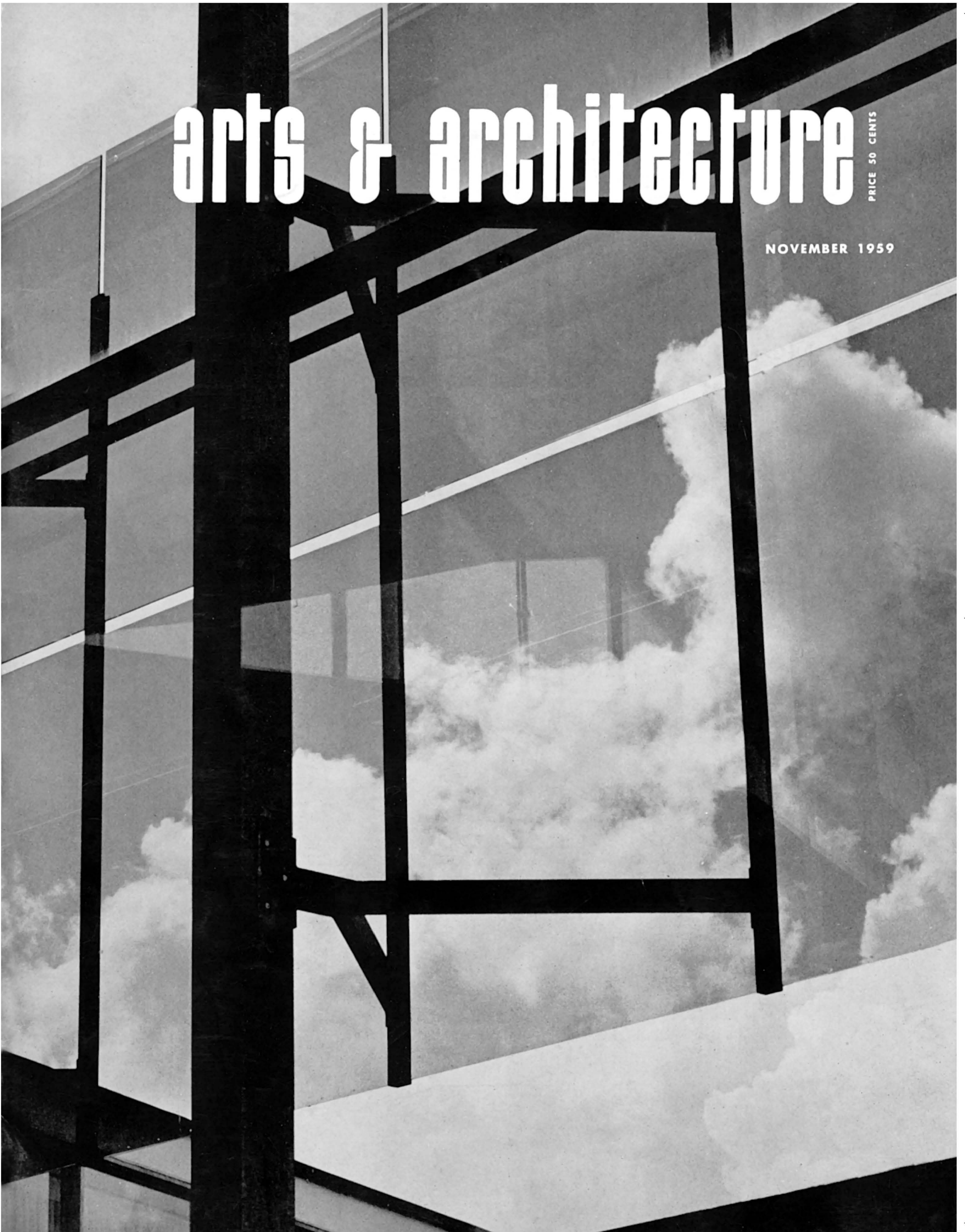


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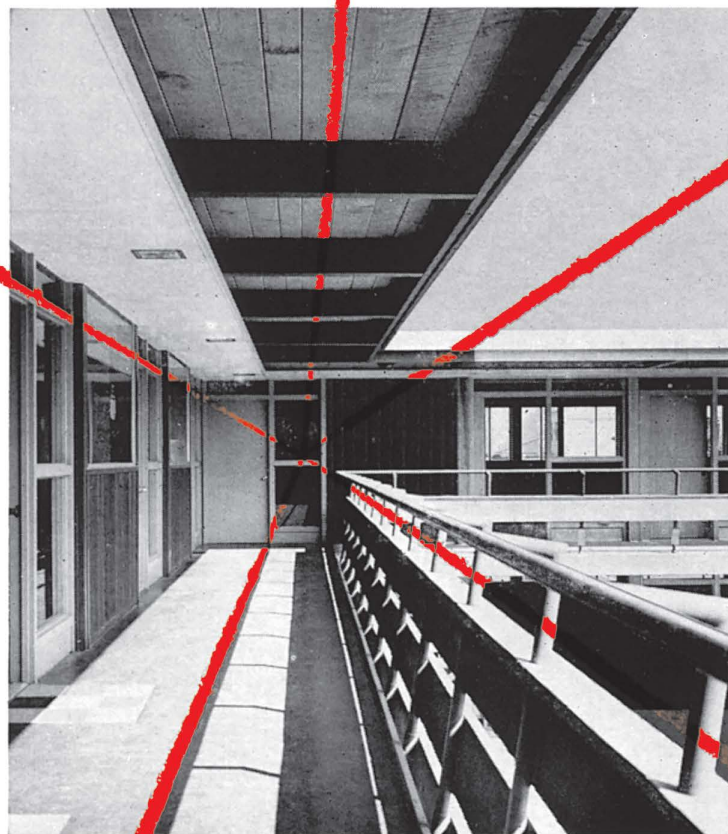




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# MUSIC

PETER YATES

## VIRGIL THOMSON AND HORATIO PARKER

Kathleen Hoover has written a half-volume biography of Virgil Thomson, to which John Cage has added a half-volume of writing about Thomson's music.\* The combination provides one of the few adequate studies of a senior living American composer that can be read with pleasure and referred to for exact information. Both writers deny a final summary of the man and his music, agreeing that, as Kathleen Hoover writes, "... the sum total of Thomson's nature eludes definition. It is a multiple nature, several selves under one skin and each complete in itself: egoist, altruist, realist, romantic, traditionalist, avantgardist, viveur, ascetic, and other contraries, all dovetailed into as integrated and fully expressed a personality as modern psychology could dream of. Within his more limited range he recalls the 'harmonious human multitude' that Carl Van Doren found in Franklin, and a multitude does not fall into a pattern." Since modern psychology seldom wastes time dreaming of "integrated and fully expressed personalities," we have here a hinted contradiction. Kathleen Hoover uses the inventory as a means of avoiding trouble, if not of humanizing a rather intractable subject.

John Cage, a tougher character with a decided mind of his own, is careful to distinguish between his understanding and his admiration of Thomson. Having surveyed with unremitting severity and exactness, as well as humor, each one of Thomson's compositions, published and unpublished, he appends a postscript, ending: "We know now the great variety and all but intangible nature of Thomson's work. What position has it in the field of contemporary music? Obviously, one of popularity. In my personal panorama it has today little place. For all his heterodoxical use of the twelve tones, merely providing dodecaphony with a harmonic outlet does