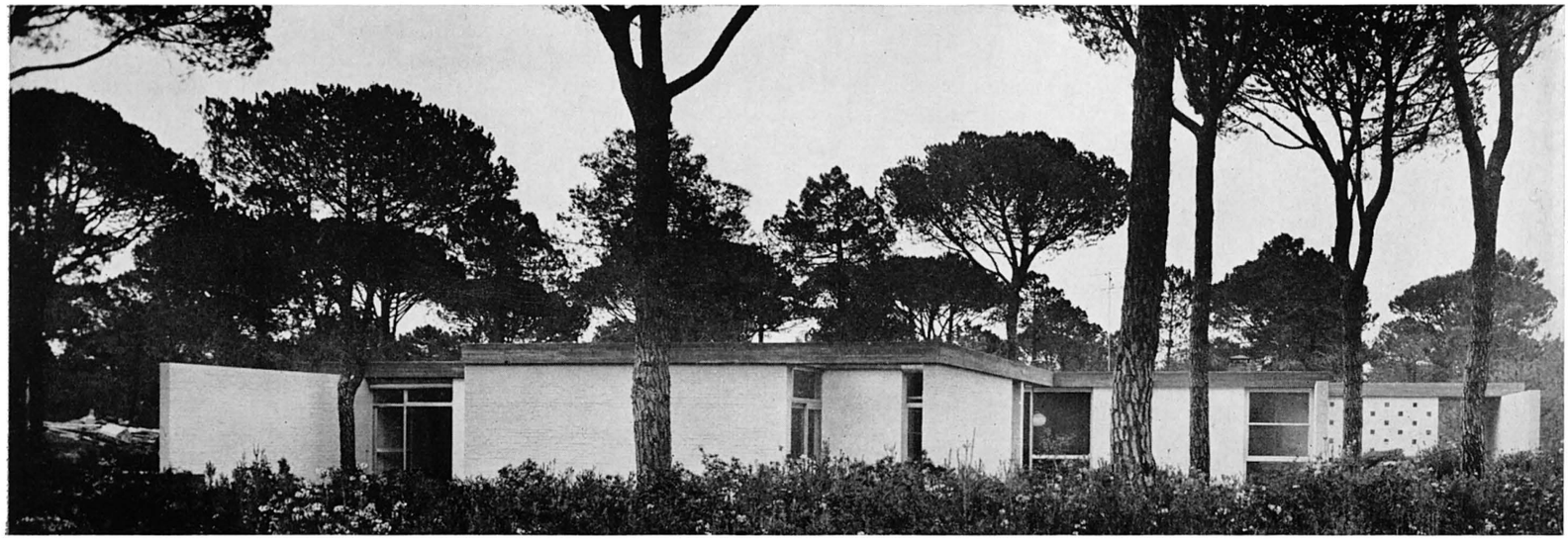
Such an act of design should no longer be viewed as a grand plan to be realized at some future time but rather as the projection of alternative methods for predicting and controlling change based upon predetermined values and priorities. In the ultimate sense such choice is indeed an act of physical design, as well as of social, economic and political design. The Bauhaus Proclamation in 1919 called upon architects, sculptors and painters to unite and together "create the new building of the future which will embrace architecture and sculpture and painting in one unity."[4] Today, forty-four years later, we are called upon to unite many more special talents as well as those of the artist to work for the unity of the city and the region. This is obviously more difficult and the burdens it places upon common vocabulary, method and principle are already well demonstrated.

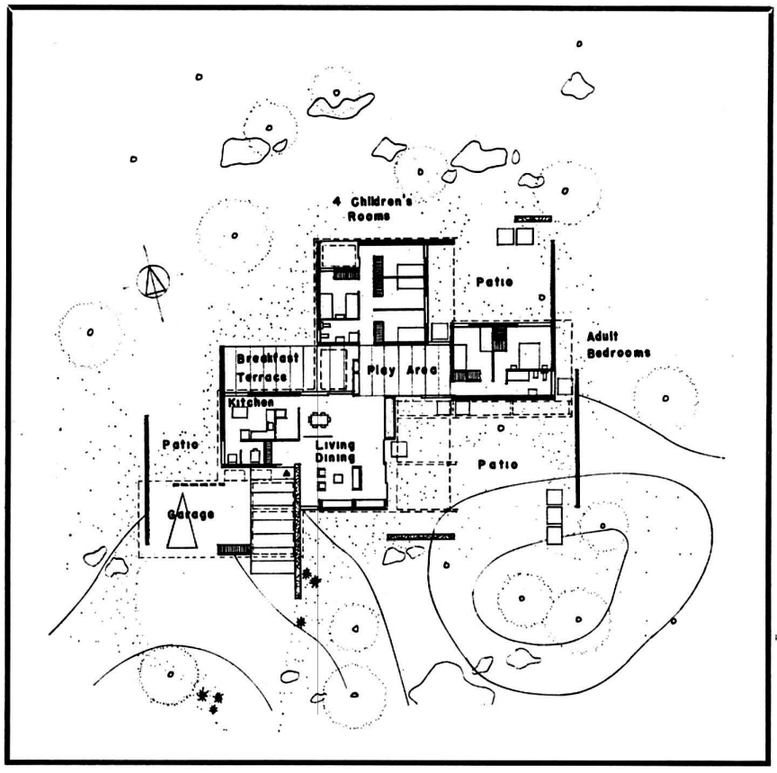
To answer the question posed at the outset is to begin a systematic outline of theory clearly beyond the scope of this paper. It does, however, seem necessary to illustrate the terms employed and the direction such an outline might take by some discussion of the *elements* and the *disciplines* of theory. Further, it is

(Continued on page 39)

1. 1963-64 *Bulletin of Rhode Island School of Design.*
2. *Zodiac* 8, "The Architectural Education in USA".
3. *Architecture as Space,* Bruno Zevi, Horizon Press, 1957.
4. *Bauhaus, 1919-1928,* Gropius and Bayer.

ITALIAN VILLA BY LISINDO BALDASSINI, ENGINEER; GIANCARLO & LUIGI BICOCCHI





AND ROBERTO MONSANI, ARCHITECTS

This is the second of two summer villas (see A&A, Sept. '63) by the same design group, set in a pine forest on the coast of Castiglion della Pescaia, Maremma, Italy. Where in the first the nucleus of the house was dispersed and the wings widely separated, here the nucleus is compact, although it is characterized by the same free development of space and openness of architecture, each room opening to an outside area.

The bedrooms are divided into two centers: rooms for the children and those for parents and guests, all opening onto a patio protected by a wing of wall. The living area extends out onto a trellised patio protected from a neighboring house by another wing wall. A loggia paved in cement slab runs between the living and bedroom areas and serves as a breakfast terrace and a play area for the children.

Walls are of glazed opaque white tile or blue-green plaster; outside fixtures are aluminum, inside glazed spruce. Floors are of Impruneta baked clay tile and cement squares.

PHOTOGRAPHS BY CASALI DOMUS

SHOE STORE BY PULLIAM, ZIMMERMAN & MATTHEWS, ARCHITECTS

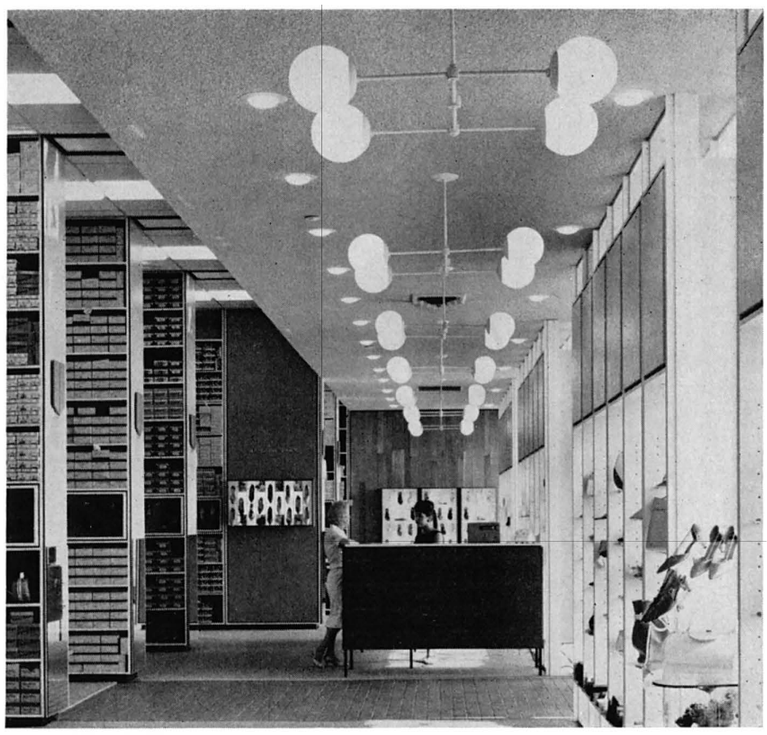
A perennial problem of the high inventory retail store is creation of an attractive sales atmosphere within what must essentially be a stock room or warehouse-like environment without loss of floor space efficiency. For the client of this store in Anaheim, Calif., the largest discount shoe retailer in the nation, the problem was more than ordinarily acute because of the huge inventories required by the high sales volume.

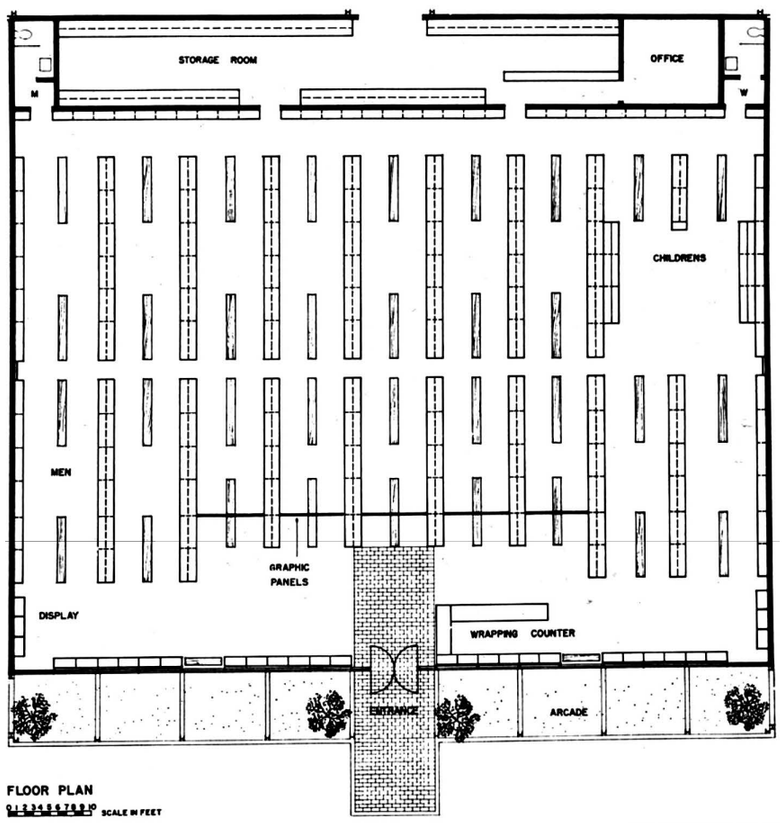
Through use of graphics, color, lighting and imaginative "point of purchase" merchandise display the architect here has avoided the dark, crowded, unattractive atmosphere of the usual shoe sales area surrounded by stock shelves. The graphic panels by Lloyd Chase are located over each aisle and across the rear wall, helping to relieve the verticality of the 14′ high shelves.

The store is on a 94′ x 277′ corner lot with a 110′ set back required for parking. The structural system is steel girders spanning 88′ supported by 6″ steel columns spaced approximately 11′0″ o.c. at front and rear walls. The glass store front is set back 8′ forming an exterior arcade. Rear and side walls are concrete block laid up in common bond with raked joints. Golden buff brick framed with steel angles form the spandrel panels of the facade and are set between the steel columns so as to create a reveal between the brick and the steel. The center bay of the building is accented by a panel of black structural glass set above the projecting steel canopy.

PHOTOGRAPHS BY MARVIN RAND

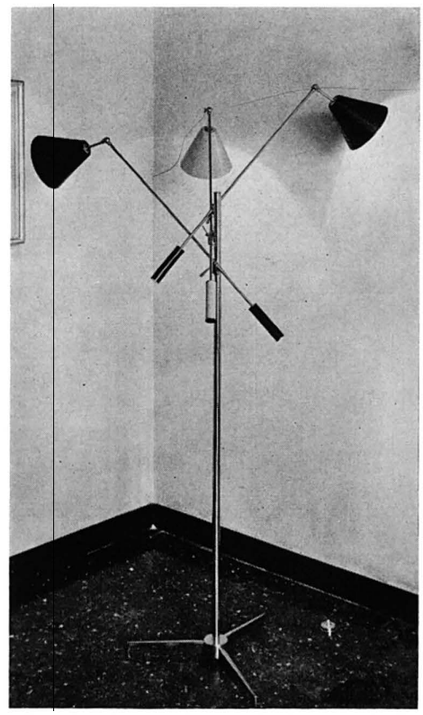
PROJECT ARCHITECT, BERNARD ZIMMERMAN



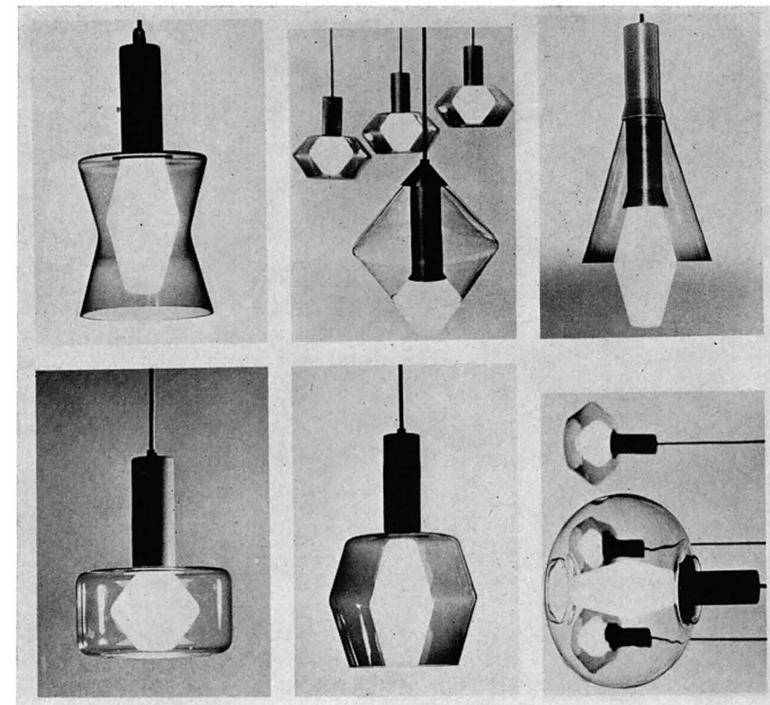


FLOOR PLAN

0 1 2 3 4 5 6 7 8 9 10 SCALE IN FEET

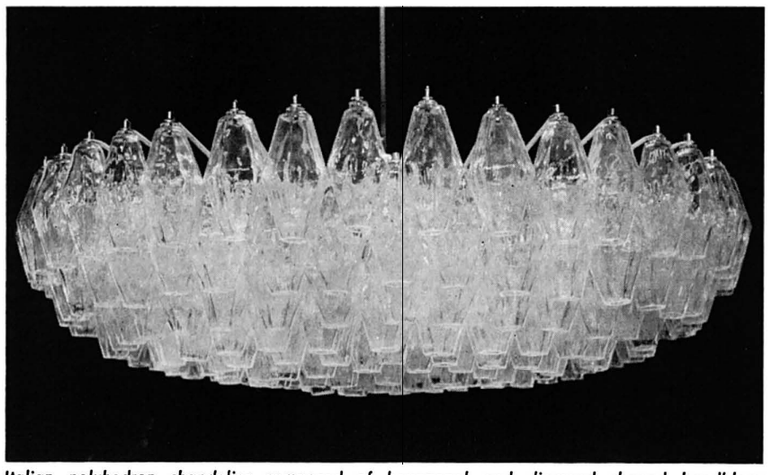


Italian floor lamp in brass with aluminum shades. Height 62", diameter 31". Vogue Lighting, Inc., Los Angeles.

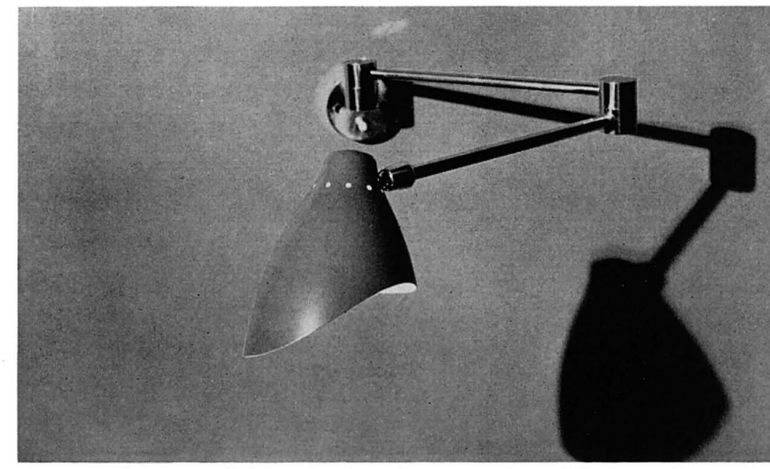


New glare-free incandescent lamp and fixture series by Tapio Wirkkala. Fixtures are clear glass lightly tinted in blue, mauve and smoke with a choice of white, black or copper sleeves in various lengths and shapes. Imported by Intercontinental Sales and Service, Detroit, Mich.

Lighting

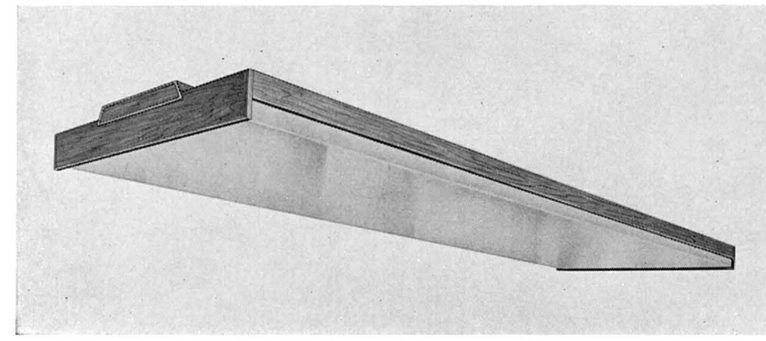


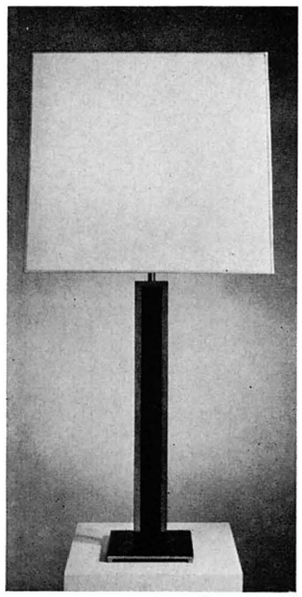
Italian polyhedron chandelier composed of hexagonal and diamond shaped handblown glass pendants which may be strung together in a variety of shapes and colors. One shown is 36" x 9". Gruen Lighting, Los Angeles.



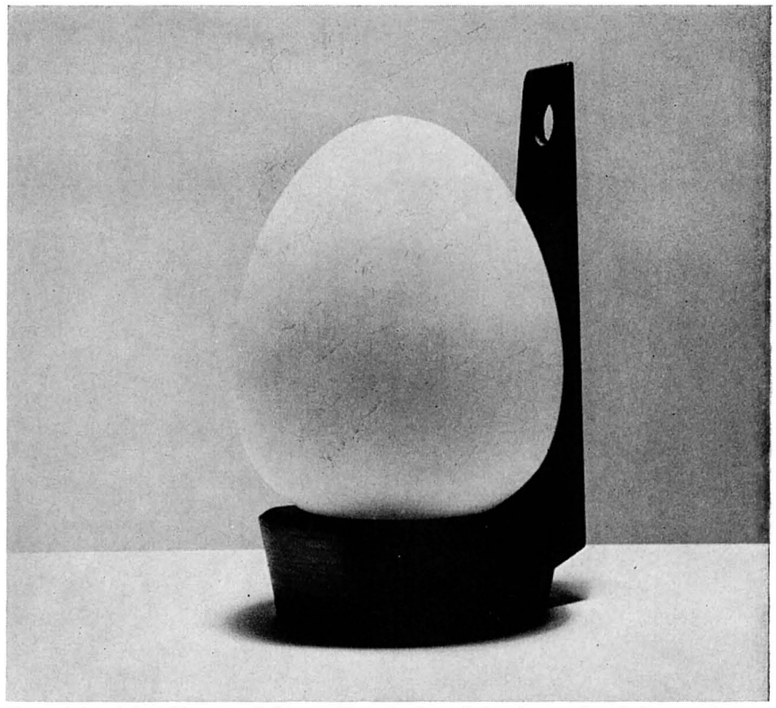
Brass and aluminum wall lamp of Italian design extends to 24". Vogue Lighting, Inc., Los Angeles.

Plug-in fluorescent ceiling fixture with texture and patina of walnut and milk-white plastic diffuser; capable of arrangement in multiples and available in 2 and 4 lamp assemblies 49" x 13" (17") x 4⅜". Globe Illumination Co., Gardena, Calif.

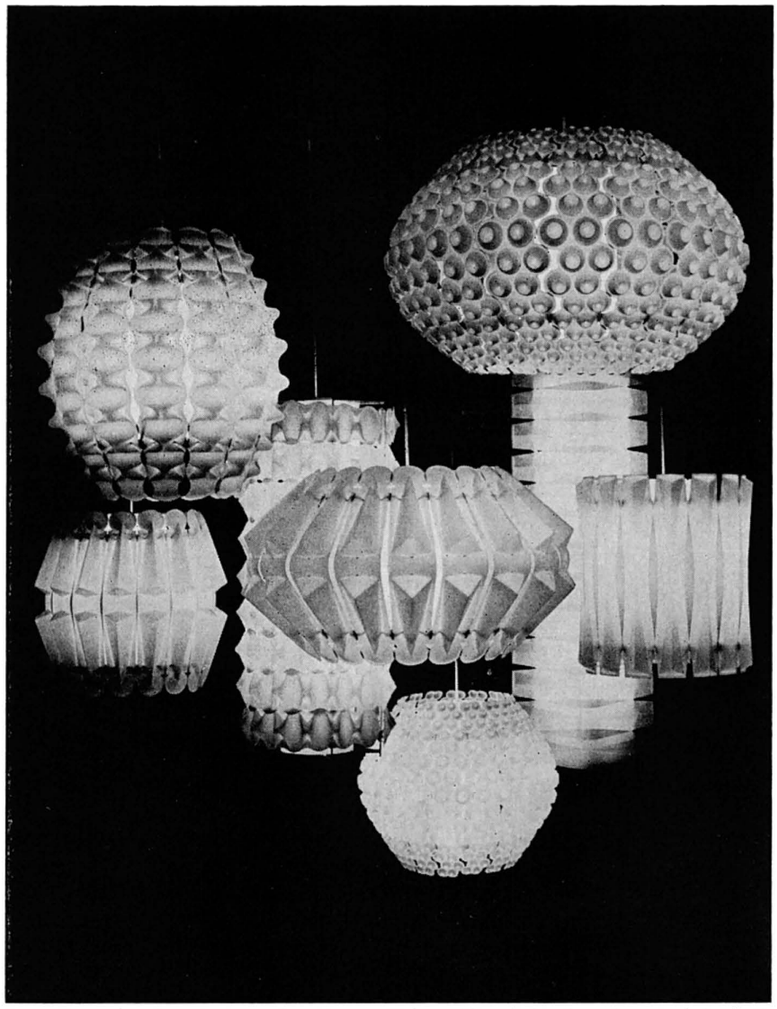




Brass, chrome or lacquer finished table lamp by Eugene Tarnawa. Height 34" with 14" rectangular shade. Lamp Associates, New York.

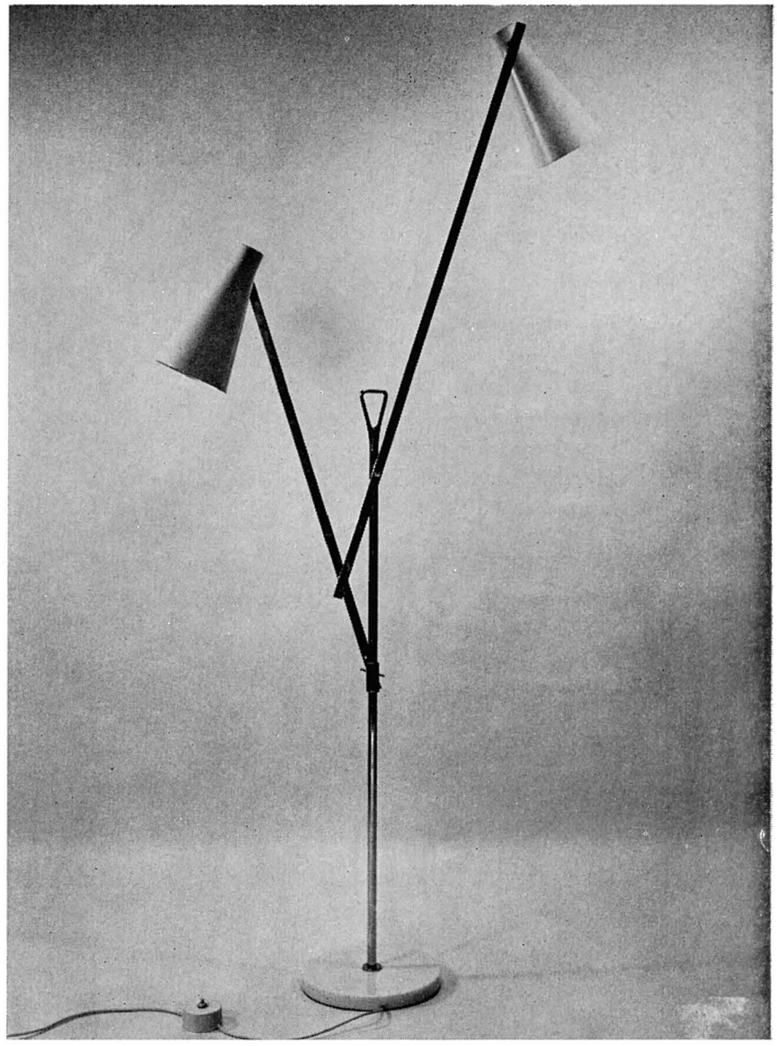


Unusual Swedish table or wall lamp, "Nest Egg", with hand carved teak base and matte white opal glass. Height 12", diameter 5". Gruen Lighting, Los Angeles.

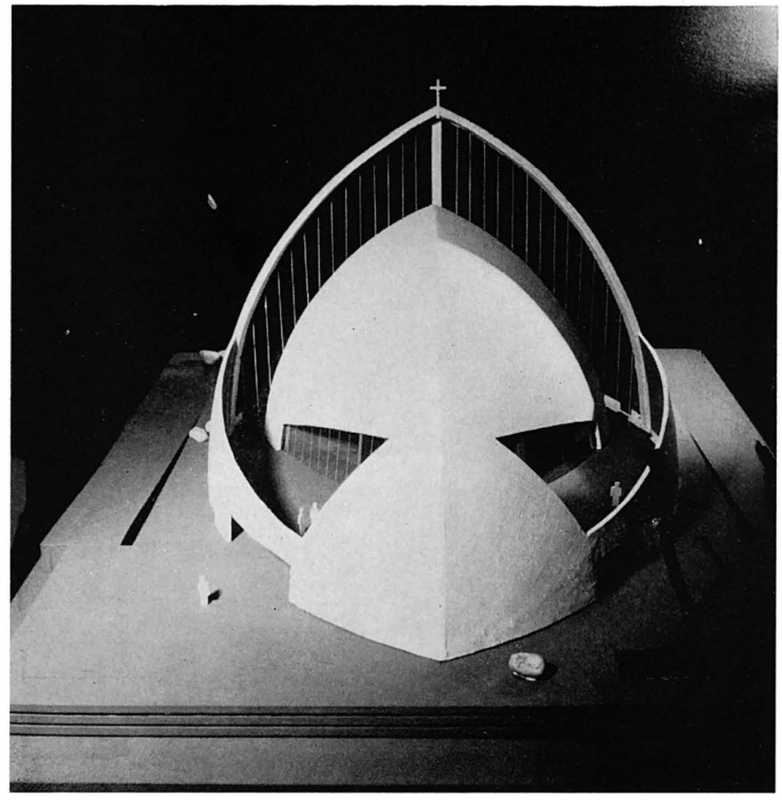


Decorative, glare-free Lanterns by George Nelson filter light through extruded plastic cylinder then through sculptured segments of molded vinyl. Available with brackets, floor stands and table bases. Howard Miller Clock Co., Zeeland, Mich.

Italian "scissor" floor lamp has an overall height of 76". Arms extend to a width of 70". Shades are white metal; stem and arms are available in polished brass or chromium. The base is white marble with a four-way foot switch. Gruen Lighting, Los Angeles.



MISSIONARY CHURCH IN AFRICA BY JULIUS DAHINDEN, ARCHITECT



The problem in the design of this prototype Roman Catholic Church for Toussiana, Volta District, Central Africa, was to harmonize church tradition with the cultural and ritual heritage of the natives. Within the liturgy the solution has been to incorporate as much of the native custom and ritual as possible in order to bridge the gap between the familiar and the unknown and maintain the natives' pride in their own heritage. The architect's solution similarly attempts to create an organic link between the two cultures. In order to achieve a convincing and familiar symbolism, he has incorporated in the plan of the church the forms of native ornamentation, (for example, the form of the ceremonial mask which is also used in the service.)

The church stands on a massive base with up and down ramps at either side. Structurally there are three possibilities, depending on availability of materials and skilled labor in the neighborhood: 1. The simplest scheme consists of a framework of timber trusses on which is laid a series of purlins in vault shape. The purlins are covered with a sheathing of

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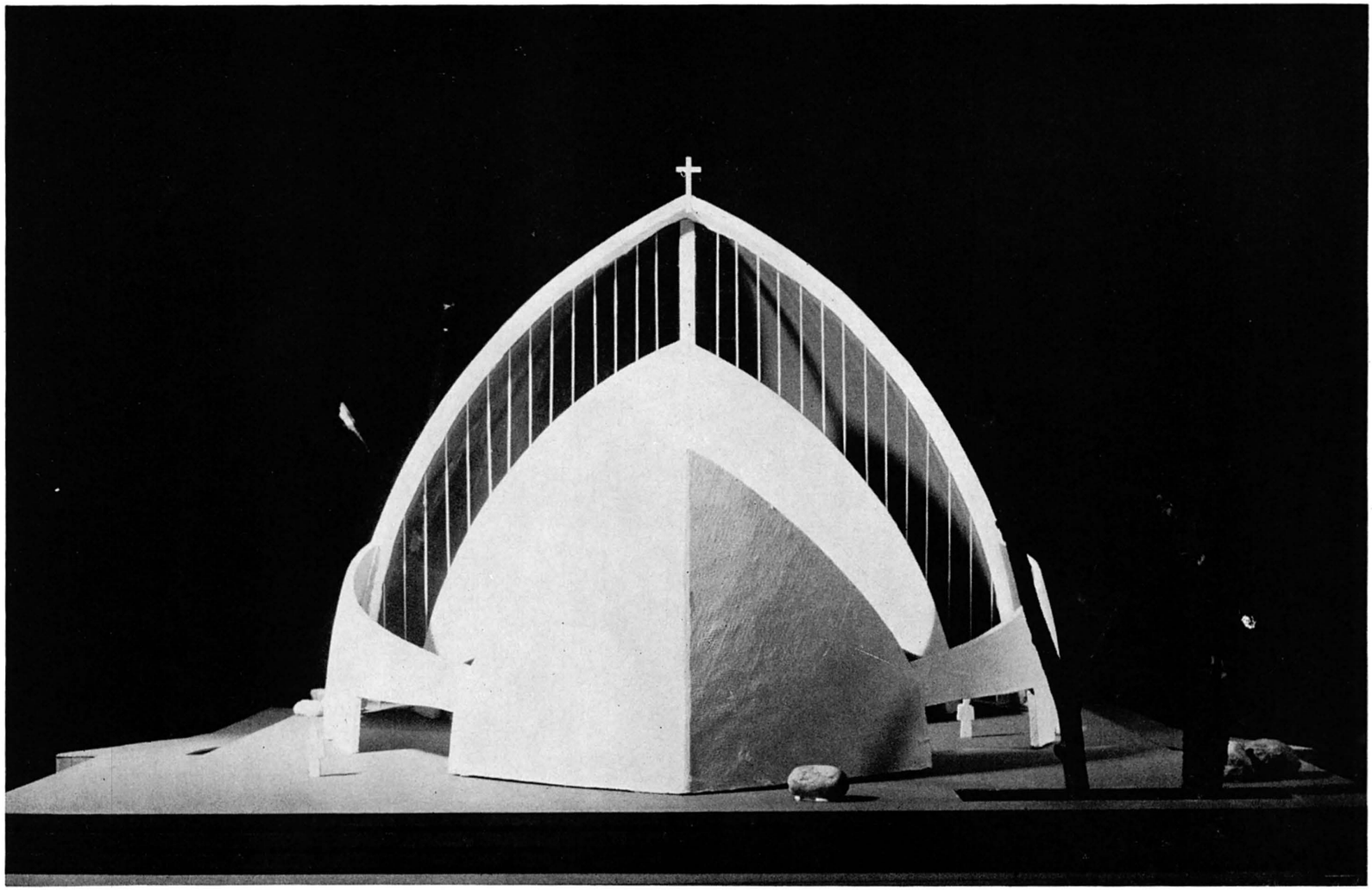
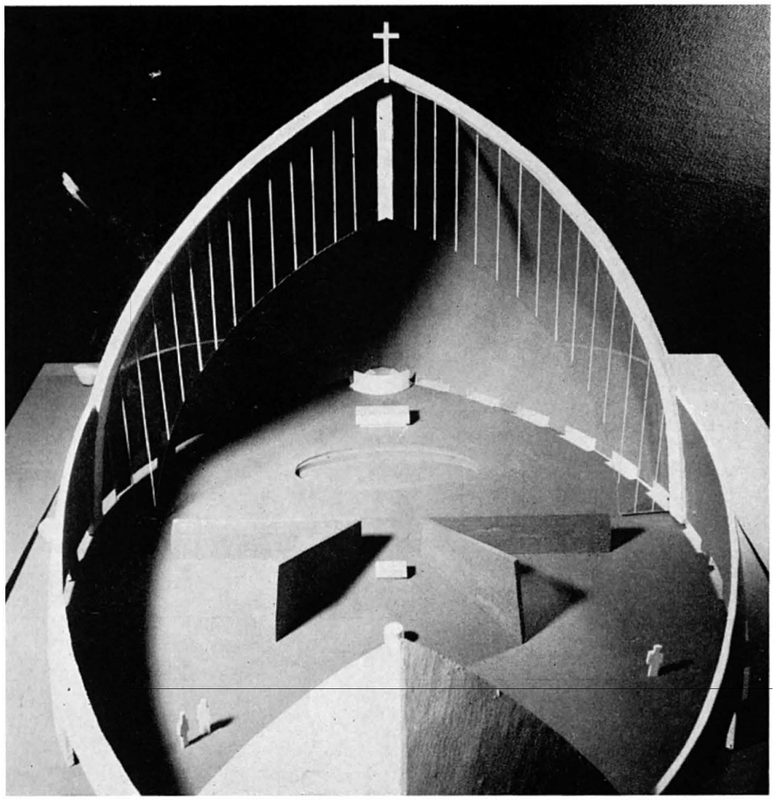
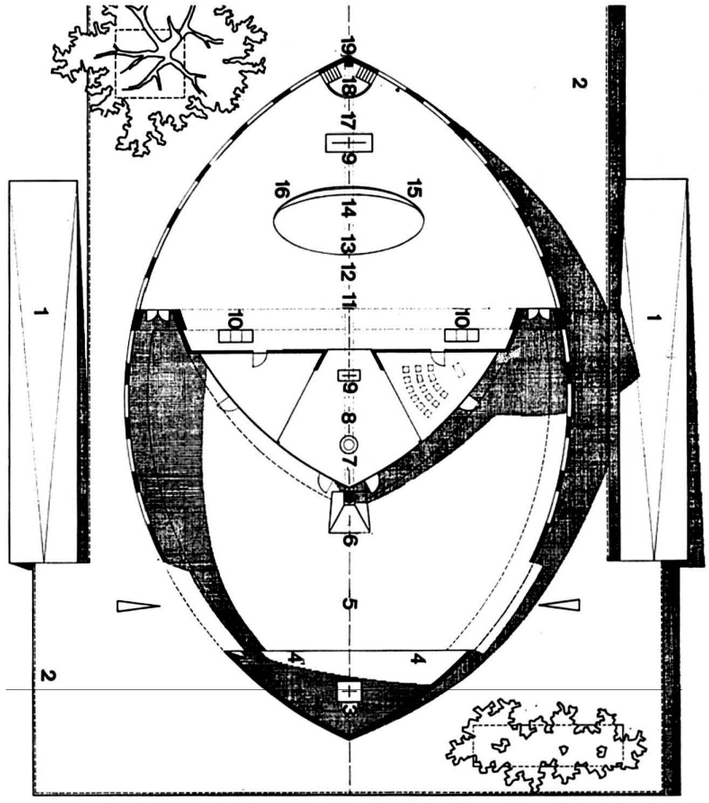


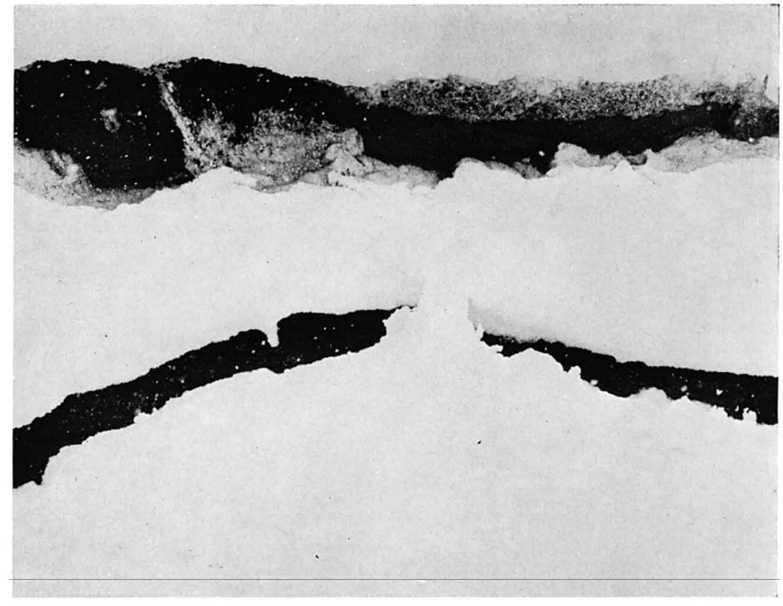
Floor Plan

1. Up ramp
2. Base
3. Processional altar
4. Drummer area
5. Interior court
6. Easter fire area
7. Baptistry
8. Week day chapel (expandable)
9. Altar
10. Confessional chair
11. Congregation
12. Elders
13. Mask wearers
14. Dance area (ceremonial)
15. Lector
16. Griots (musicians)
17. Presbytery
18. Celebrant
19. Tabernacle