not seem to me to be the necessary facing of contemporary musical reality. Nor do I hold with his view of the artist's responsibility. This view, which was also Gertrude Stein's, is a heretical one that gained adherents in Europe after the Renaissance: Art is the representation of an inner and outer reality. In an older view, and my own, it is the artist's duty to imitate in his work not the appearance of nature, but her manner of operation. Thomson's music, in this respect, is therefore somewhat removed from my own preoccupations. For that matter, so is most of the rest of contemporary music. Still, however remote musically from Virgil Thomson, I keep coming back to him with gratitude, as I do to some others: to Henry Cowell, Erik Satie, Lou Harrison, Charles Ives, Edgar Varese—all of them composers who have done what they had to do without pretense and in defiance of the general run of Teutonism and neo-classicism. Among them Thomson stands out as a master of comedy, my regard for which agrees with that of Joyce, who held it to be 'the greatest of arts because the joy of comedy is freest from desire or loathing.'"

As for the attributions of "popularity" and "comedy," I believe John Cage overestimates. In matters outside his field of concentrated interest he is inclined to generalized snap-judgments, as when he told me once that the music of Bartok is "all tonic and dominant." Virgil Thomson is not a popular composer by any such estimate as Gershwin, Stravinsky, or Copland. He has not tried to be. He has handled his "popular" assignments as faithfully as his esoteric commitments. His music gives ample evidence that he has never of his own inclination wooed the public. A considerable part of his writing in the style that he prefers seems almost to disdain public interest. Many of his Portraits could be described as private notations, to amuse himself and a few intimates. He could have had no reason to anticipate the popular success of *Four Saints in Three Acts* or, after that, the comparative disregard shown *The Mother of Us All*, a better opera.

Two disparate meanings attach to comedy, that contained in Dante's *Divine Comedy* or Balzac's *Human Comedy*, a broad high view of all that can be known about humanity within the broadest manageable setting, and that expressed in general usage by the word "comic," a term scarcely applicable to the work of Balzac or of Dante. Virgil Thomson's sense of comedy is intrinsically comic. Under this heading one may list nearly all of his large collection of Portraits, which he prefers to compose like paintings in the physical

presence of the subject. At the request of Andre Kostelanetz he wrote for example his *Mayor La Guardia Waltzes*. "Ensnared in a corner of the Mayor's office, while people entered and left and the Mayor made decisions and gave orders, Thomson spun waltzes that are as bumptious, lively, and American as the earlier Synthetic ones, and that conclude with equal brilliance: a fluttering of trumpets on high B flat."

Here the joke enters into every element: the very presence of the composer notating his Waltzes in the Mayor's office is a joke. It is sense in the wrong place and wrong combination, therefore deliberate nonsense. This is *Dada*; Gertrude Stein was earlier than, larger than, and independent of the *Dada* movement. Quite possibly she chuckled when she learned what Virgil had done, but the method is altogether remote from her own. I believe that Gertrude Stein created in a manner very much more resembling that of John Cage himself, whose methods seem to many nonsensical but are not nonsense. Her method was as intractable as Cage's, that it must be this and only this, though the result be put together of oddly preselected objects and be as abstract of its subject as the assemblage of a mosaic. A pre-Renaissance mosaic is not a portrait but an icon, not a representation but a presence. The effigy may be more potent than a portrait. For herself Gertrude Stein chose the effigy of Susan B. Anthony, potent woman in a man's world. The final Aria of the Statue in *The Mother of Us All* is their joint testimony or epigraph. The post-Renaissance experience is historical, and towards history Gertrude Stein spoke strong reservations; history could be almost anything about almost anything. What she wrote was a composition.

To speak exactly, Virgil Thomson functions as a wit, with certain serious preoccupations. Cage tells us that, in *Wheat Field at Noon*, "The relative strictness of this music corresponds, according to Thomson, to the geometrical layout of wheatfields." Upon which Cage then comments: "On the basis of his *Louisiana Story Fugue*, an alligator could argue the matter."

The Fugue he refers to is built around four two-measure subjects. The first subject includes a tritone, which by collation of its many appearances throughout Thomson's works Cage concludes to be a symbol of evil—in this instance, an alligator. The second, the counter-subject, "rises diatonically to descend chromatically to a

(Continued on page 8)