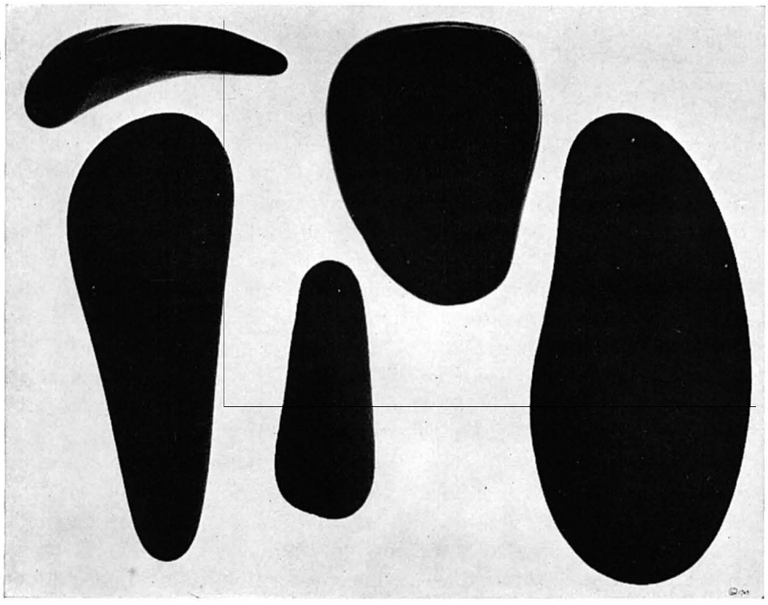


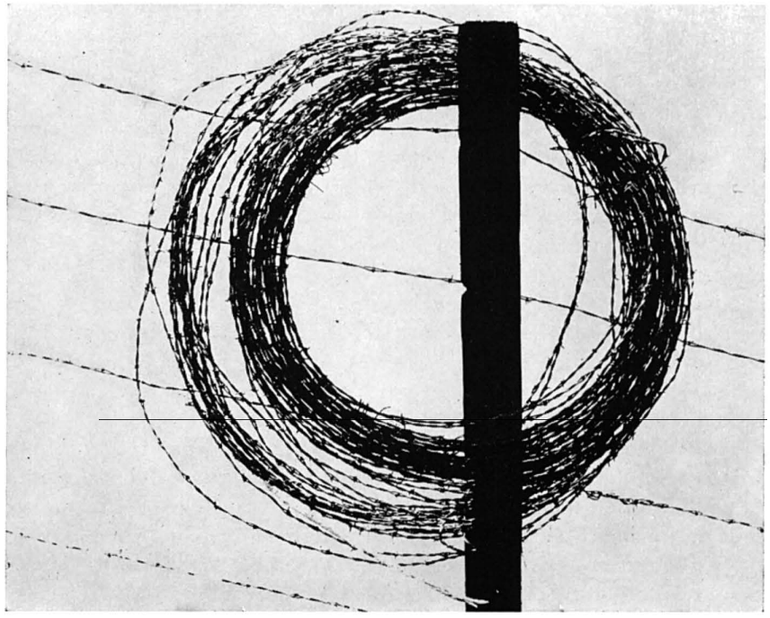
PHOTOGRAPHIC ART BY EARL SCOTT

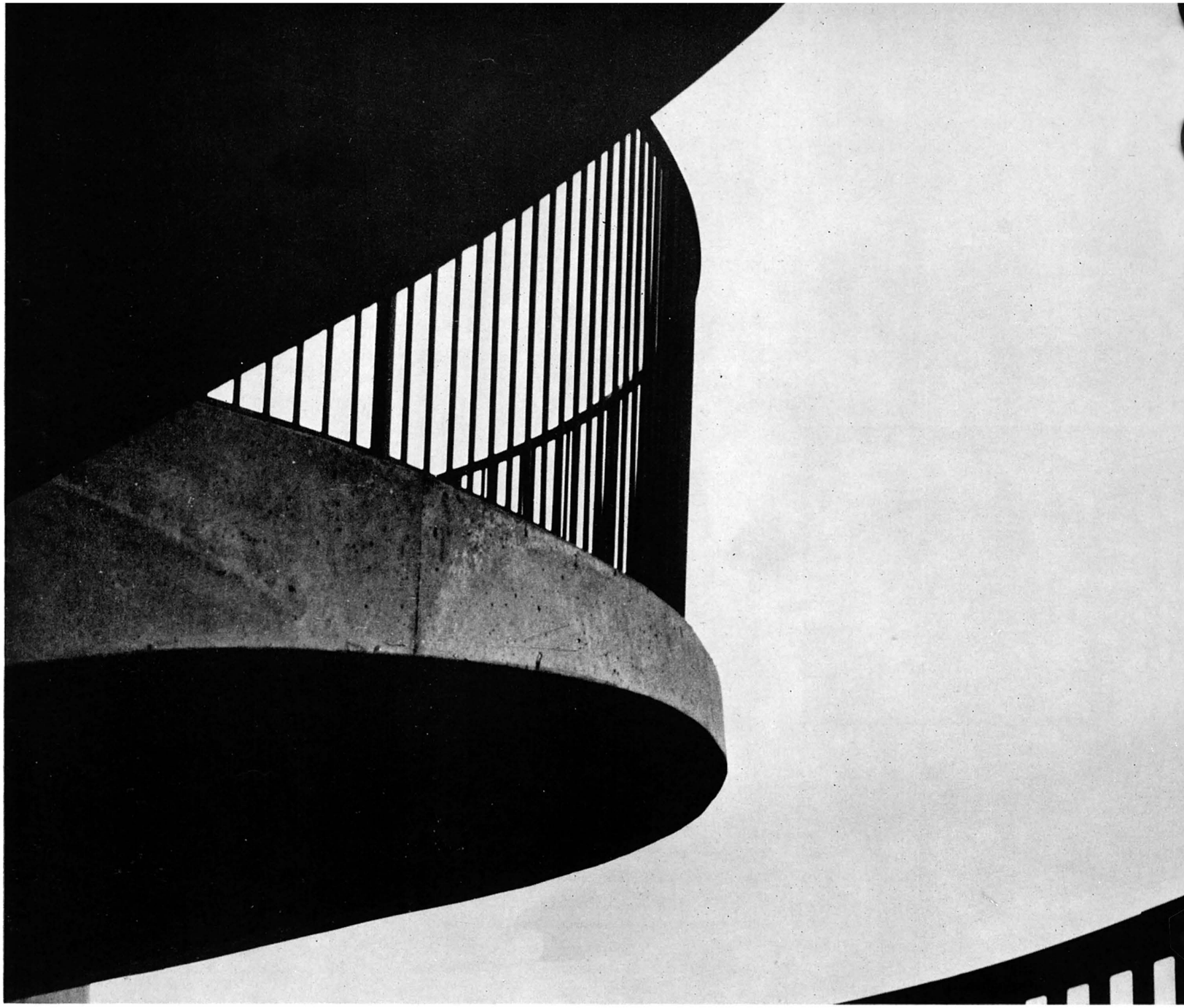


The most significant and challenging difference between the creation of telling images in photography and in the plastic arts is the photographer's complete dependence on the visual world for objects from which to derive his images. The painter or sculptor may draw directly upon the physical world around him. The photographer must. The limitation thus placed on him is compounded by the concomitant difficulty of eliminating non-essentials from the scene, either at the time of taking the photograph or later by a mechanical process. Here again, the painter has the advantage for he can leave out of his picture whatever he pleases.

In these large scale photographs (4′ x 5′) the photographer selected essentially dark subjects against a white background. To eliminate non-essentials and simplify the images, he used high contrast film either in the original photo or in copying a normal print. The results are highly stylized, stark, black and white images.







STATEMENT BY BERTRAND GOLDBERG

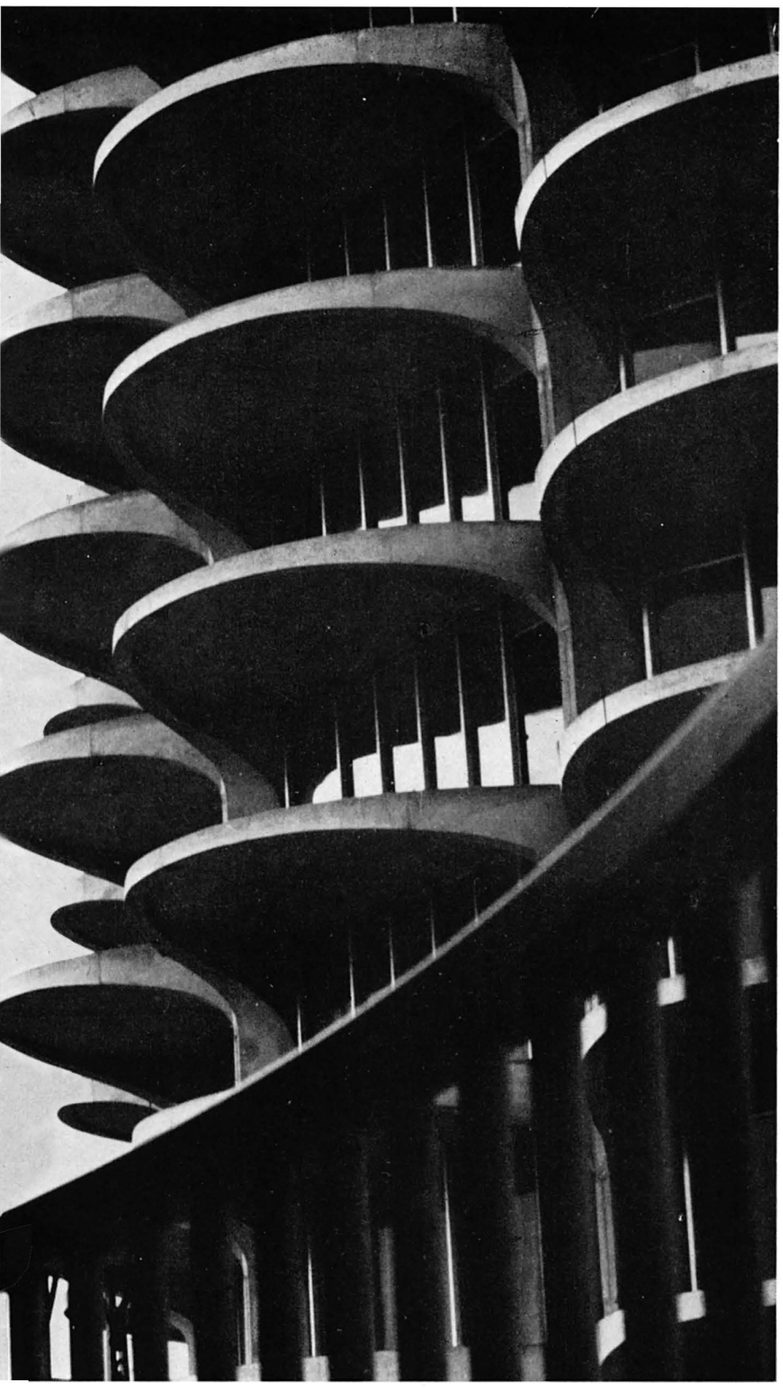
The future Chicago environment, as prophesied by Hauser's recently released study at the University of Chicago, is based on facts of today; but projected on ideas which are more than a hundred years old. Today's social forecasts come from our Victorian Age, in which Darwin took the history of mankind away from the Bible — in which Freud took the soul of man away from the religious — and in which Marx took the government away from the individual.

And yet, if this is one face of our present surroundings, another face was shown to me when William L. McFetridge, who is president of the Janitors' Union and sponsor of our Marina City project, said: "Let us make it beautiful . . ." His remark, too, had an earlier source. It was Matthew who said "man does not live by bread alone."

We're all of us, today, somewhere in this span between fact and faith. I find myself and my work within this span; I shall describe my position to you because I think that wherever I am, you are. Vitruvius suggested that the architect should know more about painting than the painter, more about medicine than the doctor, more about law than the lawyer, more about ruling than the ruler — simply because these others depend upon the architect to say for them all that is known as well as it can be said by the art of building. So, know yourself by the buildings we build for you and the cities we plan for you.

Maritain today recommends our recourse to antiquity for its exchange of views between artists and philosophers. Especially now, he says, there is a need to escape from the vast intellectual confusion that we inherited from the 19th Century; and there is a need again to find spiritual conditions of work. We shall follow his advice. We shall look back at the 14th Century to see what architects and philosophers and cities were doing together at this time. Then, I'm going to drop the other shoe and see if there is anything that existed in the 14th Century which can be projected for our future environment. We shall see if this will clarify some of our 19th Century hangovers and bewilderments.

But before we start the trip back to the end of the Middle Ages, I should like for a moment to see what we are leaving. I believe we can find in recognizable form around us, a growing sense of aesthetic values; also, a creative attitude toward our urban life. Also, I think that we can find a renaissance in the mystery of faith, even Catholic



MARINA CITY PHOTOGRAPHS BY ORLANDO R. CABANBAN

A Paper Delivered at the International Design Conference, Aspen, Colorado

faith; and, finally, a coming of age of our cities economically to a point where they are now operating as city-states.

Many 19th Century value judgments in our art contained words like "functionalism, practicality, utility, mass production." These were words that were shaped to the science by which the 19th Century knew our world. In contrast, one of the first new words used in our new world of art appraisal is "dada"; others are "surrealism, abstract". And, still others are "decadent, dissolute and indeterminate."

Yet, as Kohler points out: "A society coming apart at top and bottom, or passing into another form, contains just as many possibilities for revelation as a society running along smoothly in its own rut.

Dr. Von Foerster suggested one of the revelations which had occurred to us in our world of science in 1927. The magic years from 1927 to 1931, when the finite world of 19th Century science was given four great body blows, did not mean the end of aesthetic order. These were the years when Heidegger published *Being and Time,* when Heisenberg published his *Principle of Indeterminacy* and when two men, Skolem and Godel, demonstrated that mathematics contains insoluble problems. These years meant the end of Victorian concepts, finite and determinate; but also, the beginning of order in the new forms of the infinite and indeterminate.

The 19th Century gave us little information about creative man. We inherited neither the inner order nor the integrity which means unity. Neither in Europe nor America. In Europe, that scientific Marxist man of make, the production man, was reflected by the Dewey technological man here in America. Neither provided for the spirit of man, nor for his integrity.

In 1925, when LeCorbusier said that the right angle is the essential and sufficient implement of action — he was reflecting the hope of 19th Century science that all natural forms would disappear. There are no right angles in nature. And, when Frank Lloyd Wright wanted, in the American Broadacre City, to separate human work from human life, he mirrored the best 19th Century Marxist scientific concepts of splitting man into the component which might no longer be a man, but which could be the stuff for planning. Neither early LeCorbusier nor Wright offered any large creative architectural planning for that inner unity of

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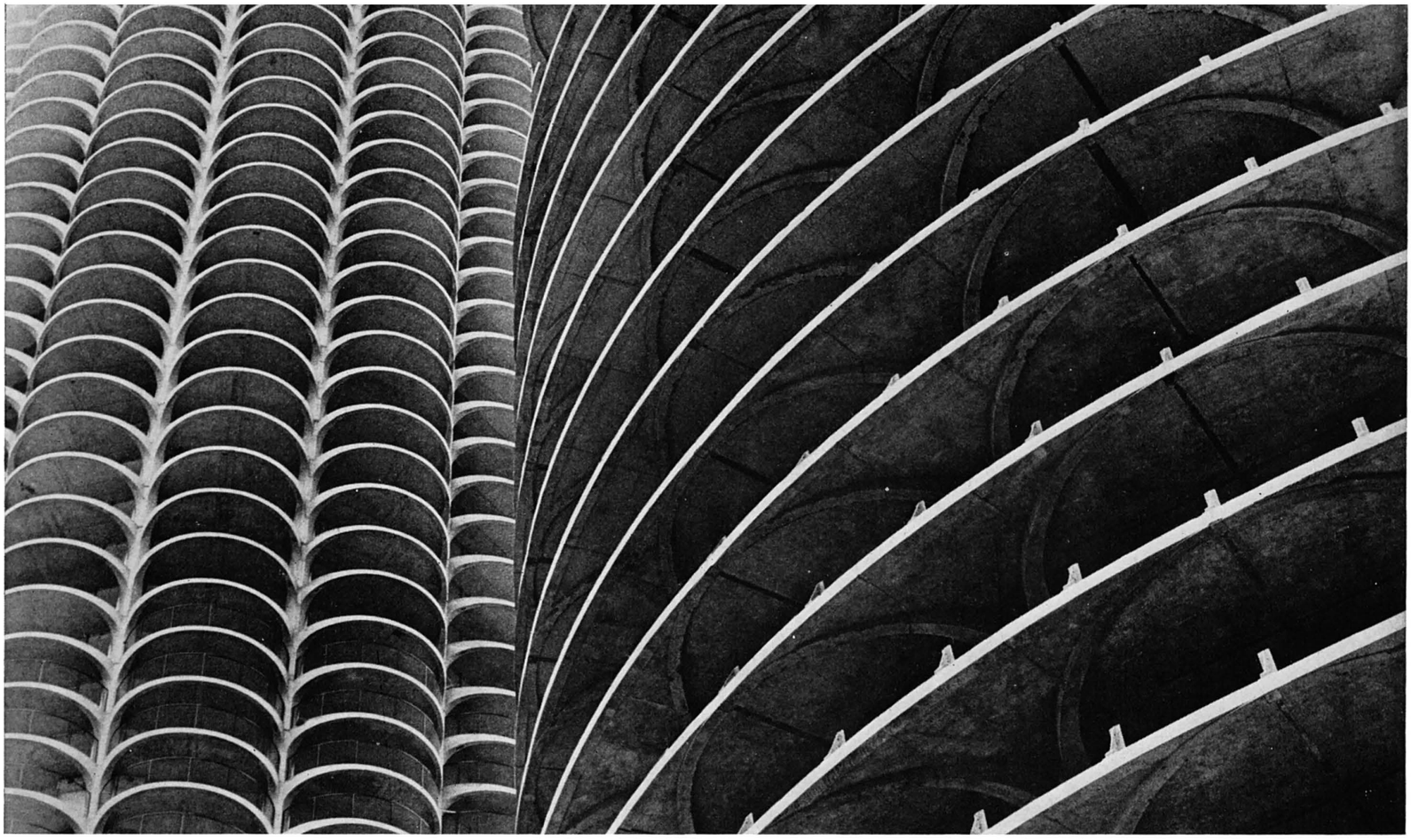


man which involves both work and spirit.

But the change is here: the words, "materialism, pragmatism, planned society, regimentation" begin to carry an apology, a little footnote. The words "spirit, soul, beauty, God, humanity" are very "in" words. McFetridge, the chief of the Janitors' Union says before his bankers, "We want to pay to make it beautiful". And the General Electric Corporation says, "It will cost you, but it's prettier." And suddenly we are through this sound barrier of Victorian commercialism and rationalism. We dare say to each other that we are people with dark and sometimes questionable values, with dreams and needs for aesthetic response, which we cannot analyze scientifically.

The revival of inner man during the past thirty years has been announced by the most active return to the mystery of faith in more than four centuries. Jew, Catholic and Protestant have all reached into the darkness of man's inner space for exploration of irrational truths. Whether Kierkegaard or Bergson, Buber or Jaspers, Heidegger or James, there is always a theme of awaited revelation in their writings.

If faith exists on all sides on some renewed level, Protestantism has been the most instrumental force in provoking this need. William Barrett argues: "By stripping away the wealth of images and symbols from medieval Christianity, Protestantism unveiled Nature as a realm of objects hostile to the spirit and to be conquered by Puritan zeal and industry. Thus Protestantism, like science, helped carry forward that immense project of modern man: the despiritualization of nature, the emptying of all the symbolic images projected upon it by the human psyche. With Protestantism begins that long modern struggle, which reaches its culmination in the twentieth century, to strip man naked: Protestantism achieved a heightening of religious consciousness, but at the same time severed this consciousness from the deep unconscious life of our total human nature."

Forty-one million Roman Catholics in the United States in 1959 gave testimony that the Protestant approach is being questioned. And, for Maritain as well as for many Western artists, writers, and intellectuals, the approach is much as Maritain puts it. He says, "I believe it to be impossible outside Catholicism to reconcile in man, without diminishing or forcing them, the rights of morality and the claims of intellectuality, art or science. Catholicism orders our whole life to Truth itself and subsisting Beauty". Faith, in our present society, increasingly means the mystery and the faith of the Roman Church.

I suppose it certainly seems natural to extend the Chicago School of Architecture from the Chicago School of Philosophy where, by Adler's recent example, the Jews were said to be making Catholics out of Protestants. Not only has inner man returned to life from the dissecting table of 19th Century scientific autopsy, but outer man as well in the place he works and the way he lives.