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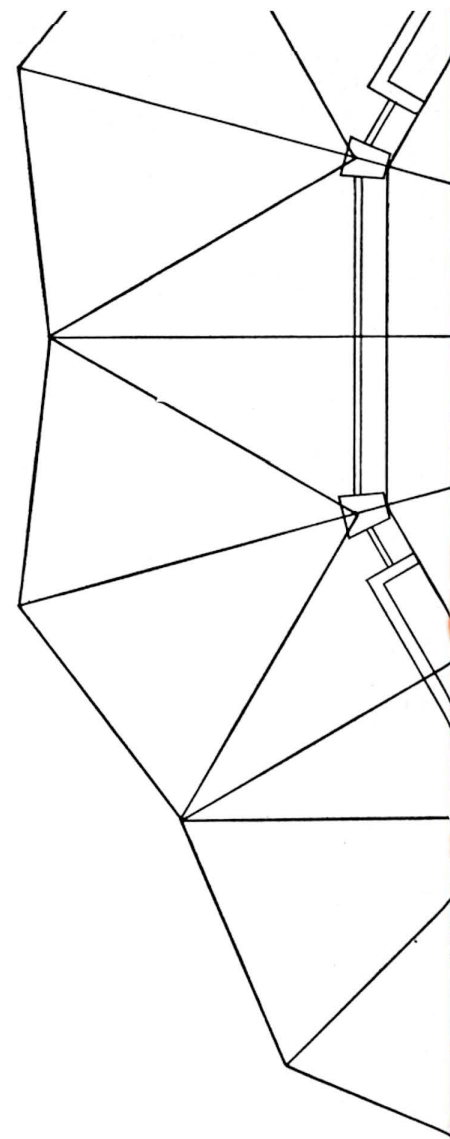
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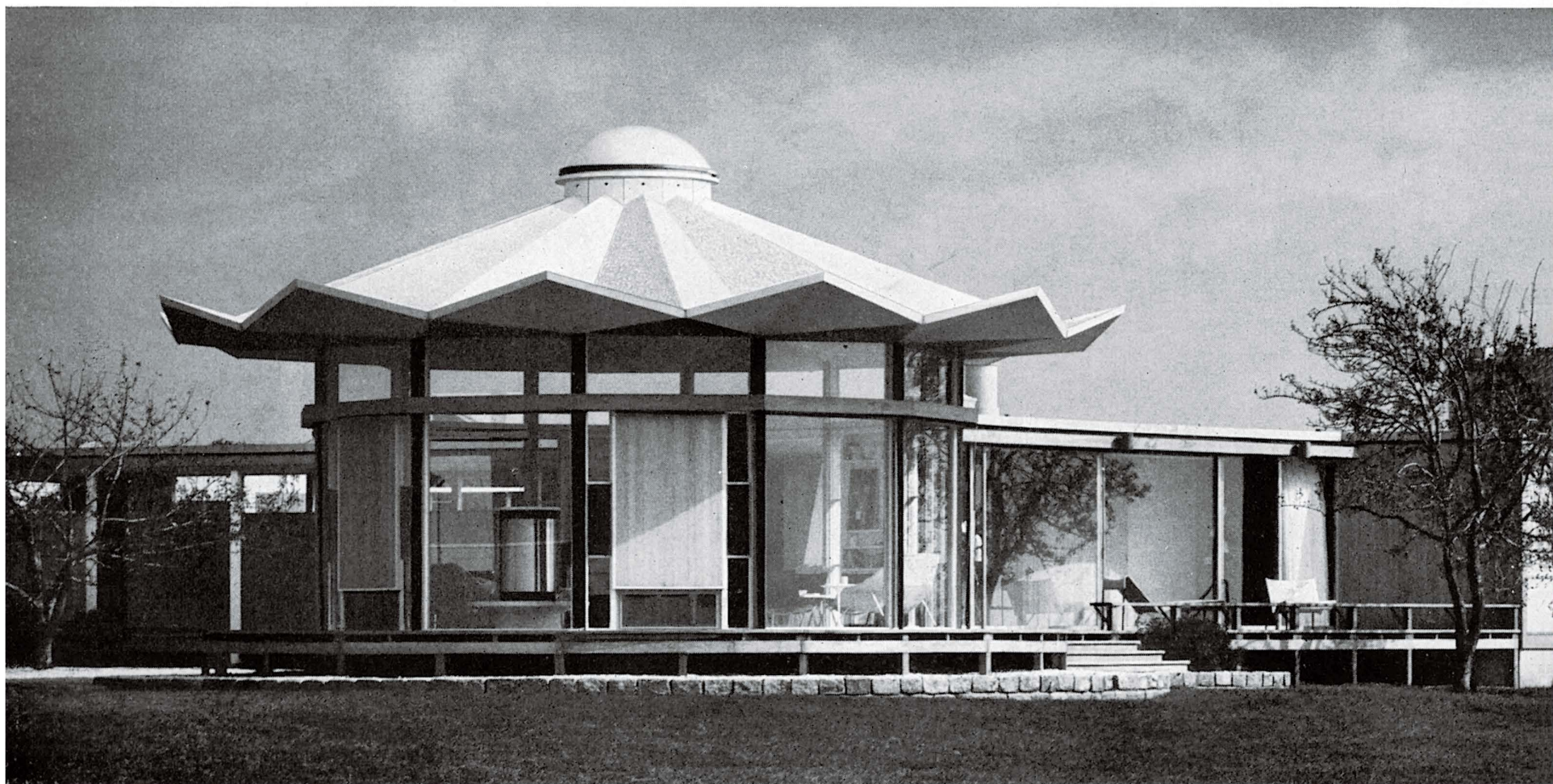
T. Yoseloff, 1959.

\*Virgil Thomson: his life and music by Kathleen Hoover and John Cage: New York;



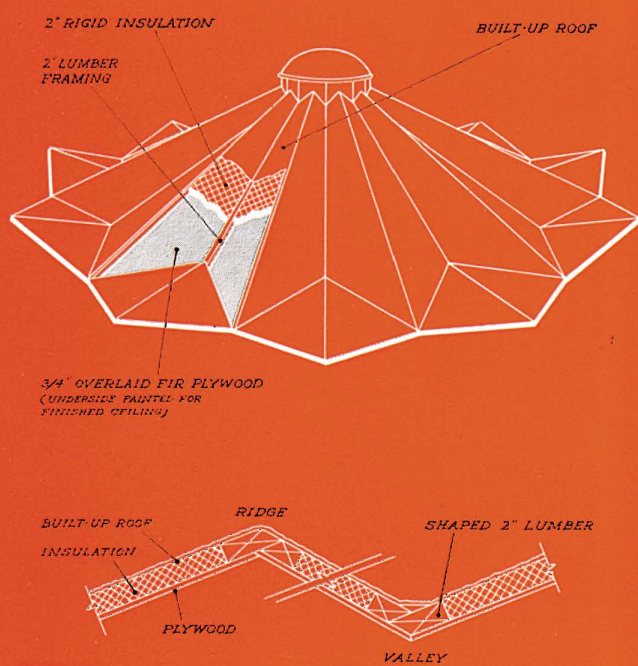
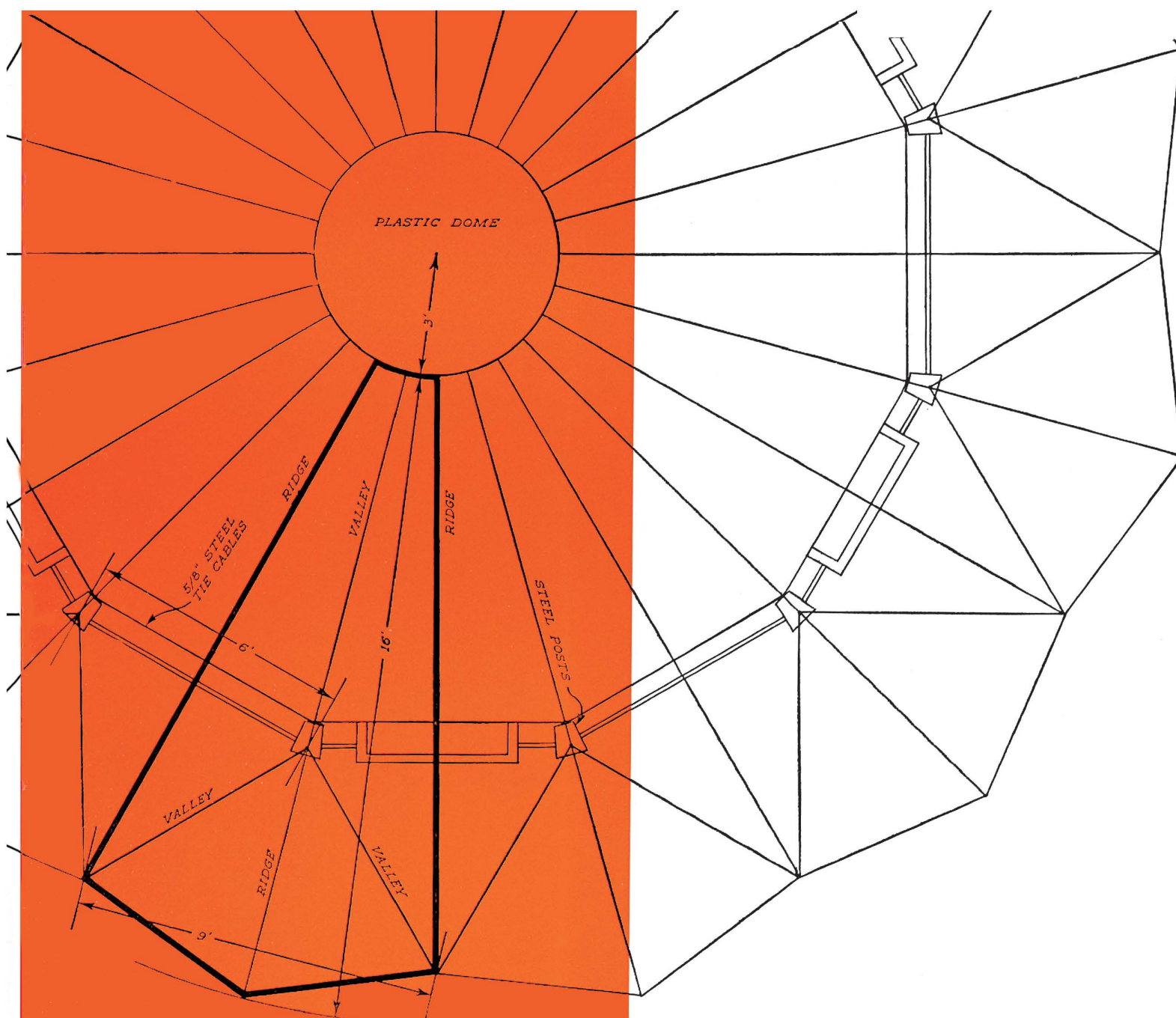