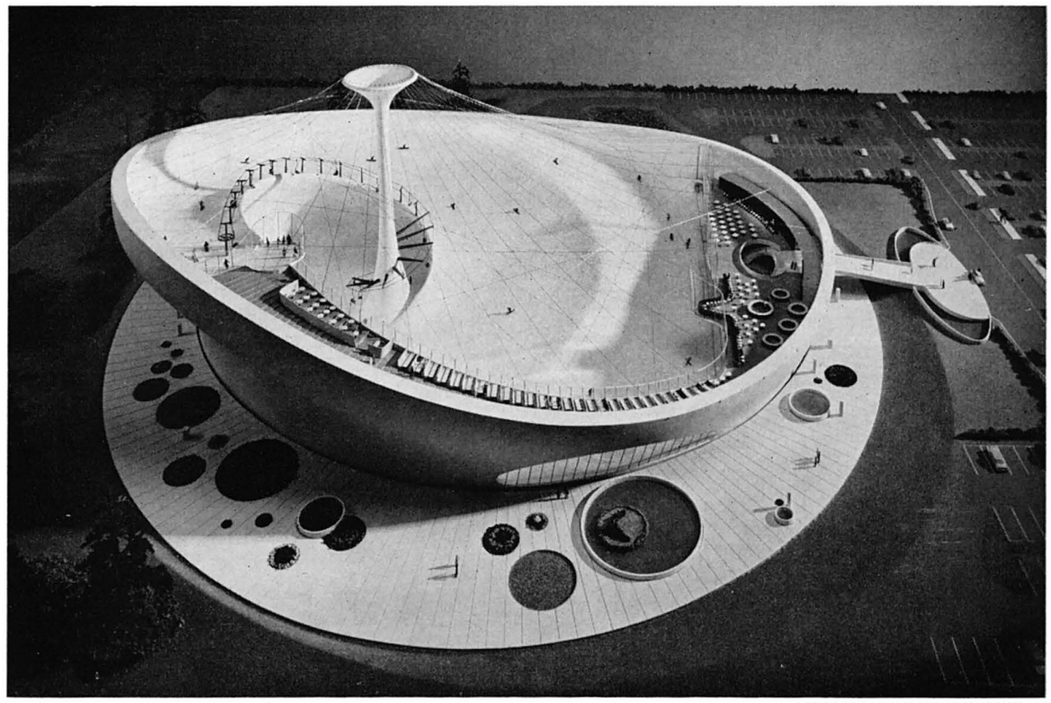
Our pace of revolution is unprecedented in history; a single lifetime today brings more radical change than centuries created in Egypt or Greece or Rome. Whitehead described the new world when he said, "Adventure is the stuff of civilization". And Gottman reported in *Megalopolis,* which is a recent book, that in his travels in North America, Western Europe and the Mediterranean countries, everywhere he found cities expanding. Here in America, the physical proof of our own interest in regenerating our urban society is that today in this country there are more than 600 special urban renewal projects for what until recently were our "dead" cities.

Suddenly the city — the Victorian "enemy of the people," facing Wright's prophecy of extinction through decentralization of industry and overcrowding — now becomes synonymous with civilization. Suddenly, the city becomes the place where Aristotle said, "One could lead the good life"; where specialization of labor provides the leisure which men may use for creativity and ideas and the refinement of the act of living.

Suddenly a magazine appears to define the townie, the modern American city dweller, and with his sports car he gets Hemingway and with his Bunny he gets Joyce. Another magazine said in its prepublication announcement: "The *New Yorker* will be the magazine which is *not* edited for the old lady in Dubuque. It will not be concerned with what she is thinking about . . . the *New Yorker* is a magazine avowedly published for a metropolitan audience and thereby will escape an influence which hampers most national publications . . ." We have a townie.

Herbert Muller was bucking Frank Lloyd Wright when Muller said: "The

(Continued on page 34)



PHOTOGRAPH BY GORDON SOMMERS

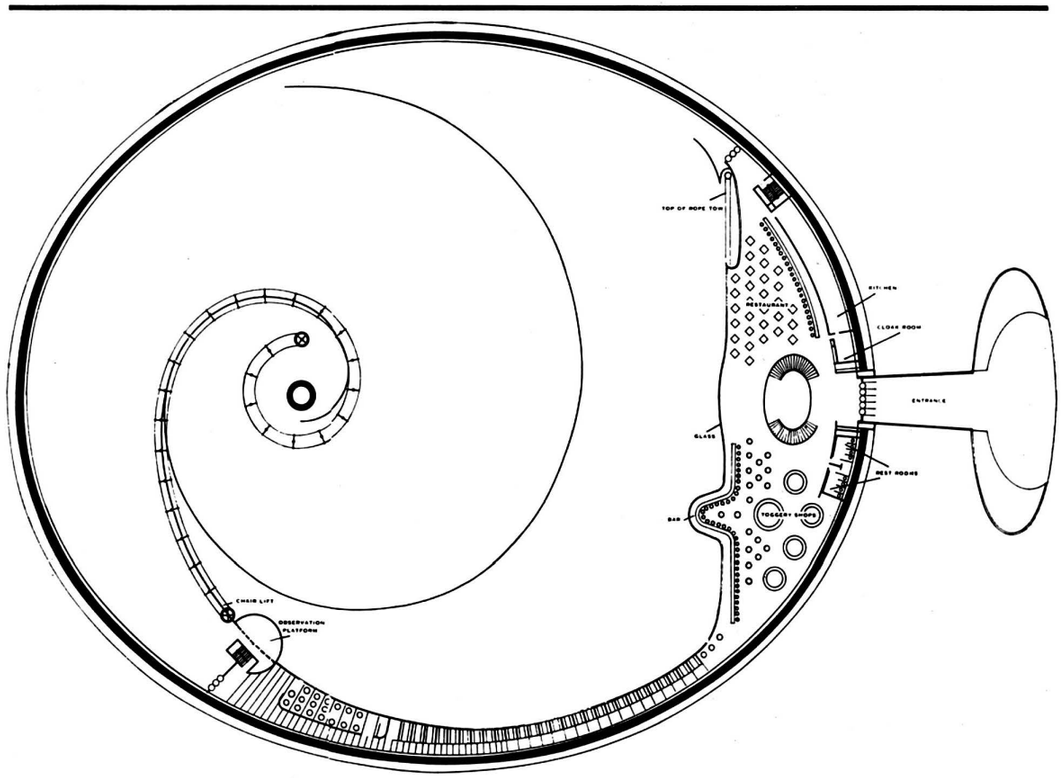
COMMERCIAL SKI-SLOPE BY DANIEL, MANN, JOHNSON & MENDENHALL, ARCHITECTS & ENGINEERS

The client-developer requested a covered ski-run. The designers solution is an elliptical arena, 480′ x 360′ with curvilinear flowing slopes spiraling downward from 130′ at descents varying from 8 to 22 degrees. The reinforced concrete shell contains 100,000 square feet of straight run, almost 900′ of slalom and a 400′ "bunny" run with a rope tow at the entrance end. Total capacity is 500 skiers.

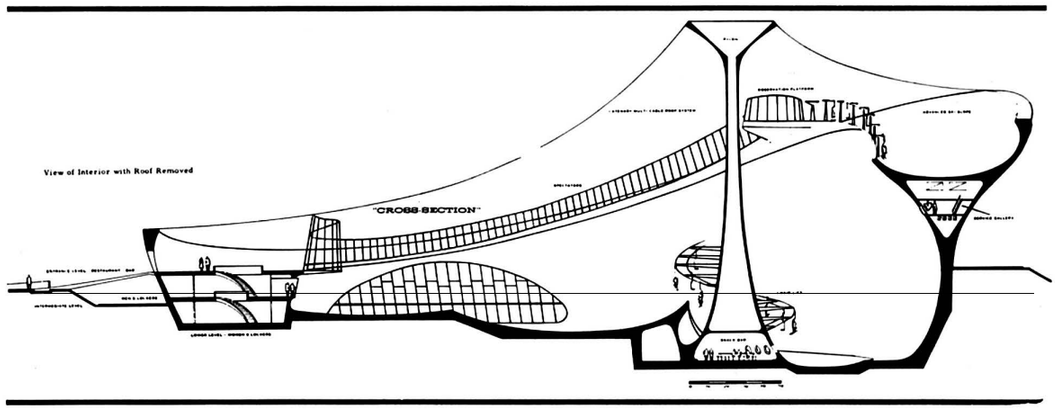
The main run is served by a chair lift spiraling around the 190′ central pylon of reinforced concrete which supports the catenary, multi-cable roof system. The interior temperature of 26 degrees (F.) protects the snow pack of pulverized ice sprayed on the slopes through pressurized hoses.

Additional facilities include an elliptical restaurant and cocktail lounge accommodating 450, shops and observation seating and platforms on the upper levels; locker rooms, ski repairs and rental, club room, administrative offices, storage and janitor on the intermediate level; rope tow, nurse, kindergarten, women's lockers and clubrooms, snack bar, first aid and doctor on the lower level.

The designers recommend a site size of 14 to 15 acres and parking for 500 cars. Estimated cost of the project is $3.5 million.



MAIN FLOOR PLAN



MISSIONARY CHURCH IN AFRICA — JULIUS DAHINDEN

(Continued from page 26)

narrow planks and finished with cement-asbestos shingles. This type of construction permits prefabrication of the church and subsequent erection on poured-in-place foundations. The base is laid up in brick and a seamless metallic membrane inserted between foundation and trusses as termite protection. 2. The second scheme consists of a vaulted brick structure in which the two main half vaults support each other by means of diagonal ribs at the ridge. The half shells are tied back to the diagonal ribs with tension rods inserted at the joints of the masonry work. 3. The third structural scheme is a concrete shell poured according to standard practice and would only be possible in regions where advanced engineering and technical skills are available.

The prototype shown is planned in two sizes with capacities of 500 and 1,000. In planning the interior it had to be taken into account that natives attending the service stand and pews are customarily not used.

BERTRAND GOLDBERG

(Continued from page 32)

city is the first clear sign of civilization. In the city the economic surplus is collected and managed or squandered and energy is further stimulated by close association, division of labor, and the pursuit of more wealth. These distinctive achievements of civilization are real gains, real goods. Only in a civilized society can man contemplate his inability to live on bread alone, and dream of better ways of living. The material surplus provides the leisure of cultivating spiritual interests; the city is the main center of creative activity, the spiritual as well as the commercial and political capital; the self-conscious individual at his best is the glory of civilization . . ."

Central city populations have remained fixed, however, while our suburbs have grown. Yet, the central city continues to provide the services which the small suburban community cannot afford — the generation and control of utilities, law and government, higher and specialized education, social welfare, recreation and cultural development. These services, now provided for the many suburban areas, require the city to increase its taxes while it necessarily administers an increasing government for the larger peripheral population; and so, the city becomes a great centralized power. Many cities have annual budgets which today exceed our recent national budgets. Our cities have become city-states.

This is not the first time in history that there has been an eruption of the city-state. I looked back to see where the most recent previous era existed, where the city-state came into such full power and I found that it occurred in the 14th Century when Toynbee said the whole future of society emerging from feudalism for a moment hung in balance between the city-state and nationalism: the city-state almost became the dominant force in Western society.

The 14th Century capital was the monetary capital, which was the profit of the land and was managed in the town and put to work where there were people who could consume it and multiply it through consumption.

The Lombard league, the Tuscan cities, 62 cities in the Rhineland, 67 Flemish cities, 32 cities of Leon and Galicia, the maritime cities of Cantabria, the Hanseatic league, in the 14th Century gave form to Western society.

Now if 19th Century financial prosperity gave our cities enough security to look to the beautiful life, the new life, the same held true in the 14th Century. They had just finished a prosperous economy, which led to a development of market places and halls, ports, bridges, quays, fountains, town halls, belfries, cathedrals and churches. The entire town of Avignon was built in the 14th Century as an entirely new city for the beauty and delight and glorification of the Babylonian captivity.

This burgeoning art and architecture was not localized, but rather a vast international movement, as Suger said of his artisians, "by many masters from different nations."

The medieval creative attitude toward urban life was reflected in building contracts which demanded that a building be built as good or better than work at some competing location. And the chapter of Seville in the year 1401 recorded a resolution to "Build so great a church to the glory of God that those who come after us will think us mad even to have attempted it."

Our growth of faith in present day thinking similarly was matched article by article in the 14th Century. And, if our present philosophy is preoccupied with the mystery of man through our existentialist philosophers — our Heidegger, our Jaspers — the 14th Century did the same through its Nominalists with Roger Bacon and William of Occam.

Medieval Catholicism is falsely and frequently characterized by orthodoxy and an official theology. We have a picture of a 14th Century Christian world united by a doctrinaire Catholic religion. But according to a medieval writer, "Sacerdotium, Imperium, Studium" (the Church, secular government and the university) were the three powers which guided the health of Christendom. It was this third ingredient, the university, created by the Church, which promoted the inquiry, doubt and the heresy that ultimately produced a revival of inner faith.

It was Roger Bacon, a product of the 14th Century university, who wrote that if he should have his way, he would burn all the books of Aristotle, for the study of them can only lead to a loss of time, produce error, and increase ignorance.

Beginning with Abelard's *Sic et Non* and up through Bacon and Occam, the rigidity and formalism of the Church, and the science which was produced by the Church, was attacked and weakened. Out of this, faith emerged.

I believe that this gigantic mirror image of our own environment in the 14th Century projects another dimension to our own self portrait. This dimension will give further depth to some of the vague forms which are not now easily definable. We can readily make out certain common qualities between our own times and the 14th Century. There was the emergence in both times of aesthetic values. There was a creative drive toward urban life. There was a renaissance of faith against a previous system of rigid and formal doctrine. And there was a growth of the city-state with its power to tax and its need to provide. But were there other 14th Century ideas which we can find in our own society? The fear of death which followed the Black Plague is painfully comparable to our own persisting fear of death from the atom bomb. And the economic results of this fear, the inflation of wages which tripled in the short years after the Plague is similar to our present world experience since Hiroshima.

If we have had a millionaire boom, the 14th Century had its bourgeois boom. The artisian became the entrepreneur, and the entrepreneur became the intellectual. As Panofsky has described this: "The entire social system was rapidly changing toward an urban professionalism . . . it provided a meeting ground where the priest and the layman, the poet and the lawyer, the scholar and the artisan could get together on terms of near equality." Money and fear of death in both their century and ours have furnished the great force to form a democracy both in fact and in thought. Democracy, which grew so rapidly in the 14th Century, Panofsky states, threw the individual back upon the resources of private sensory and psychological experience. The preceding orthodoxy of the Catholic school men was repudiated. The works of St. Thomas were condemned officially three years after his death. The rigid order of Dante's verse was replaced by the lyricism of Petrarch; and "Intuitus" became a favorite word of Master

Eckhart as well as of Occam.

We find comparable today the intuitive and private sensory experience which our scientists have talked about and which has been extensively probed by Gestalt men such as Kohler. Kohler says that we tend to establish order in our sensory experience; the medieval Summa states that beauty requires integrity. Kohler says that we tend to resolve stimuli into a functional whole; Summa states that the mind likes unity. Kohler states that insight pertains to intellectual situations; the Summa states that the mind likes light and intelligibility.

The 14th Century rediscovery of the value of intuitive experience boldly examined the field of physical science which had previously resisted any challenge of a fixed system. It was not coincidence that Roger Bacon in this new 14th Century freedom of inquiry said: "Machines for navigating are possible without rowers . . . Likewise, cars may be made so that without a draught animal they may be moved . . . and, flying machines are possible . . ." The Nominalists — the 14th Century Nominalists — anticipated the heliocentric system of Copernicus, the geometrical analysis of Descartes, the mechanics of Galileo and Newton. Is this intuitive approach to our physical world to be matched in modern times, for the same reason, by the poetry of Einstein, the quantum mechanics of Bohr and the indeterminacy theory of Heisenberg?

The theory and mechanics of three-dimensional perspective drawing were developed in the 14th Century. Can we compare this to our own explorations of spatiality in art and architecture?

In the construction of their cities, the medieval architects created buildings which were a reflection of their dominant philosophy. It is doubtful if their thinking was any more orderly than the thinking of the Greeks, but they felt more compelled to demonstrate the order of their thinking. Panofsky calls this the "Postulate of clarification for clarification's sake." We are going to see more of this in our present 20th Century. And Aquinas said that the "Sacred doctrine makes use of human reason, not to prove faith but to make clear whatever else is set forth."

This need for clarity prompted Occam to establish his maxim which we call Occam's Razor in the 14th Century. In effect he says, "It is vain to do with more what can be done with fewer." Yet a barnlike shell of the 14th Century Gothic hall church encloses an "often wildly pictorial and always apparently boundless interior and thus creates a space determinate and impenetrable from without; but indeterminate and penetrable from within." The spirit of free inquiry and indeterminism in the clergy flowed deeply into the mind of the 14th Century artisan. The men who made the building and their structural experiments of spanning roofs, were matched by their experiments in substituting glass for masonry. This was a technical revolution.

Can we find the 14th Century parallels in our modern attitudes toward architecture? Does Mies van der Rohe find his path in Aquinas, when Aquinas says, "To turn away from wisdom and contemplation in a Christian civilization is the first cause of all disorder." Mies says, "Reason is the first principle of all human work." Is Mies quoting or restating Occam's Razor of the 14th Century when he says, "Less is more." The 14th Century "Postulate of clarification for clarification's sake," is nowhere more clearly expressed than in a Skidmore, Owings and Merrill building of a curtainwall . . . beautiful precision of clarity. Into this forced clarity, into this perversion of the meaning of order, if you please, comes now a creeping mystery of indeterminism — a TWA terminal by Saarinen, comes a cathedral and a monastery of deep mysterious forms by that former champion of right angles — LeCorbusier. We heard yesterday from Drexler a theory of fluid architecture — an architecture of process — a kinetic concept of architecture.

Is there today indetermination in our art and architectural methods which parallel our contemporary philosophy? Does Jack-

(Continued on page 38)

ARCHITECTURE
DECORATION
BUILDING CENTER
MATERIALS
LANDSCAPING

For Your Information

Q: How can an architect control workmanship and quality of material in areas such as masonry where written descriptions and details are not adequate?

A: General practice in many architectural offices is to specify that a permanent sample section of adequate size be completed and approved by the architect prior to the construction of the job.

Q: How are safety factors for shower doors and tub enclosures controlled by building ordinances?

A: The Los Angeles City Code specifies that shower doors and tub enclosures be constructed of approved shatter resistant materials. Where glass is used, it must be not less than 7/32" thick. Types approved include wire-reinforced, tempered or laminated safety glass. Plastics include Fiberglas weighing not less than 8 oz. per square foot, acrylic plastic or high-impact styrene not less than ⅛" thick, or other plastic approved as furnishing equal protection. The Los Angeles County Code is basically the same except that under plastics it calls for approved type and thickness without itemizing those approved. The Unified Building Code adopted these same requirements last year. Only the cities of Long Beach and Bell do not have these requirements.

Q: Can you give me a brief explanation of the new "R-3 Ordinance"?

A: It is a law adopted by the Los Angeles City Council and approved by Mayor Samuel Yorty which requires applicants for building permits in an R-3 zone (any residential structure of three or more units including high rise apartment buildings), or for any commercial or manufacturing building on a major or secondary street, to dedicate whatever portion of their frontage is required for street widening purposes, and to install all required street improvements.

The purpose of this ordinance is to (1) acquire the necessary rights of way which will be needed when the City is ready to widen or otherwise improve these streets, (2) to have the streets improved as new structures arise, (3) to save the taxpayers many millions of dollars which the City would be forced to expend in buying up rights of way for widening purposes, particularly on highly developed streets, and (4) to make sure that new buildings do not occupy dedicated street areas which will be needed when the time comes for widening the street.

Q: With a variety of projects within a 50-mile radius of Los Angeles, where can one get the electric utility information needed for each one?

A: Electric service within the city limits of Los Angeles is supplied by the City of Los Angeles, Department of Water and Power. All or portions of 12 counties in this area, extending as far south as South Laguna, are supplied by the Southern California Edison Company. Both have service consultants to work with architects and engineers on all types of projects for availability of service, delivery voltages supplied; advise on overhead, underground, or station service, power supply for special equipment, and rate application studies. Additional special service information may be had for residential, commercial, industrial projects.