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**MUSIC***(Continued from page 5)*

leap of the major third," thus physically depicting the scrambling of a menaced boy. The eleven tone, chromatic, rhythmically jerky, wedge-shaped third subject graphically resembles the struggling of an alligator, hooked. The last subject has been harmonically ordered to convey a father's anxiety. So much for the scenic action in the motion picture to accompany which the Fugue was written. Thomson now applies abstract form. The father and son motives, taken together, include all twelve tones. "All the subjects are composed in such a way that any one may appear above or below any other, so that, in this respect, the work is a double chromatic fugue. The continuity is largely one of expositions sixteen and eight measures long made up of subjects, countersubjects, and derived material, giving an effect of building materials related, as in prefabricated architecture, to an established module of proportion." Which comes first, the subject, the object, or a formal plan? Are we dealing with the representation or with an assemblage? Such a collocation of plain cubes depicting action, isn't it *A Nude Descending a Staircase*?

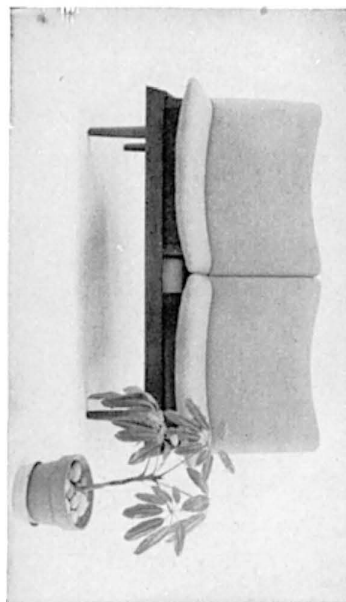
Cage's descriptive paragraph continues at great length, in scrupulous fairness and with a noticeable tact of language, conveying on the surface its musicological analysis, at a slightly lower level the counter-current of adverse criticism mingled amid eddies of apologetics, and well down but not entirely out of sight a chill flow of dislike for the entire business. A stream does not usually flow in graded counter-currents, nor do critics of ordinary skill usually manage to keep so distinct their several functions. Reference to these pages should overcome any misapprehension that Cage, the radical innovator, does not command a knowledge of musical techniques. Cage's analyses are a little masterpiece of homage to a good and elder friend, whose work he dislikes, though admiring the much that he is able to find in it of competence; his own personal attitude, while always subordinately made clear, not without humor, never being allowed to distort the exposition of what he believes to be the composer's purpose.

"The quality of mastery moves through the music of *Louisiana*

*Story*. All the notes perform the composer's commands, never once seeming to be useless or engaged on their own independent projects. . . . Neither a paste-up job nor a neo-romantic expression of personal feelings, *Louisiana Story* is a public project. The musics that go in and out of it are not all as 'socially realistic' as those of hiding their idiosyncrasies, make no display of them, appearing well *Filling Station*, but they have all accepted convention and, without behaved, well spoken, well dressed."

I have quoted so much of Cage's text, because for its purpose his language could scarcely have been bettered. The biographical survey, also more than competently put together, has not this suavity of aim. Thomson's career may be described as a success story, because there is in it no record of failure. His musical training was early and sympathetic; at twelve he was a recitalist and substitute organist of the Calvary Baptist Church in Kansas City. His interest in the stage was stimulated by observing the best talent of the period in touring repertory companies. He admired as musical performers John McCormack, Vladimir De Pachmann, Ferruccio Busoni, and Mary Garden, showing thereby a well-rounded but by no means exclusive taste. Early in college he became omniscient, as he has remained; he was a founder of the college literary society, defined its aims and edited its magazine. His social independence reaching to the kitchen he became both gourmet and cook. Isolated in taste but gregarious in habit, physically sound and active, though deliberately leisured, he made his way successfully, through such disparate distractions as military service and playing the piano in a motion picture theatre, into Harvard, where he concentrated on language, music, and the Glee Club. He was nominated by his University but not ultimately selected by his State to be a Rhodes Scholar. If Thomson's tone has often sounded precious, he is in habit a thoroughly practical individualist.