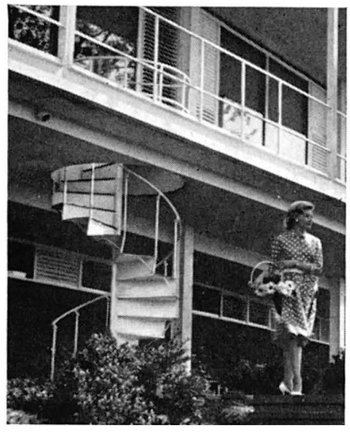
Thin lines of steel enhance the entry to this house designed by Craig Ellwood. The all-welded steel stairway is made up of small stock sections of structural shapes. Treads are of 14-gage sheet.

Steel stairways like these add to the beauty of any home

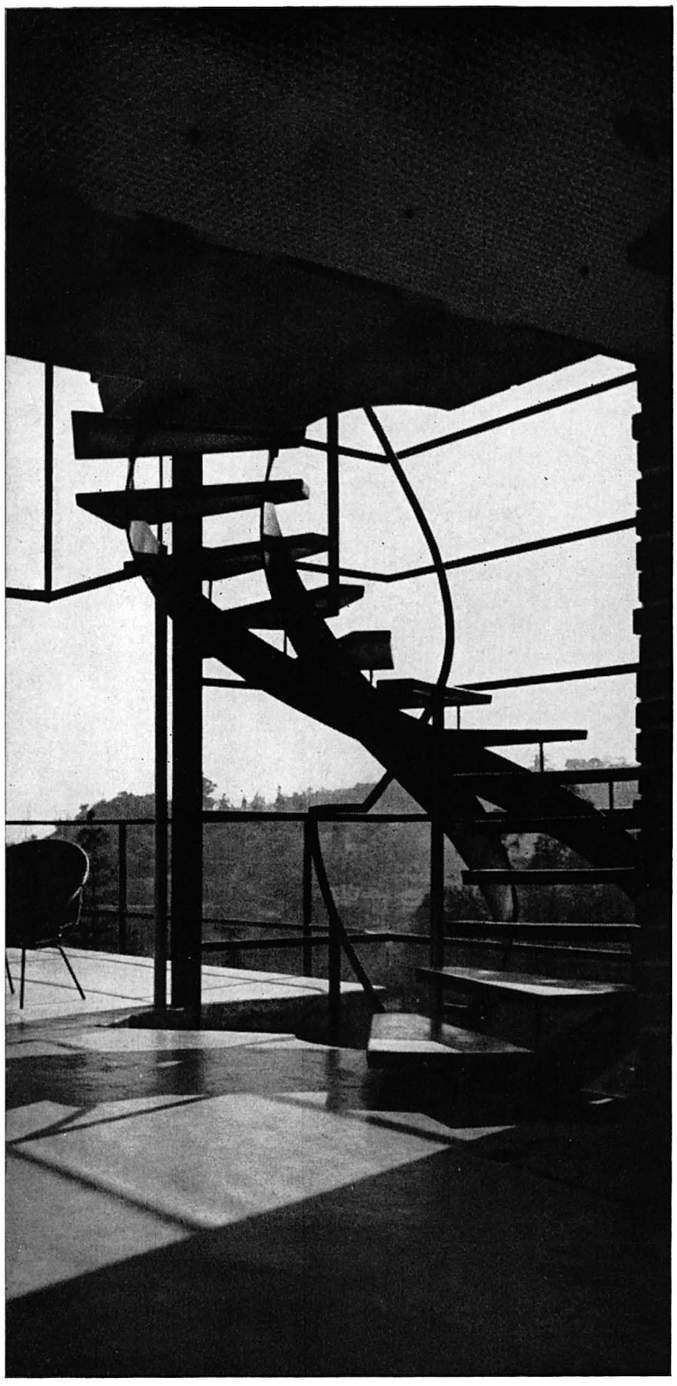
This attractive floating stairway is made up of two 12-inch steel channels boxed in with 12-inch wide cover plates, 5/16-in. thick. Douglas Fir treads are supported by steel angles welded to the box core. Steel bars welded to the angles support handrails. The stairway spans 27 feet and is tied to a 14-inch wide-flange header beam across the upstairs opening. The structure was designed by architect Hewitt C. Wells.

In this mountain retreat, a spiral steel staircase composed of plates and bars leads to a portion of the roof, which is used as a sundeck in the summer. The house was designed by Architect Thorne.

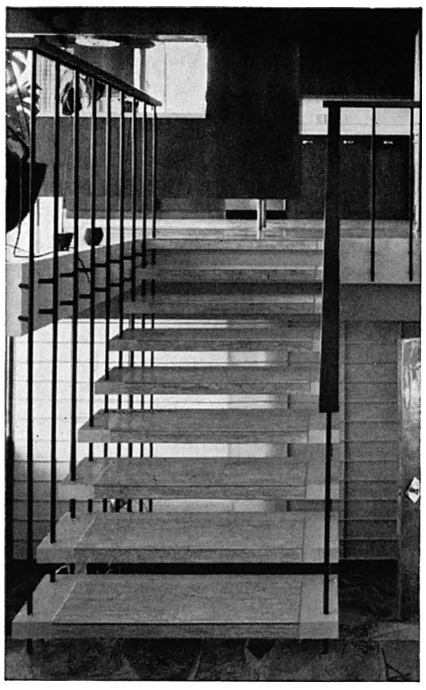
Spiral steel stairway fabricated from steel plate connects parking and garden areas with the upper floor terrace in this Pennsylvania home. Architects: George Fred Keck—William Keck.



Small steel angles, channels, and tubing can be utilized in the construction of stairways as in this home designed by Richard Jay Smith. Welded rectangular steel tubing provides rigidity for open stair treads. Treads are composed of heavy-gage steel sheet, covered with wood and foam rubber pads. The stairway floats free of the wall and of a 6-inch steel column, part of the rigid frame of the house.



This spiral steel staircase connects three levels in a hillside home. It is composed of two strips of ⅜-inch plate, 8 inches wide. Steps are 11-gage plate with edges bent upward to form a low box to hold a layer of concrete. Each step is supported by lengths of No. 4 reinforcing bar and welded to the two 8-inch strips. Handrails are 1-inch steel pipe. Architect-builder, Allyn E. Morris.



Stair treads hanging from steel rods are covered with wear-resistant vinyl, making them easy to clean. Railings are made from steel channels. Each individual stairway tread is supported on 4 rods by flanged washers welded under the tread. Architects were Cooper and Sawers.

Carpeted stair treads float in space over a reflecting pool in this home designed by architect Bernard Zimmerman. A 6-in. diameter steel pipe anchored at top and bottom is the only support for the structure. The pipe is anchored to a concrete footing at the base of the stair, and welded to a steel beam at the second floor landing. Treads are ¼-in. steel plates projecting from 2-in. diameter pipe supports. The plates are covered with wood, bolted in place, and carpeted. Walnut hand railings are supported by ½ x 1½-in. steel bars.

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NORTHERN CALIFORNIA NEWS BY BILL SHERMAN

Golf Course by Robert Trent Jones

Full advantage was taken of the natural topographical assets in the design of the Incline Village Golf Course overlooking Lake Tahoe, Nev. Fairways are corridors through Ponderosa pines and over a series of steppes or plateaux crossed by running creeks. Tees are placed on long sweeping mounds of gradual slope, some running to lengths of 70 yards or more to permit stretching the course out to 7400 yards for championship play, 1050 yards over middle tee distance.

Fairway traps, while still placed to catch the errant shot, are scooped or molded permitting the use of a golf club rather than requiring a shovel, the accusation directed at old style "pot" traps of trench-like design. Diagonal traps around the large greens (average size is 10,000 square feet), and the greens themselves, are designed so that a hole can be eased or tightened by placement of the pin in relation to the traps.

"In the old type of penal architecture," said Jones, "the greens are flat and surrounded by a maze of clamshell traps leaving a bottleneck entrance. The golfer had no choice but to make a perfect shot to the green. With diagonal trapping, tongue greens and alternate routing to the green, the golfer can play a shot he feels is within his range. And by framing the greens with long, well-formed mounds, the badly missed shot faces a more severe penalty than one missed slightly.

"The orientation of sand and sod, when effectively done, makes an extremely attractive appearance. It is the modern theory that certain traps should have a real penal value and others only a psychological effect so that a hole often plays more easily than it would seem at first glance."

Jones has designed dune-shaped greens. The form gives an undulating character to the putting surface which harmonizes with the green's peripheral contour and also provides a three-way runoff of surface water. The base for the green construction is a sub-surface rockbed of about one inch covered with ¼ inch level of pea gravel and a ten-inch layer of sand. The top four inches of sand are prepared with a mixture of redwood shavings and sawdust. The overall composition consists of about 90% sand, enabling the water to drain rapidly and the seed root to grow quickly. Jones estimates the grass root will reach a depth of eight inches in less than a year.

The rough grading, trenching, reclaiming of topsoil, and finish grading required the developers, the Crystal Bay Development Company, to move more than 240,000 yards of earth. Irrigation is by rotary pop-up heads attached to galvanized risers. Mains are of Transite and laterals are plastic.

Associated with Jones in the course design were Robert T. Jones, Jr., and professional golfer Harvey Raynor.

Fairway during construction . . .

. . . after

BERTRAND GOLDBERG

(Continued from page 35)

son Pollack, for example, reflect the concepts of Heidegger? Was Saarinen influenced by Sartre?

The interpenetration of shell forms by Candela, the mysterious spatial explorations of space in an endless house by Kiesler — all of these indeterminate forms are to the architectural school of "forced clarity" what Roger Bacon was to Aquinas, what Einstein was to Newton, and what Kohler is to Dewey.

We no longer will be able to know what a building looks like by inspecting the floor plan. The developed three-dimensional mystery of spatial architecture is once again with us.

The exploration of space has brought with it, just as in the 14th Century, the exploration of methods. Never in the past 500 years has there been so much invention in art and architecture. Never in the last 3,000 years has the post and beam been so limited in its ability to construct the spatial dreams of our architects.

I think as a community, we have confessed to the boredom of our present architectural order, the boredom of the post and beams spun out endlessly as a method — as a system. A reaction to this monotony in our most recent architecture shows one more contrast with the 19th Century Victorian design method which the post and beam represented. Our new forms produce a totality of a building: a monolithic quality, a statement of design with a beginning and an end, which finds kinship with the *High Gothic Summa,* aiming at the totality of one perfect and final solution for a given problem.

The 14th Century broke many fences, in spirit and in mind, and in the administration of affairs. The times which made this possible and which made possible the development of men in cities according to their abilities, led easily toward the development of the specialist and his special city. Mumford describes the medieval city as congeries of little cities, each formed so naturally out of common needs and purposes that it only enriched and supplemented the whole.

Venice was the clearest example of the city within the city: Torcello, the island of the church and the cemetery; the Arsenal, the island of shipyard and munitions; Murano, the island for glass. Mumford believes that the Venetians created zoning on the "grand scale, practiced in a rational manner, which recognized the integrity of neighborhoods and which minimized the wasteful journey of work." He further points out that the source of organic curves in the medieval town was this emphasis on these various central cores.

The forces which bring our architecture so close to the 14th Century brings our living patterns into equally close alignment. The day of the common laborer is replaced by the day of the specialist. As the University gave an education to the bourgeoisie in the 14th Century and developed lawyers, and doctors and philosophers; so our universities are educating artists and bankers and the operators of the machines which replace the common laborer.

The city first grew as a balance between agriculture and commerce. The second phase of the city has usually been a swing to manufacture and trade. Recently came a third change in the early part of this century, when most of our cities became white collar. And, now, we find ourselves in a fourth phase with the educated specialists in services, in brokerage, in management, in art and communication. These men are the men of our cities.

If the suburbs have grown, they have not killed the center city. Rather, the growth of the suburbs has intensified the need for a center city. Trade establishments patronized by the suburbanites have not survived in a smaller town. And more importantly, the employment centers found in center cities could not find in a smaller community the quantity of specialized labor which present day work demands. Cybernation, automation, make the factory less important as a community employment center: whereas, man-

agement, planning, trading, and communicating become the focal points for work.

We are creating groups of people who have a special participation in urban life, who have a special way of thinking and expressing themselves within their community. The AMA, the AIA, the Bulletin for Atomic Scientists, have more in common with the 14th Century Parisian artisans, the physicians and the metaphysicians than they have with 19th Century Marxism. We are, by today's specialization, creating the "zoning by occupation" that existed in medieval Venice.

We have learned, in our new drive, to create urban centers. We create these urban centers for our specialists, much as the city-within-a-city concept of the 14th Century. This collection of city islands, will act more like the city-state than ever. Our cities have every domestic state power except that of coining money. And this growth of economic power is simply a reflection of the change of character of the city function. With this power comes taxation.

An increase of taxation will force new solutions in our planning problems. We cannot burden either business buildings that we now use 35 hours a week, or apartment buildings which in our civilization we use at night and on weekends primarily, with our total tax loads. And, we cannot any longer subsidize the kind of planning which enjoys only the single-shift use of our expensive city utilities. In our cities within cities, we shall turn streets up into the air, and stack the daytime and the night time use of our land. We shall plan for two-shift cities within cities, where the fixed cost of operating a city can be shared by commerce, recreation and education at the lower levels and housing above. As we spread taxes and other fixed expenses over a wider use, we shall diminish the traffic problems which are caused by the journey to work. Our specialists, living and working within the same building complex, need only vertical transportation. I once described all of this to my mother-in-law, who said that back in New Orleans they called this "living above the store."

In our balcony cantilever at Marina City, we emphasize the clarity of our lines and loading, but in using a fluid material like concrete, we can mold the material to reflect more accurately our load patterns. We can abandon the right angle concept which is not applicable to our structure.

The difference in the geometry of the 13th and the 14th Century French rose windows impresses me because of the similarity to the geometry of my own work at the Marina City Towers, and more recently to designs still on our boards for new projects. The 13th Century window has a hard core, with petals attached to the center as a focal point. One might call this window design "centripetal." The 14th Century window is coreless to the extent that the core is formed by the intersection of flowing curves from the petals. It's the geometry of these curves intersecting which form that core and this window I might call centrifugal, with the petals developing outward into space. Here again, we find this mystery, this indetermination — no longer a constricting force in the architecture of this period.

At the foundations of the Marina City project, you can see the hard 13th Century core with the radial lines. This is the way which Marina City was put into the earth. This 13th Century foundation at Marina City develops into the 13th Century rose window pattern with the petals coming into the center of the core. The core is with the petals coming into the center of the core. The core is formed by the flowing line of the developed curves of the petals; soon no longer have a core, as such. The dynamics of these petals are rather outward and centrifugal, away from the center into space.

I have arranged three new towers on a site, and interpenetrated the space with a building which is simply a gigantic development of a horizontal tube. The towers, which will be sixty stories high, contrast with the tube, which will be elevated 20 feet above the ground, and which will spin around four times at the center, turbine-like, to create 200,000 square feet of commercial area. Both of these are shell forms, vertical and horizontal. While they each have a totality, a Summa, a beginning and an end, they interpenetrate space separately and together in a manner which possibly could be understood more quickly by a 14th Century builder than by a 20th Century critic.

Our horizontal shell automobile building will be developed into two continuous strips. One is for auto traffic in two directions with parking on one side. The other strip is roughly fifty feet deep, without any columns — just a shell form — an air conditioned continuous space, uncluttered. This is for use as commercial space, offices or shops. This tubular structure is supported 20 feet in the air, in order that the automobile traffic will not disturb the development of the 15 acre site which we are processing below — bicycle paths, roller skating paths, sculpture gardens, a golf course, fishing areas.

These buildings mark for me our emergence from a rigid and rather horrible Victorian Age of science. For the future, I believe, we should no longer build the separate building in the center city.

We should rather think of building environment, total environment, for the total man our century has put back together. Our future environment could repeat for us a renaissance; and should give us the building of cities within cities, for men of faith.

IN SEARCH OF THEORY — SAM T. HURST

(Continued from page 19)

useful to ask some of the questions growing out of practice today which call for answers in theory adequate for tomorrow. It is hoped thereby to begin a more intensive dialogue which might attract those of every persuasion who share the interest to join in the search for theory.

With no attempt to be definitive or original I suggest that the elements or subjects of theory might be these, each capable of extension into progressively more precise and limited sub-elements:

CLIMATE . . . micro and macro-climatology, regionalism
LAND . . . site, landscape, naturalism, made land
MAN . . . individual, community, "humanism"
MATERIAL . . . construction, industrialization, structure, decoration
WEALTH . . . resources, capital, cost, efficiency
COMPOSITION . . . unity, scale, clarity, completeness . . . space and form
TIME . . . motion, perception, obsolescence, permanence, change
PROCESS . . . method, program, control
MOBILITY . . . change, motion, tradition
FUNCTION . . . physiological, psychological, immediate, ultimate

It is clear that in any construction there are many ambiguities and redundancies, many sub-elements belonging to more than one element.

The fundamental *disciplines* by which the *elements* of theory may be ordered can be seen as:

SOCIAL
POLITICAL
ECONOMIC
AESTHETIC
TECHNOLOGICAL
PHILOSOPHICAL
PSYCHOLOGICAL
PHYSIOLOGICAL

The dynamic process of interaction between elements and disciplines may be seen as the process of reconciliation as values influence choices and reason modifies intuition. As the architect works for an increasingly impersonal client and at an even larger scale, he is called upon to be more rational and indeed must struggle to preserve the place of intuition.

(Continued on next page)

Let us take for example the reconciliation of the problems of form and the problems of sun control in a highrise office or apartment building. Given the desire for unity of form between four sides of the building and the certain knowledge of the position and movement of the sun, we may see at least four clear alternatives:

1. No exterior sun control, interior controls with recognized limitations, uniform treatment of all sides.
2. Exterior sun controls of form repeated on all sides, though not needed.
3. Exterior sun control of form sufficiently neutral to be varied on east, south and west and omitted on north.
4. Articulated exterior sun control within a stronger articulated structural system providing formal unity.

Our choice of windows in the given situation may be conditioned by sun control, temperature control, exterior and interior form, outlook, privacy, sound. Obviously we will give priority to some of these considerations and usually at the expense of the others. If this has to be done it should be done knowingly and with clear view of the consequences of that choice, in which case we may call the decision rational and be prepared to defend it. The better able we are to deal with the maximum number of elements the more completely we may solve the problem.

As we observe the current scene, the diversity of practice, the discrepancy in standard between the best and the worst and the overwhelming volume of the mediocre, these are some of the questions which loom large on the architectural horizon.

1. Does the society in which we live seek an architecture of the *typical* or the *unique,* an architecture of individual personal expression or of anonymous community expression? At what point should the architect yield a degree of the "sovereignty" of his building to the larger unity of the street, the campus, the city?
2. What is meant by "humanizing" architecture, that process so widely sought or at least referred to in today's critical circles? Does this mean replacing clarity with clutter, or greater physical and psychological comfort? Is architecture more "human" when it provides a neutral frame of reference in which men may act out the drama of life, or when it provides a decorated stage in which the players may take refuge? To what extent is it a matter of scale?
3. Is regionalism dead, victim of rapid transportation, mass communication and mobility of peoples, and industrialization of materials and processes? What viable traditions exist in support of regionalism?
4. If precision and controlled quality are available through industrialization, what is the place of crudeness, primitiveness and studied imperfection in material and construction?
5. Can the empathy we normally reserve for natural wood and stone be extended to aluminum, steel and concrete? What architectural symbols have evocative power in our society?
6. Is increasing socialization of the resources and the means of building in the world's architecture predictable and what will be its influence on the nature of practice?

Reyner Banham has done a substantial work toward the compilation of a bibliography of theory under the title, "Theory and Design in the First Machine Age,"[5] though his view is distantly European and fails to deal adequately with American influences, notably those of Sullivan, Wright, Fuller and Kahn. Further, it seems not to engage town planning and urban design to the extent that is warranted by the contribution of architects in this century. When he concludes that "the human chain of Pioneers of the Modern Movement that extends back from Gropius to William Morris, and beyond him to Ruskin, Pugin, and William Blake, does not extend forward from Gropius", I believe him to be supporting the need for an ongoing search for theory. Banham concludes that "while we yet lack a body of theory proper to our own Machine Age, we are still free-wheeling along with the ideas and aesthetics left over from the first."

As engaging as "free-wheeling" might be, it does not suggest the direction, the force or the discipline necessary to turn the enormous capability of modern society towards great architecture.

5. *Theory and Design in the First Machine Age*, Frederick A. Praeger, publisher, 1960.

MUSIC

(Continued from page 13)

Each dancer is to a degree characterized by talent, as for Viola Farber the grotesque, and out of that the tragic; but, whereas in Modern Dance a tragic action was expressed by contrasting tension-relaxation throughout the entire body, here distortion of one limb, one quarter of the torso, a single type of exaggerated motion, is set against a larger relaxation. Instead of posturing, there is a continual flowing of the physical emphasis, so that one follows it to the slightest gesture.

But what is there to be tragic, in a dance which has, apart from visible movement, no *intended* content? Here we are at the heart of it. Instead of conceptualizing the intent you begin reacting in sympathy with the movement, as if following a melody, adapting to it, without conscious realization, your own content of emotion. Thus there was often ambiguity, raising prose to poetry. What was for me tragic might be for another comic—and Farber excelled in both—but resolution between any two onlookers would not be necessary. That drab face under the shabby hat above the raincoat, the empty face of "mass-man" which haunts the outside-looking-in philosopher: is it the face of a lost soul or a saint? So we watch our companions of the theater, the street, the subway, formulating interpretations, decisions, conclusions. Why should not this living in the constant indeterminate moment be given back to us, enlightened, irradiated by dance?

And there was Shareen Blair, figure of play, child, adolescent, trim coquette, who, in *Story,* where the costumes are "by chance", selected the most playful. There was, above all, Carolyn Brown, wife of the composer Earle Brown, a figure of technique, as impersonal as beautiful, who would be outstanding as the *premiere danseuse* of any ballet company, capable by movement and gesture of every species of emotion, yet never failing of that exquisite linear control, to the least flutter of emphasis companioning a larger movement, which is the ultimate gift of the traditional ballet soloist. You can describe mannerism or the virtuoso but not the fully conceived melody, the authority of mind through body in the completely revealed sequence of movements in a dance.

The two men, Steve Paxton and William Davis, and Barbara Lloyd, newest member of the troupe, performed their roles with flair and a complete competence.

Merce Cunningham has retained what appears to be the natural basis of his dancing, the figure of the Pierrot, the clown, but with an infinitely increased subtlety and variety of invention since I last saw him. True, also, that my own capacity of responding may have improved, or that in the setting of his own self-trained company, he has increased the responses to his art by extending it through these others. He moves through the troupe, playing lead and respondent, while the two other men, apart from occasional solos, derive their more conventional responses in relation to him.

The oddest fact is the disparity between Cunningham's natural manner of dance and the style he has developed among the group, especially the very distinct art of Carolyn Brown; these two furnishing the extremes around which all rotate in an unceasing diversity, as if each were thinking up something a little different, all of which happens to balance and agree. This makes the action by chance only a seeming accidental extension of the freedom by diversity.

How is the dance choreographed? There is still the closed, sequential type of dance, like the second work of the first program, *Septet,* in seven parts, to Erik Satie's grateful and not so elementary as they may seem *Trois Morceaux en Forme de Poire* (Pear-shaped Pieces) for piano four-hands. In this every combination and conjunction has been planned.

After this and continuing for fifty minutes, though the length can vary radically with the occasion, as in all the indeterminate

works, depending on the place, the space, the number of dancers, the equipment, and other factors, there was *Aeon*. It began with miniature atomic bombs exploding up the back transparency; thus it contained and in some scenes gave evidence of message, moments of terror and agony so intense that the interludes of less relevant dance several times seemed overlong. Here I might have preferred a more decisive order, as in *Septet* or the *Suite for Five* that began the second program. I think that when such concentrate of agony is in question as—in this version—the final solo by Viola Farber, there can be too much running about, however variedly affecting.

Cunningham's art has the improvisation of *commedia dell' arte* or the Sicilian improvised drama. Such conventionalized art stops short of ultimate tragedy; even death is a little playful, because one knows well the actor will rise again. But the sections of great power in *Aeon* do not suppose resurrection of so immediate simplicity, nor can these sections be described as in any way conventional. The order of the sections is indeterminate but each scene a separately composed event. Given the hint of subject and the force of its severest scenes, I would prefer more formality and concentration.

Yet there is the challenge, as I remarked to a friend immediately after the performance, in allowing the extreme length of a work to convey the sense of timelessness or time long extended. Compressed to its essentials, *Aeon* would carry a placard against warfare; freely ordered in extension it conduces to renewal, to meditation, to a feeling of the very reality of a resurrection—the continuity of fear, release, terror, joy, agony, revival, the humane aeon.

The accompaniment, played by Cage and Tudor on two pianos, both amplified by contact microphones, was Cage's *Winter Music,* in the electronic version. During the intermissions between dances a small crowd regularly gathered to watch David Tudor expertly assemble and disassemble the equipment.

The second program was all lighter, on the side of comedy. It was danced with an even more complete assurance than the first, a triumphant technical finesse, which deserved the balletomane ovation it received at the end.

The opening *Suite for Five,* to Cage's *Music for Piano* (single tones on keyboard and harp of the piano plus noises on the frame construction), was a series of delicate, lovely, witty miniatures for solo, duet, trio, and quintet, featuring particularly Cunningham and Carolyn Brown. But now in what way can I describe the free elegance of movement? I think of the walking, but then my memory goes back to *Field Dances,* where the dancers sometimes walked to their points of action; and of the running, but *Aeon* was full of it. Cunningham's running especially, the quick, light varieties of footwork, alternating with walk, with limp, all types more casual and less precise than formal ballet, yet each a gift of imagination in its pattern. And there are the innumerable positions, in which one dancer comes to rest or stays slowly moving or turning, the inimitable individuality of technique slightly differing for each dancer. And the group movements, drawing to focus in intaglios of two or three combined, poised, slowly moving bodies, each precisely and intricately shaped.

Considering the points of rest, one marvels at their exactitude, and with this at the continuing play of individualities in motion, so many solos, so many combinations, at the control and contriving which hold them together contrapuntally and in unison, without reference to any musical accompaniment. I asked, and it was explained to me that this is done by very exact counting in the preparation and then by sight. That is to say, in indeterminacy, one movement sets off another, and that detonates a group movement; here and there the individual may select from a prepared repertory of actions, and that in turn will again set off a flight of solos, or a poised grouping, another intaglio. Difficult for the dancers but fun, too, instead of performing always in the same pattern, the same order and time-sequence, the same beaten steps. One never knows what will eventuate.

The second dance, *Story,* a first performance to a score for amplified piano by the young Japanese composer Toshi Ichiyanagi, punctuated by manually produced sounds, among them Cage smashing with a sledgehammer such objects as a five-gallon water bottle, enjoyed the added nuance of costuming by chance. But I weary and cannot tell you of this wonderful dance, all comedy, play, and lightness of spirit. Given your opportunity, you must see it.

The final work was *Antic Meet,* to Cage's *Solo for Piano* (from Concert for Piano and Orchestra) plus taped segments from the Town Hall album of his compositions. Even more than *Story* it invites the audience to a game of imagining. One heard of it beforehand as the dance in which Cunningham carries a chair strapped to his back. He does, and Carolyn Brown, wearing an antique bridal nightgown, steps through a curtained frame to dance a duo with him, at one point sitting in the chair. One dancer and then another appears in black sunglasses, until there is a scene in which all the dancers, wrapping darkness about them with gestures, do not quite grope but rather feel their blindness. I do not know whether it is a blindness of sight, or of spirit, or of not seeing within darkness; each of these is conveyed.

I believe that the chief distinction of this dancing is the sensation of release, the prevailing relaxation however elaborate or difficult the movement. Nothing is made to appear difficult. Watching these dancers one never strains, though one marvels at the technical dexterity, the floating turns on one foot, the high gliding which avoids the mere athleticism of a leap, the complete flexibility of each aspect of the body. Traditional ballet is no more difficult. Here the sense of ease robs difficulty of pretentiousness.

The simplicity of costume, which reveals the body but does not expose it, naturalizes the artifice. A change of costume may add only a sleeve, a legging, a jacket. All colors were grateful but inconspicuous, like the lighting. I compliment Robert Rauschenberg most highly by saying that one is never aware of his presence by any virtuosity of costume design or lighting imposed on the dance.

I have no more than hinted at, embellished with language an art that makes no effort to present itself in distinct shapes which can be described. It is an art entirely fluent, poised, inventive. Merce Cunningham has gone back, as it were, to the origins of ballet, to the natural movements of the body before these were stiffened and formalized by a technique of positions. But it is the whole body he uses, not the extremities and bending at the waist—the complete torso outwards; and he brings to this skilfulness of the entire body all that has been learned by passing through the severities, the distortions, the angularities of Modern Dance.

A group of 70 painters and sculptors, fortunate in the discovery that their work is ripe for market, has contributed paintings and sculpture to a Foundation for Contemporary Performing Arts, to present like-minded work by composers and dancers. They hope, among other accomplishments, to present Merce Cunningham and his troupe on Broadway for a week this autumn—I mean Broadway, New York. Then, perhaps, this art, which had its origins in New York but has found its strength and its admirers across the continent, will be received by the fashioners of public interest with the respectful attention, the admiration, it deserves.

NOTES IN PASSING

(Continued from page 15)

may at first frighten a large number of practitioners. But the benefits of replacing intuitive designs with those based on solid analytical methods should entice even more.

Perhaps the greatest obstacle in promulgating minimum cost estimating techniques found in almost all industries – a knowledge which is essential in establishing the proper form of a cost equation. This problem is compounded by the unavailability of accurate cost coefficients. But in spite of these difficulties, remarkable progress can be made with only rough approximations to actual costing procedures. We have found, for example, that exact values of the unknown cost coefficients are not so important as the ratio of costs between the different elements. Once good approximations to actual costs are made, close monitoring of field results can quickly make adjustments for greater accuracy.

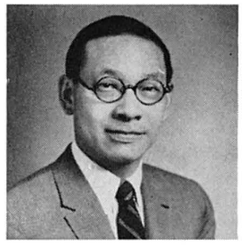
The extensive use of direct minimum cost techniques is as inevitable as the widespread use of the modern computer. Certainly, many problems will have to be faced, ranging from such mathematical ones as the inversion of enormous matrices to such philosophical ones as the definition of cost itself.

But whatever the problems, there now exists a method whereby designs of considerable complexity can be developed for lowest possible costs. It remains to be seen how quickly such a method will be assimilated into common designing practice.

Ralph L. Barnett, research engineer in the Materials and Structures Research Division of IIT Research Institute.

et cetera

HONORS & AWARDS


I. M. Pei

IEOH MING PEI has been named recipient of the New York Chapter AIA's Medal of Honor given in recognition of distinguished work.

WILLIAM STEPHEN ALLEN, FAIA, has been awarded the California Council AIA's Distinguished Service Citation for "diplomacy and leadership which has brought a new recognition of the architectural profession by government agencies of the State of California."

MANUEL A. FERNANDEZ, Univ. of New Mexico, is winner of the Third Annual $5,000 Reynolds Aluminum student competition. Winning design was an "Aluminum Curvilinear Truss System".

Honor Awards in the 1963-64 Western Home Awards Program sponsored by the AIA and *Sunset* Magazine go to WURSTER, BERNARDI & EMMONS, San Francisco; MORSE & TATOM, Honolulu; CHARLES W. MOORE, Berkeley; and KIRK, WALLACE & MC KINLEY, Seattle.

APPOINTMENTS

IRA S. ROBBINS, vice chairman of the N.Y. City Housing Authority: newly elected president of the National Association of Housing and Redevelopment Officials. He predicts that "1964 is going to be a controversial year, made noisy by charges and countercharges; made cold by statistics and hot with emotional arguments; sensationalized by myths and fictions; sobered with statements of policy and sedate hearings."

Architect WILLIAM F. R. BALLARD: chairman of the N.Y. City Planning Commission; by Mayor Wagner.

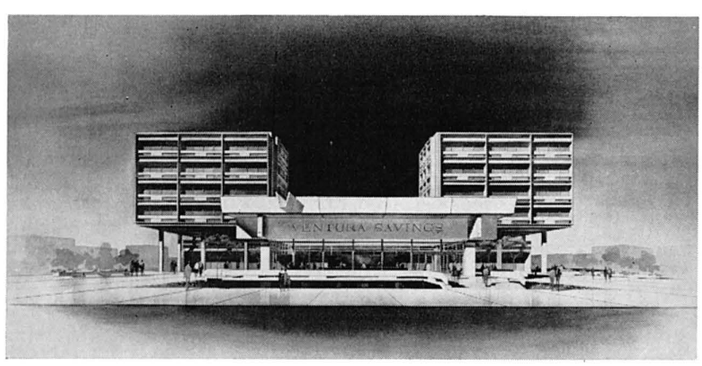
PAUL PATE and HERBERT OHL: assistant chairman of the Texas A&M School of Architecture, and assistant chairman of the Research and Graduate Center, respectively; by the school's new chairman, Edward J. Romieniec.

DON EMMONS, FAIA: architectural consultant to the (San Francisco) Bay Area Rapid Transit District; to advise in the development of a comprehensive architectural concept.

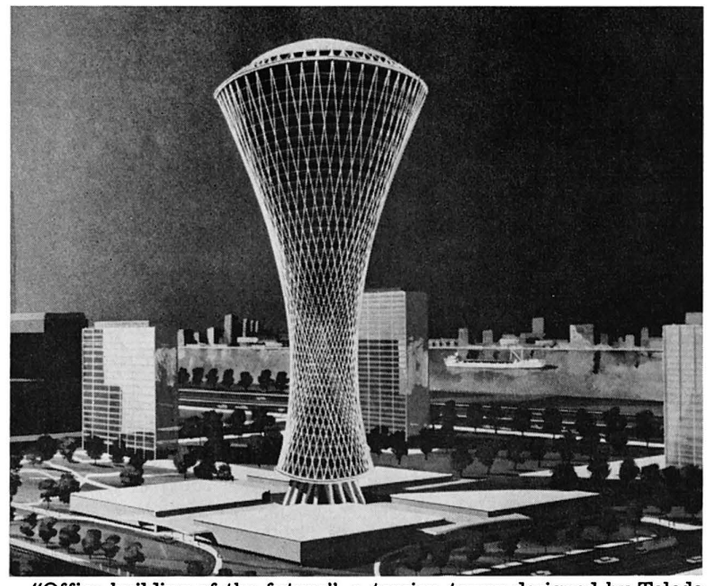
JAMES M. BROWN: Director of the new Oakland, Calif., museum. Brown is currently vice-president of the American Association of Museums and president of the U.S. Committee of the International Council of Museums.

ARCHITECTURAL EXHIBITS

Four Santa Barbara, Calif., Houses by Greene & Greene, Bernard Maybeck, Francis T. Underhill and Frank Lloyd Wright, through Nov. 12 at the art gallery of the Univ. of California at Santa Barbara.



A new 15-acre financial and business center for the city of Ventura, Calif., will surround this projected savings and loan building designed by William L. Pereira & Associates. The bank will have a structural system of reinforced concrete to permit clearspan construction.



"Office building of the future", a torsion tower designed by Toledo firm of Samborn, Steketee, Otis & Evans for the Libby-Owens-Ford Glass Co., would contain apartments, moving sidewalks, shops, theater, restaurant in addition to offices.

COMPETITIONS

Nominations are being accepted by the AIA through Dec. 31, 1963, for the $25,000 1964 R. S. Reynolds Memorial Award, largest in architecture. The award is conferred on the architect judged to have designed the most significant work of architecture in which aluminum is an important contributing factor. For information write the AIA, Reynolds Award, 1735 New York Avenue, N.W., Washington, D.C.

CONFERENCES

International Conference on Permafrost will be held Nov. 11-15 at Purdue University. Scientists and engineers from 10 countries will discuss problems of building on the earth's frozen land masses.

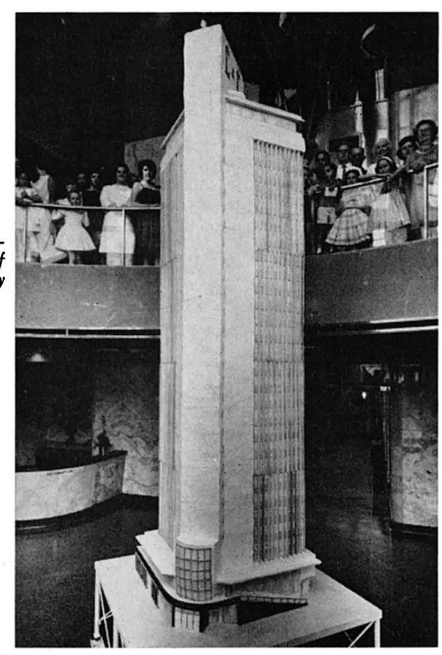
GRANTS & SCHOLARSHIPS

Applications for the N.Y. Chapter AIA's $5,000 Arnold Brunner grant for advanced study in a special field of architectural investigation are now being accepted. Architects and those in related fields are eligible. For application blanks and further information write the N.Y. Chapter, 115 East 40th Street, N.Y. 16.

The Ford Foundation has approved a 3-year grant of $172,000 to The American Federation of Arts to establish one-month residencies for American painters, sculptors and printmakers in small and medium size museums throughout the U.S.

Layer Cake Architecture

An 18-foot-high, three-ton anniversary cake, scale model of the 31-story Life and Casualty Tower in Nashville, Tenn.



NEW arts & architecture READER SERVICE

For Manufacturers' Product Literature and Information

1. Circle number on coupon corresponding to the number preceding the listing.

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3. Remove and mail prepaid, addressed card.

(1) A complete package of information literature on new Armstrong Ventilating Acoustical Ceiling systems has been compiled for architects and engineers by the Building Products Division of the Armstrong Cork Company. Fully illustrated brochure gives complete details on basic operation of the new ceiling system, shows how it reduces air conditioning costs through elimination of air diffusers and a large amount of supply duct work; case histories of actual installations; available at no extra cost. Armstrong Cork Company.

(2) An attractive, 32-page booklet describing a number of steel-framed homes is available from Bethlehem Steel Company. Write for Booklet 1802. Color and black and white photographs describe outstanding steel-framed houses in many areas in the United States. Floor plans, construction information, and costs are described. Examples of mountain cabins, apartments, and steep hillside site solutions are shown. Bethlehem Steel Company.

(3) New informative brochure available from Cervitor Kitchens, gives all important specifications, details and features of their space-saving kitchen units; undercounter, built-in, free-standing units manufactured in limitless sizes, with or without range, oven, sink; carefully crafted in walnut, laminate, etc.; ideal for offices, homes, apartments, patios. Cervitor Kitchens Incorporated.

(4) Fireplaces: Write for free information on the popular "Fire-Hood" conical metal fireplace. Four distinctive models available in 9 porcelainized decorator colors. Condon-King Company.

(5) Handsome illustrated folder describes and gives complete details on the Container Corporation of America Color Harmony Manual based on the Oswald system, and designed to improve the planning and use of color by artists, designers, manufacturers and consumers. Folder includes sample color chip. Container Corporation of America.

(6) Interior Design: Crossroads have all the components necessary for the elegant contemporary interior. Available are the finest designed products of contemporary styling in: furniture, carpets draperies, upholstery, wall coverings, lights, accessories, oil paintings, china, crystal and flatware. Booklet available. Crossroads Mfg., Inc.

(7) Stained Glass Windows: 1" to 2" thick chipped colored glass embedded in cement reinforced with steel bars. A new conception of glass colored in the mass displays decomposing and refracting lights. Design from the pure abstract to figurative modern in the tradition of 12th century stained glass. Roger Darricarrere.

(8) Plywood For Today's Construction, a new catalog with basic information about fir plywood properties, grades, types and uses has been published by Douglas Fir Plywood Association. The 20-page booklet, indexed for A.I.A. filing systems, also contains information about special products and about plywood floor, wall and roof construction systems. A special new section discusses plywood component construction. Single copies of the booklet S62 are free. Douglas Fir Plywood Assn.

(9) Two new pamphlets on folded plate roofs and stressed skin panels are available from the Douglas Fir Plywood Association. Each brochure contains structural details, illustrations and descriptive text; valuable addition to any collection of data on components; updates previously available information; other booklets in the component series describe box beams, curved panels, trusses and pallets. Available free to architects, fabricators, and builders. Douglas Fir Plywood Association.

(10) Furniture: A complete line of imported upholstered furniture and related tables, warehoused in Burlingame and New York for immediate delivery; handicrafted quality furniture moderately priced; ideally suited for residential or commercial use. Dux Inc.

(11) Contemporary Fixtures: Catalog, data good line contemporary fixtures, including complete selection recessed surface mounted lense, down lights incorporating Corning wide angle Pyrex lenses, recessed, semi-recessed surface-mounted units utilizing reflector lamps; modern chandeliers for widely diffused, even illumination; Luxo Lamp suited to any lighting task. Selected units merit specified for CSHouse 1950. Harry Gitlin.

(12) A new, 12-page executive furniture catalog has just been completed by Hiebert, Inc., manufacturers of a complete line of executive office furniture. New catalog contains detailed illustrations of the line, including executive desks, secretarial desks, side storage units, corner tables, conference table, executive chairs, and side chairs. The center spread features a full-color photograph showing the various Hiebert furniture pieces. Copies of the catalog may be obtained free of charge. Hiebert, Inc.

(13) The 36-page Hotpoint Profit Builders catalog for architects and builders contains specifics on Hotpoint's full line of products, including built-in ovens, dishwashers, disposers, heating devices, refrigerators, ranges, air conditioners, laundry equipment. Also included are diagrams of twelve model Hotpoint kitchens with complete specifications for each. Hotpoint.

(14) Interpace has published a 6-page brochure on the new Contours CV, a lightweight ceramic architectural facing for exterior and interior use. The brochure features photographs of 12 standard designs in a wide pattern variety ranging from those achieving medallion effect to ones which vary the play of light. The brochure also details dimensions for individual custom designs which can be designed up to 11¾" x 11¾". International Pipe and Ceramics Corp.

(15) Catalogs and brochures available on Multalum and X-Alum series of contemporary furniture designed by George Kasparian. Experienced contract dept. working with leading architectural and interior design firms. Kasparians, Inc.

(16) Complete line of furniture designed by Florence Knoll, Harry Bertoia, Eero Saarinen, Richard Shultz, Mies van der Rohe and Lew Butler as well as a wide range of upholstery and drapery fabrics of infinite variety with color, weave and design utilizing both natural and man-made materials. Available to the architect is the Knoll planning unit to function as a design consultant. Knoll Associates, Inc.

(Continued on next page)

Circle Number for Desired Product Literature and Information (card good until 2-29-64)

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(17) Lietzke Porcelains announces the addition of two new shapes to their line of porcelain cabinet pulls bringing the line, designed for the use of architects and interior designers, to a total of eight designs. All pulls available in four colors delivered from stock: white, black, cerulean and amber. On custom order pulls can be produced in ten additional colored glazes. Literature, free upon request, contains samples on full color line. Sample board with the eight shapes in the four stock colors can be had for $5.00 f.o.b. Mogadore, Ohio. Lietzke Porcelains.

(18) Lighting: A completely new 12-page, 3-color brochure of popular items in their line of recessed and wall mounted residential lighting fixtures is now available from Marco. The literature includes typical installation photos as well as complete specifications on all items. Marvin Electric Manufacturing Company.

(19) The J-21 Convertible Housing by Marco converts an incandescent recessed housing fixture from a square to a round unit with an assortment of 21 trims. This new 2-in-1 housing is available from Marvin Electric Manufacturing Company.

(20) Contemporary Clocks and Accessories. Attractive folder Chronopak contemporary clocks, crisp, simple, unusual models; net lights and bubble lamps; George Nelson, designer. Brochure available. One of the finest sources of information, worth study and file space.—Howard Miller Clock Co.

(21) Lanterns, a major innovation in lighting designed by George Nelson and manufactured by the Howard Miller Clock Company, are shown in a two-color, four-page brochure. The illustrations show all 21 styles in four models — ceiling, wall, table and floor — and include the large fluorescent wall or ceiling unit designed primarily for contract installation. Each is accompanied by dimensions and price. Distributed by Richards Morgenthau, Inc. Howard Miller Clock Company.

(22) Selections from the diversified decorative accessory collections designed by George Nelson for the Howard Miller Clock Company are presented in a new illustrated, four-page brochure, available to architects and interior designers without charge, upon request. The brochure covers clocks (both built-in and surface mounted); bubble lighting fixtures; net lights; planters; room dividers; and the versatile space divider, Ribbonwal. All information necessary for specifying is provided. Howard Miller Clock Company.

(23) Write for complete new catalog on Wee-Mac accent, recessed and surfaced 12-volt lighting fixtures that are adjustable, blended and hidden light with choice of finishes. Also Allura-Lite complete 12-volt garden lighting system that yields a soft glow rather than usual harsh light, featuring simplicity of installation and flexibility. Montrose Lighting.

(24) "The pleasure of planning your home with Mosaic Tile," a new 24-page brochure, depicts unusual uses of tile and presents a variety of home planning ideas; large selection of handsome color photographs. Tiled steps, hallways, tiled fireplaces, kitchens, bathrooms, patios and swimming pools show the versatility and wide color choices as well as low maintenance costs and lifetime advantages of ceramic tile. Mosaic Tile Company.

(25) Completely new full-color 28-page catalog of Mosaic ceramic tile manufactured in California and distributed throughout the area west of the Rockies. First presentation in booklet form of tile in the Harmonitone color families; includes decorated glazed wall tile, new Staccato palette in one inch square tile, and Byzantile. Catalog available upon request. The Mosaic Tile Company.

(26) Northrop Architectural Systems' product lines include Arcadia sliding windows, available in a wide range of stock sizes, and Arcadia aluminum sliding glass doors in stock and custom designs, including the Acme 500 sliding glass door for light construction. The details of the single glazing and insulating glass and all other well known features of Arcadia doors and windows are presented in three catalogs—a 12-page catalog on doors, an 8-page catalog on windows and one dealing with the Acme 500. Northrop Architectural Systems.

(27) Store Fronts and Entrances: Northrop Architectural Systems includes full Acme line of architectural aluminum storefronts and entrances. Known for advanced and economical design, Acme includes encapsulated floor closers, strong door corners and entire snap-together framing systems. A 16-page catalog is available. Northrop Architectural Systems.

(28) Window Wall Systems: New 8-page catalog presents the Arcadia 800 Series Window Wall Systems of aluminum framing for self-contained floor-to-ceiling installations. Any desired configurations of fixed, sliding, spandrel or transom panels, door frames or special windows are possible. Northrop Architectural Systems.

(29) Sun Control: New 8-page catalog describes the Arcadia Brise Soleil sun control systems, which combine engineered sun control with broad flexibility in design and finish. Can be engineered to provide up to 100% shading, while retaining twice the horizontal visibility of ordinary louvers or sun screening. Northrop Architectural Systems.

(30) Recessed and Accent Lighting Fixtures: Complete range of contemporary recessed and surface designs for residential, commercial applications. Holiday pendants, gay, colorful combinations of hand-blown colored or satin opal glass as well as metal shades. Light-form fixtures—soft satin thermopal glass in glowing geometric shapes for unusual decorative effects. Prescolite Manufacturing Corporation.

(31) Reiner Industries' Swepe system of remote control can provide instantaneous control of all electrical devices from master control points. The Swepe units may range from the light control of a single room to the master control of the whole building or home. Each unit consists of illuminated, name-plated buttons mounted in a continuous strip, which can always be extended. Available also is a portable remote control unit. Reiner Industries, Inc.

(32) Manufacturers of contemporary furniture, featuring the Continental and "Plan" Seating Units, designs by William Paul Taylor and Simon Steiner. Selected Designs, Inc.

(33) Appliances: Thermador presents two new brochures. The 14.2 cubic foot Refrigerator-Freezer is featured in one brochure. All sections of the interior are explained in full; choice of colors and detailed specifications are given. The second brochure colorfully illustrates Thermador's Bilt-In Electric Ranges. The special features of the Bilt-In Electric Ovens, such as the Air-Cooled door, 2-speed rotisserie, scientifically designed aluminum Broiler tray, are shown. The Thermador "Masterpiece" Bilt-In Electric Cooking Tops are detailed. Thermador Electric Manufacturing Co.

(34) Full color illustrated brochure describes new Thermador Bilt-In Dishwasher: stainless steel is used for actual tank and inside door liner of washing compartment eliminating chipping, staining, rusting, odor problems, specially developed insulating, sound-deadening material makes operation nearly noiseless; new exclusive "washing arm", food residue separator, drying system, completely automatic, service-free controls; style and color co-ordinated with other Thermador Bilt-In kitchen equipment; brochure gives detailed specifications. Thermador.

(35) Wall Furniture: Broad and versatile line of wall-hung furniture, manufactured and warehoused in Los Angeles; the Peter Wessel wall furniture line is of the highest quality and workmanship constructed of genuine walnut, oil finished. Special custom finishes, color matched to customer's selection. Ideal for home, office, and institutional use. Catalog and price list available. Peter Wessel Ltd.

(36) Norwegian Furniture: Complete collection of outstanding Norwegian imports. Upholstered furniture and related tables, dining groups, specialty chairs, modular seating groups. Teak and walnut; included in the collection is an outstanding selection of fabrics of bold contemporary color and design. Immediate delivery. Peter Wessel, Ltd.

(37) Filon Corporation offers a 4-page brochure on FiLite, the translucent Fiberglas ceiling panels, which insure even, shadow-free light diffusion for the home, business and industry. Also available is the newly revised and expanded AIA file containing complete product data and technical specifications for Filon products. Filon Corp.

(38) Key to Elevator Planning. A 12-page brochure is available containing hatchway and penthouse layout information and standards for hydraulic and electric passenger and freight elevators. The National Association of Elevator Contractors.

(39) New "Color Edge" line features tough specially compounded cellulosic plastic T-moldings, designed for exceptional durability, easy application and decorative appearance at low cost. Also new flexible vinyl moldings, track for sliding doors and a complete selection of wallboard trim. A six-page color brochure is available upon request. Plastiglide Manufacturing Corporation.

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Literature concerning products of the manufacturers listed below may be obtained by circling the appropriate number on the Reader Service Card. Product samples are on display at the Building Center, 7933 West Third Street, Los Angeles. Most may also be seen at the San Francisco Building Center, 40 Gold Street, San Francisco.

(201) Visualite louvred windows, full frame and strip hardware, illustrating vertical and horizontal installations, with blades of wood, aluminum, and colored and clear glass. Stainless steel tension clips, an exclusive Visualite feature, insure louvre tightness in both the gear and cam operated windows. Available in standard and custom sizes. Other products include Spray Mask, to protect frames from stains and plaster burns, and Magix Metal-Lube, a silicon base lubricant. Acker and Acker.

(202) Industrial building products in aluminum, including sheeting, rib roofing, industrial siding, etc. Also have available information on hand rails wrought aluminum products, curtain walls, store fronts, windows and doors. Aluminum Company of America.

(203) Amtico Permalife vinyl flooring, solid vinyls that are available in 20 patterns and unlimited custom colors as well as in conductive tile, Amtico Carefree vinyl, a budget priced flooring with no paper backing, in 5 modern patterns and a wide choice of decorator colors, Amtico vinyl and polymeric resins for above-grade, on-grade and below-grade installations, available in 12 colors, and Amtico rubber and plastex rubber flooring in marbleized patterns featuring 22 colors. American Bilt-Rite Rubber Co.

(204) Illuminated sign and display cabinets, UL approved for exterior and interior use, available in a variety of baked enamel on aluminum finishes. American Display Cabinet Company, Inc.

(205) American Maid shower doors and tub enclosures featuring decorative laminated glass and acrylite panels with gold, satin and polished frames. Also available in other plastics and wire glass and in special anodized finishes. American Shower Door Company.

(206) Manufacturing a complete line of quality paint products and exhibiting the Color Key library, an original method of color selection. Divided into Color Key #1 and Color Key #2, the method separates the entire spectrum into only two palettes with the colors in each mechanically related for total harmony to facilitate the pre-selection at a glance of the entire range of colors for all decorating. Ameritone Paints by Vi-Cly Industries.

(207) Manufacturers of Anti-Hydro, Aridsil and Amurseal waterproofing, Amortop hardener and the new Demicon Curehard, the single application material to cure, chemically harden and dust proof concrete. A written guarantee is available on Anti-Hydro Products when application is supervised by a factory representative. Anti-Hydro Waterproofing Company.

(208) Supplier of Baxco CZC (Chromated Zinc Chloride) for pressure treatment of lumber to guard against termites and dry rot in foundations, sub-floor framing and sheathing, and of Baxco Pyresote for pressure treatment of all lumber to resist fire and flame spread termites, insects and dry rot. Both materials are approved under I.C.B.O. research recommendations and each piece of Pyresote pressure treated lumber bears an Underwriters' Laboratories, Inc. label. J. H. Baxter and Company.

(209) Architectural letters and plaques in bronze, brass, aluminum and nickel. Also, custom fabricators of all types of architectural metal work including stairs and handrails, store fronts and entrances, window walls, solar screens, flag pole holders, cast aluminum mail boxes and bank depositories, plus elevator entrances, doors and frames, elevator cars, and conveyors. A. J. Bayer Company.

(210) Manufacturers of aluminum railings and grilles including the deluxe-line recommended for schools, Grill-O-Metrics grilles in 3 dimensional geometric patterns, Bar-O-Metrics panels constructed with inlaid facets, illuminated wall brackets and pipe rail adjustable fittings. New developments include rod couplings to permit decorative treatment to floating stairs, and vinyl handrail grip for a complete wrap around covering. Blumcraft of Pittsburgh.

(211) Producers and exhibitors of Desertone, a natural colored crushed rock for roofs, landscape gardening, terrazzo, concrete aggregate, aggregate transfer and seal coat on black top road mix. The natural colors include green, brown, red, pink, gold, turquoise, lilac, black and white and sizes run from 7/16 inch screen to the special 4 and 6 inch rock. Brubaker-Mann Company.

(212) Rubber and vinyl tile flooring in 51 marbleized and plain colors with rubber cove base to match. Also display rubber stair treads with matching tile and base. Special color matches are available at no extra charge on orders of 2000 square feet or more. Burke Rubber Company, Inc.

(213) Manufacturers of Cabots stains, oils, waxes and colloidal paints for preserving, protecting, and coloring all types of exterior and interior woodwork, as well as adhesive products, damp-proofing and clear waterproofing materials for brick and concrete. Samuel Cabot, Inc.

(214) Colored vinyl link mats and runners in weave widths of ½", 5/16" and ⅞", fashioned to specifications. Also manufacture tire fabric link mats and runners, and rubber and vinyl matting. Cactus Mat & Patch Manufacturing Company.

(215) Colored, decorative glass panels by Jim Weaver executed from the architect's own pictorial or abstract design, including motifs that carry from solid to transparent areas. Cal-Western Manufacturers.

(216) Exclusive distributors of Monkey Pod hardwood plywood paneling and suppliers of all types of hard and soft plywood, masonite, and Formica decorative laminates. California Panel and Veneer Co.

(217) An association of member mills whose Redwood lumber is properly seasoned, graded and milled under close supervision and given the CRA Trademark of quality Redwood. Both finish and construction grade Redwood are available for siding, paneling, facia, finish and millwork. California Redwood Association.

(218) Roof deck systems and insulation, Bermuda roofs, fireproofing, fiber forms, acoustical treatments, insulating materials and loose fills based on the light-weight, fireproof qualities of Zonolite. California Zonolite Company.

(219) Manufacturers of Blue Flame fireplace log lighter and the A.G.A. certified Blue Flame gas valve, available either separately or in a combination pack. Canterbury Enterprises.

(220) An entensive line of decorative panels for sliding, folding or fixed partitions. Unlimited designs are available including carved wood grille patterns, the palisade panel for use as an opaque room divider, and panels with inserts of perforated metals, fabrics and translucent plastics. All feature the exclusive overhead hardware and bottom guide and quality hardwood frames. Carlton Products.

(221) Dex-O-Tex latex base trowelled-on flooring and roof deck coverings which include special decorative terrazzos, static conductive floors, industrial flooring and acid proofing, underlayments, adhesives and marine products. Crossfield Products Corporation.

(222) A complete line of washroom dispensers for commercial and industrial buildings including chrome roll dispensers, recessed towel dispensers and waste receptacles in satin buffed stainless steel and prime coated steel and towel and tissue dispensers in chrome, white, stainless steel, copper plate, and Kromotex finish in green, bronze and gray. Crown Zellerbach Corp.

(223) Structural clay products including Steeltyd brick, Imperial brick with cellular openings to create static air space for insulation and less weight, and Bel Air flats for walkways, decorative veneer, wall capping patios, pool decks and window ledges. Davidson Brick Company.

(224) Ply-Sawn, the Douglas fir siding for a new dimension in exterior siding, and random plank Philippine mahogany plywood paneling from Mindanao and Luzon, either unfinished or pre-finished, for use as an interior wall finish. Davidson Western Plywood Co.

(225) Maintains a continuing policy of programs and informational services for the architects, including the Gold Medallion Seal for residential construction and the exclusive Merit Award for commercial

and industrial buildings that conform to required standards of excellence in electrical installation. Information on these is available from the department's residential or commercial utility consultants. Department of Water and Power.

(226) Styrofoam, a feather-light board of expanded polystyrene for concrete forms, floor, wall and roof insulation, insulating plaster base and pipe and vessel covering. Also manufacture Saraloy 200 and plyfilm waterproof membranes Saraloy 400 elastic flashing Scorbord insulating board, Roofmate FR roof insulation and the Miller dry wall system. The Dow Chemical Company.

(227) Plastifeutre, a resilient floor covering of vegetal felt backed by jute burlap canvas, coated with plastic, for use indoors and out, over wood, concrete and tile, where a carpeting effect is impractical but desired. Available in four patterns and a variety of colors, and suitable also as a covering for interior walls. European Chemical Corporation of America.

(228) Execute scale models of all types of buildings and site developments stressing details in design and materials. Glenn Evans Miniatures.

(229) Manufacturers of intercommunication and sound systems for schools, hospitals, medical buildings, commercial structures and residences, with consultation service for layouts available for any type application. Executone Systems of Southern California.

(230) Laminart, a high pressure decorative laminated plastic, manufactured in Los Angeles. The new line, with samples available at the display, includes solid colors, wood grains, decorator, and special patterns. Fabricon Products, Division of Eagle Picher Company.

(231) Natural, cellular, lightweight lava stone for garden display and masonry veneer in a color range from light grey to charcoal, as well as sierra tan, and available in varied sizes, shapes and custom cutting. Featherock, Inc.

(232) Manufacturers of roofing materials including built-up roofing, Rex-Kote, Acrylic Coat, aluminum reflective and asphalt emulsion coatings, and Uni-Thik asphalt shingles. Also make concrete forms and Monoform water-proofing membrane, acoustical tile, insulating materials including board, batt, roll and Canec roof insulation, Ceil Dek structural building board and Tred-Top and Flint-Mastic bituminous flooring. The Flintkote Company.

(233) A high pressure plastic laminate in solid colors decorator designs and wood grains with up-to-date samples available at the display. A Formica exclusive is the custom design service of sealing murals, designs and art treatments to Formica. The newest development is the brushed finish laminate surfacing for kitchen cabinetry. Also available are Formica flush faced doors. Formica Corporation.

(234) An extensive line of overhead doors including wood, both paneled and carved, and the new Filuma door of Fiberglas and aluminum for garages, and a variety of doors for commercial and industrial use. Featured in the display is a working model of the new telescoping movable center post for unimpaired clearance in multiple door installations with the safety factor of non-closing unless the post is in place. Also manufacture hardware for all types of sectional and rigid doors, operators, weatherstripping, pass doors and rosettes. Frantz Manufacturing Company.

(235) An extensive line of concrete block, both structural and veneer, including Flagcrete, Lacestone, Slumpstone, Terracrete and Viking Stone, as well as sculptured and flat concrete screen block. General Concrete Products, Inc.

(236) Textolite, the high pressure decorative laminate in both conventional and textured surfaces with samples available in the solid colors, decorator designs and wood grains. The latest development is the Candy Stripe pattern for commercial installations featuring a 2-inch stripe running the width of the sheet. General Electric Laminated Products.

(237) Koroseal, a vinyl wall covering of precision calendered vinyl sheet welded to flame-retardent fabrics. In a wide variety of high styled and functional patterns, it is registered and approved for flame-retardance by the California State Fire Marshall. B. F. Goodrich Co.

(238) Illustrations of a complete line of acoustical tile, including wood fiber, mineral and fire rated, and samples of special sizes and colors which the firm features. Also has available suspension systems, integrated lighting, luminous panels, mouldings and other accessories for acoustical work. O. P. Grani, Inc.

(239) Handcraft Tile, a hand-burned, slip glazed, handmade ceramic tile available in many standard units or, on request, in practically any design required. Colors include over 25 warm, desert tones, subtle pastels and striking modern hues, with hand buffed, textured and mottled surfaces adding character to the overall effect. Handcraft Tile, Inc.

(240) A complete line of common brick for reinforced grouted brick masonry construction, including standard, oversize and modular units in a variety of textures. Higgins Brick and Tile Company.

(241) Marvel interior finish in color or as a base for paint, exterior stucco in a wide choice of weather-resistant colors, Marblecrete finish in color and imbedded with exposed pebbles or marble chips, acoustical-type textured plaster for use where acoustical properties are not required, Hi-Sorb acoustical plaster in many colors, and a swimming pool finish resistant to acids and algae. Highland Stucco and Lime Products Co.

(242) A complete line of jamb type garage door hardware and accessories for all doors and weights, both residential and commercial, also, structural devices such as joist hangers, anchors, connectors, "T" and "L" straps, concrete form ties and related items. Distribute the Hollywood Wonder Action Disappearing Stair. Holmes Hardware and Sales Company.

(243) Manufacturers of Hoertiron steel folding gates for all types of commercial installations. Also available, when appearance is the predominant factor, folding gates of cold rolled steel, aluminum or bronze constructed of cold formed end and track sections to receive ball bearing rollers, machined bearings and brass washer construction, built-in cylinder locks for standard or master-keyed cylinders and flush wall cabinet to receive gates. Hoertig Iron Works.

(244) Manufacturers of putty and caulking compounds for all glazing and caulking problems, including Hunco architectural caulking compound for use where a permanent elastic expansion joint is required and Hunco commercial caulking compound used as a sealant for cracks, joints and around door and window frames. H. R. Hunt Putty Manufacturing Company.

(245) Aluma-Roof, the fire resistant, all aluminum, interlocking heavy butt shake shingles in custom colors for application over two-ply 30# felt base and recommended for use on roofs with a 4 in 12 minimum pitch. Hunter Aluma-Shake, Inc.

(246) Hydro-T-Metal, a homogenous, non-ferrous alloy of zinc, copper and titanium which offers the longevity benefits of copper at much reduced cost. The material is used for sheet metal work and plaster accessories as no painting is necessary initially or for maintenance. Hydrometals, Inc.

(247) A masonry veneer of fabricated stone with the realistic appearance of quarried stone. Made of concrete, crushed rock and sand, it is available in a variety of natural colors and comes in sheets approximately 3′ x 4′ in size and one inch thick. It can be used as an exterior or interior finish. Loma Stone Sales Company, Inc.

(248) A variety of colors and textures in facebrick including Norman, Roman, Colonial Amsterdam, Economy Norman, Hillcrest Splits and Alberhill Pavers. Also manufacture Kord Modular and oversize common brick, fire brick and flue lining. Los Angeles Brick & Clay Products Company.

(249) Vetrum venetian glass mosaics, Lake Como Italian pre-cast marble mosaic tile with recessed or smooth surfaced matrix, Cremona and Appiani Italian quarry tile, Latco vitreous porcelain ceramic glazed or unglazed tile, and decorative tile from Spain and Holland, for use on exterior and interior walls and floors. All are available in a myriad of colors and patterns. Los Angeles Tile Jobbers, Inc.

(250) Dual Window Wall, a system consisting of a metal louvre exterior with glass louvre interior, both movable. Also manufacture aluminum louvre windows, frame

or strip hardware, Roller King aluminum rolling windows and doors, and Aqua King shower and tub enclosures. Louvre King, Inc.

(251) Cam operated, stainless steel, louvre window strip hardware and overhead suspended aluminum rolling window with Fiberglas screen. Also manufacture an aluminum nail-on surround for louvre windows with steel or aluminum hardware and a bottom rolling aluminum sliding glass doors. Louvre Leader, Inc.

(252) The Series 300 aluminum sliding window for commercial use and the Capri Cavalier aluminum sliding door with outside slide design. Also available is the residential line including the Rollmaster, an aluminum sliding window with both sections removable, and the Capri Cadet aluminum sliding glass door. Lujon Corporation.

(253) Marlite plastic finished wall panels for residential, commercial and industrial use, featuring wood grain reproductions, decorator patterns and pastel colors available in sheets and planks and developed by Raymond Loewy Associates. Also exhibit Korelock, a hollow core paneling which requires only a backing of studs or solid nailing or furring strips. Marsh Wall Products, Inc.

(254) Manufacturers of roof scuttles of heavy steel construction with spring levers and lock and padlock hasp, and steel ceiling hatches. Both products are available in special materials and sizes. Metal-Tite Products.

(255) Ornamental garden art in cast stone, including statuary and bowls for fountains and a variety of designs and shapes in garden benches and planters. Available in natural or white as well as custom work in colors to match almost any decorative scheme, for indoor and outdoor use. Monterey Garden Art.

(256) A complete custom kitchen, designed by Jeannette Coppes, N.S.I.D. Included is the contemporary Paul McCobb line suited to open plan kitchens, also used for built-in storage throughout the house and assembly for office furniture, and versatile 600 Series adaptable to any period from Cape Cod to oriental modern. Cabinets are of northern maple finished in natural grains of maple, autumntone, fruitwood, driftwood and walnut, and in 16 decorator colors, with choice of hardware. Mutschler of California, Inc.

(257) The Viking Spacemaker, a complete sliding door pocket including door, frame and hardware, the Feather-Touch Bi-Fold wardrobe wall with Novoply core, the Cinderella mirrored sliding wardrobe door and the Feather Glide by-pass wardrobe wall, all pre-fabricated, packaged and ready for installation. Nordahl Manufacturing Company.

258) Pictorially a full line of industrial, commercial and residential plumbing ware in both pressed steel and vitreous china. The most recent additions to the porcelain-on-steel line are the new round pullman lavoratory and the corner bath-tub built around a sump. Norris-Thermador Corp.

(259) A complete line of electrical built-ins including exhaust fans, hood and fan combinations for range and oven, bathroom heaters, and ventilators, door chimes, food center, stereo, inter-com and radio combinations, and barbecues, both electric and charcoal. Nu-Tone, Inc.

(260) Wood stains made of pure pigments ground in linseed oil, including semi-transparent penetrating stains in brown and gray tones that allow the grain of the wood to show through, and heavy bodied stains that give the wood an opaque finish. Other products are the redwood, roof and special purpose stains and pre-stained wood siding. Olympic Stained Products Co.

(261) Manufacturers of built-up roofing, Square Butt and Ambassador asphalt shingles. Storm-Lap asbestos shingles, roof coatings including Coolite, Colored Coolite, Alumi-shield, and Nu-White, Grip Deck roof decking, and asbestos cement siding. Also make Griplath and Type-X gypsum lath, dry-wall systems, batt and roll insulation and Mastipave bituminous flooring. Pabco Division, Fiberboard Paper Products.

(262) Distributors of and exhibiting vinyl coated wall fabric. Naugahyde and Naugawall manufactured by U.S. Rubber Co., Coated Fabrics Division, and Lackawana Leather manufactured by Lackawana Leather Co. Pacific Hide & Leather Company.

(263) Provide a courtesy service to the architects on all industrial, institutional and commercial projects to help plan for raceway apparatus closets, PBX equipment rooms, cable rise systems, main terminal room and service from the street. Pacific Telephone Company.

(264) A high-pressure decorative laminate in a wide variety of types including Genuwood utilizing genuine wood veneer, wood reproductions, solid colors, and designs and custom fabric-surfaced laminates. Parkwood Laminates received the American Institute of Interior Design International Award for excellence in design. Parkwood Laminates, Inc.

(265) Manufacturers of a complete line of A.G.A. approved heating and air conditioning equipment including the Pace Setter, Imperial and Spacesaver forced air units, Miracool all gas air conditioner, electric air conditioner for outdoor use, and Econoair, combination heater and air conditioner utilizing gas and electricity. Also make Panel-air forced air wall heater, Sabara wall heater and unit heaters with Astrogard steel heat exchanger. The Payne Company.

(266) Pearcelite, a fabricated marble with a hard, smooth, lustrous surface, non-warping and spotting, and impervious to stains including alcohol, cosmetics and medicinal preparations. Used for walls, pullman and furniture tops, stall showers, etc. Pearcelite, Inc.

(267) Sculptured, three dimensional hardwood panels with limitless use for area dividers, doors, screens, interior sun control and decorative sound control when used on walls or ceilings. For exterior use sculptured redwood is also available for fencing, patio enclosures and various types of commercial installations. Also display Sculpturelite, a combination of solid carved wood and translucent plastic for subtle commercial lighting. By utilizing a sound absorbent pad instead of extruded plastic, acoustical qualities are obtained. Penberthy Lumber Company.

(268) Quality medicine cabinets, including the new Dubarry and Cavalier with gold and white wood frame and polished plate glass mirrors to harmonize with gold bathroom brass goods and accessories. Also display residential and apartment house mail boxes, built-in ironing board, range hoods, directories, fire extinguisher cabinets, bathroom appointments, and a complete line of building sheet metal specialties. Perma-Bilt Steel Products Company.

(269) Manufacturers of a quality line of devices for crowd control certified attendance records and fare and admission collection for stadiums, racetracks, fairs, auditoriums, amusement parks, subways, baseball parks, industrial plants, markets, libraries. Perey Turnstile Company.

(270) A resilient polyurethane decking, flooring and roofing plastic that is metered, dispensed and sprayed by factory approved Franchised Applicators. A pure plastic rubber, Urapol 823A, is available in a variety of decorator colors and unusual textured finishes. It is an esthetic and practical coating for concrete, wood, lightweight cellular concrete and metal as well as a remedial coating for all existing surfaces. Poly Resins.

(271) A complete line of tile including Space-Rite and Perma-Glaze ceramic tile and the Designer Series and Signature Series decorative tile designed by outstanding artists in a wide selection of colors. Also available in Summitville quarry tile. Pomona Tile Company.

(272) A complete line of turf sprinklers, various pop-up sprays, ground cover and shrub sprays, combinations, irrigators and bubblers, featuring rise openings of standard steel or iron pipe thread dimensions, and all bodies and lids of sand-molded heavy red brass. The sprinklers are designed to simplify parts, make the design of complex sprinkler systems easier, and facilitate possible future changes in a system without changing the piping and valving system. Rain-O-Mat Sprinklers, Inc.

(273) Revco built-in refrigerator and ice maker designed for the quality custom kitchen. Originators of the built-in freezers and refrigerators for wall or under counter installation, and floor standing combination refrigerator - freezer built-in. Revco, Inc.

(274) Rez quality wood finishes for interior and exterior use. These are alkyd resin derived penetrating sealers and include the clear sealer and primer, low luster Satinwood Rez, Color-Tones in 13 coordinated fashion shades, Hi-Gloss Rez, White Rez for bleached or frosted effects and Rezite, a clear exterior finish Rez Wood-Tones, Inc.

(275) Kreolite Kountersunk lug and flexible strip wood block flooring manufactured by the Jennison-Wright Corp., and Ironbound continuous strip hardwood flooring and Perma Cushion free floating resilient hardwood flooring manufactured by Robbins Flooring Co. A. B. Rice Company.

(276) Kemiko reaction type stain for all interior or smooth exterior concrete floors; Kemiko wax finishes; Col-R-Tone coloring for concrete swimming pool decks, tennis courts, public sidewalks and rough exterior concrete areas; and Col-R-Tone A for all types of asphalt paving. Also, manufacturers of Kemiko concrete waterproofing, hardeners and sealers. Rohloff & Company.

(277) Clay roofing tile including the new 680 line of light weight high strength clay shingle tile in a variety of fired-in colors, mission and shingle tile and the rambling, rustic American Method shingle tile, all available in a number of textures and colors and offering insulating qualities and complete fire safety. San Valle Tile Kilns.

(278) Luran, the vinyl in sheet form, 6′ wide, patterned by rotogravure, in unlimited colors and designs. This includes Luran standard, with resin saturated backing, for use over wood or suspended concrete floors and Luran Regency and Imperial, asbestos backed for use

over any type sub-floor and embossed to avoid marks by sharp heels. All three meet FHA minimum property requirements. Sandura Company.

(279) A wide selection of hand crafted, quality hardware featuring locks, latches and ornamental background escutcheons in polished and satin brass, satin and oxidized bronze, dull black gold and satin aluminum, polished chrome and stainless steel. Also manufacture a complete line of locks for residence schools, hospitals and commercial buildings in a choice of metals. Schlage Lock Company.

(280) Manufacturers of concrete hardeners including Lithochrome, Emerchrome, and Permalith plus Lithochrome color hardener and colorwax, Chromix for coloring ready mixed concrete, and Emerchrome, the heavy duty, non-slip, abrasive color hardener. L. M. Scofield Company.

(281) Towel, napkin, facial and toilet tissue dispensers featuring the new recessed fixture for all types of folded towels, requiring no additional parts to convert from one type to another, and the dispenser which will dispense all brands of facial tissue. Surface mounted units are installed with Scott special adhesive which eliminates drilling holes and marring walls. Scott Paper Company.

(282) Shell-Craft Kapiz Shell paneling created from natural ocean pearl shells, hand selected, processed and laminated to produce a unique and highly ornate surfacing for wall paneling, table tops, screens, furniture, lamps and other decorative uses. Shell Arts Co.

(283) Manufacturers of Permaglas gas or electric residential water heaters, water conditioners, copper boilers and large volume storage water tanks, and Burkay gas or electric commercial water heaters and swimming pool heaters. A. O. Smith Corporation.

(284) Service to the architects for projects in their areas to establish tentative load and service needs for exterior and interior artificial lighting to meet I.E.S. Standards, adequate electric space heating and air conditioning, and electric cooking and water heating. Southern California Edison Company.

(285) Exhibiting samples of 80 out of 220 known varieties of marble in the world, including imported marble finished in this country, and domestic marble and granite, in a variety of types and colors to facilitate selections. These are available from California Marble Co., Musto-Keenan Co., Selectile Co., Inc., Vermont Marble Co., and Carthage-Georgia Marble Co., association members. Southern California Marble Dealers Association.

(286) Exhibiting Olsonite solid plastic toilet seats featuring the special vinyl bumpers and the exclusive patented finger tight lock nuts and washers. All are available in pottery matching colors and black, white and pearl. Swedish Crucible Steel Company.

(287) Residential and commercial flooring including Flexachrome, the homogenous vinyl asbestos in the new designer solid colors as well as marbleized and many other designs and patterns, Tile-Tex asphalt asbestos and Supertuflex grease resistant asphalt asbestos in a wide selection of patterns and colors. Tile-Tex Division, the Flintkote Company.

(288) Range hoods, oven ventilators and hoods, bathroom and kitchen ventilators and forced air ceiling and insert electric wall heaters and baseboard heating. Other equipment includes Hunter ventilating and circulating fans, electronic cooling and electric heaters. Trade-Wind Motor Fans, Inc.

(289) Micarta decorative laminate, unfinished, prefinished plywood, paneling in a wide variety of woods, Glasweld exterior facing, and particle and flake board. Other products include Weldwood solid and hollow core, sound proof and X-Ray doors, Stay-Strate and Micarta faced doors, Kalistron vinyl fabric, Flexwood, exterior and interior plywood, both soft and hard concrete forms and wood siding. U. S. Plywood Corp.

(290) Royal Naugahyde expanded vinyl fabric, genuine Naugahyde vinyl fabric, and Naugaweave, breathable vinyl fabric for all types of upholstery in a rich selection of colors, patterns and texture. The display also includes samples of the eight standard colors of Royal vinyl carpet. U. S. Rubber Company.

(291) A new and revolutionary collection of vinyl wall coverings in textures and patterns. Also manufacture a complete line of repeat pattern and scenic wall papers, including vinyl protected papers, and import textured, burlap, silk and foil wall coverings. Albert Van Luit & Company.

(292) The new and improved Sauna dry heat bath for use in residences, hotels, hospitals, country clubs, etc., to improve health and relax nerves. Electric units heat the redwood lined room to 175° or more in 15 minutes and keep humidity below 6% for ease of breathing. Thermostatically controlled, it is inexpensive to operate, and is available in sizes from 4′ x 5′ to the 1 large 20′ x 30′, heated by two or more units in connecting series. Viking Sauna Corporation.

(293) Mo-Sai exposed aggregate precast facing. Also have Granux, a polished facing of reconstituted granite, and are custom fabricators of all types of precast concrete products — decorative, architectural and structural. Wailes Precast Concrete Corp.

(294) Facings and related precast and prefabricated items utilizing natural stone, and a rotating display of stone available in the 11 western states, illustrating an extensive stock. For the architect, decorator, landscape architect and color consultant, a unique service including information and availability of unusual and interesting stone from the many small, remotely situated quarries represented. Western States Stone Co.

(295) Mod'rn-Form all Formica modular cabinetry for hospitals, professional buildings, and laboratories. Also available, a service including the complete furnishing of equipment and supplies required in buildings of this type. Western Surgical.

(296) Rilco laminated beams, Roddis prefinished hardwood plywood and doors including hollow and solid core, sound, X-Ray, fire and plastic laminate covered, Versabord particle board, Timblend flake board, and 4-Square exterior and interior plywood, a wide variety of siding and paneling, framing lumber, fencing, and red cedar shingles and shakes. Weyerhaeuser Company.

(297) Manufacture true parquet flooring of Arkansas oak made in 19 by 19 square units composed of 16 small squares containing individual strips assembled so that the grain direction changes in each square to minimize contraction and expansions. Wilson Oak Flooring Company.

(298) The Valtronic Corp. molded modules (stock price) for hospitals, professional buildings, and laboratories. Rex Wilson.

(299) Heraklith wood wool slabs for all types of thermal insulation, roof decking, concrete forming, masonry sheathing and partitions. Manufactured by a special process using magnesite as the binding agent to preserve the essential properties of the wood fibres, carries a three hour fire rating. It is also used as an acoustical material for sound absorption and isolation, noise reduction and for mobile sound barriers. In gardens it makes a decorative shield for privacy and acts as a perfect sound barrier. Harold A. Whipple Corp.

(300) Fine hardwood flooring in parquetry and plank, featuring 20 different designs and woods, including both custom and pre-finished, and available in laminated or solid construction, some of which can be installed on grade and below grade on concrete slabs. Wood Mosaic Corp.

(301) Decorative escutcheons and handles, mortise, cylindrical and monolock sets, panic exit devices and door closers suitable for residential and light and heavy commercial buildings. Also manufacture a complete line of builders hardware for all types of construction. Yale and Towne Mfg. Co.

(302) Stainless steel sinks including a custom sink, bar sink, vegetable chopping block sink and a double bowl sink. Also manufacture 800 standard sink and work surface combinations in stainless steel and custom sinks for residences, hospitals, laboratories and restaurants. Zeigler-Harris Corp.

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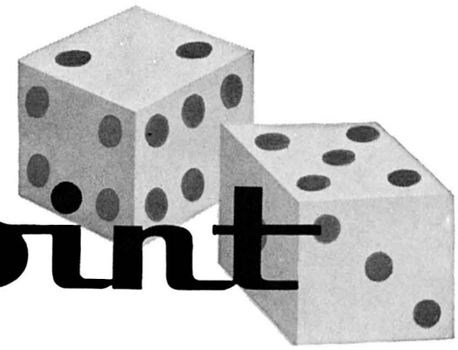

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