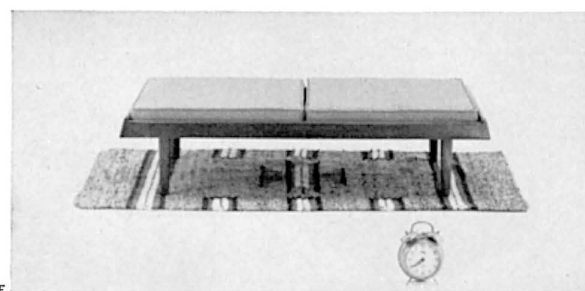
A tour of Europe with the Harvard Glee Club, for which he served as assistant conductor, ended with a year in Paris, where, like a number of his American contemporaries, he studied formal composition under Nadia Boulanger. Though the subjects of his music, when not abstract, have been drawn largely from American sources,



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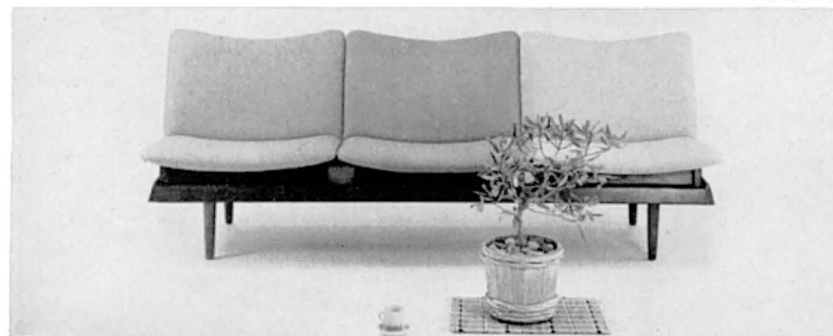
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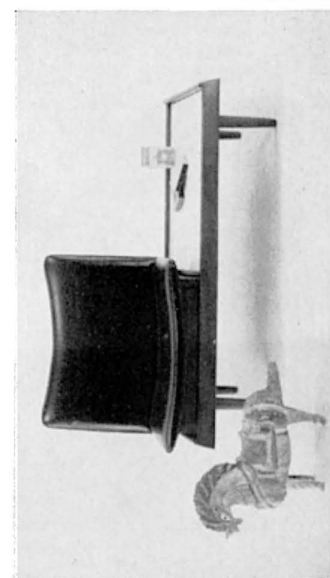


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NOVEMBER 1959

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he has remained more French than the French. He dislikes what he calls "Mittel-Europa," its music, and its predominating influence on the American musical public. In France, as he has throughout his life, he associated with the most interesting people, who are not the best company in which to develop creative independence. Returning to Harvard he resumed his studies and his work as organist and accepted an assistant instructorship. Almost immediately he began writing about music for the fashionable magazine *Vanity Fair*, adapting himself so well to the witty, high-toned popularity of its style that he was able to refuse an offered post in the music department of the University of North Carolina and return to Europe, supported by his small but dependable income as a columnist.

Just as in school he was always capable of obtaining the highest grades, so in music he has been able to support himself comfortably at all times by his professional activities. If he has made concessions, it was by nature, not by caution. He has never compromised a purpose, or a prejudice.

Back in Europe he cultivated the coterie of *Dada* and was rewarded by the friendship of George Antheil, then enjoying his brief fame as the avant-garde composer of the *Ballet Mecanique*. Together they established a series of salon concerts at the home of a wealthy American who desired social recognition as a person of taste. Thomson began drawing on American material for his compositions. And here his biographer offers a comparison: "Earlier in the century, Charles Ives had tapped indigenous wellsprings for thematic material in his use of native hymns and folk tunes. But he had handled them as a primitive, whereas Thomson exploited them in his *Symphony on a Hymn Tune* with the best Parisian rhetoric and syntax."

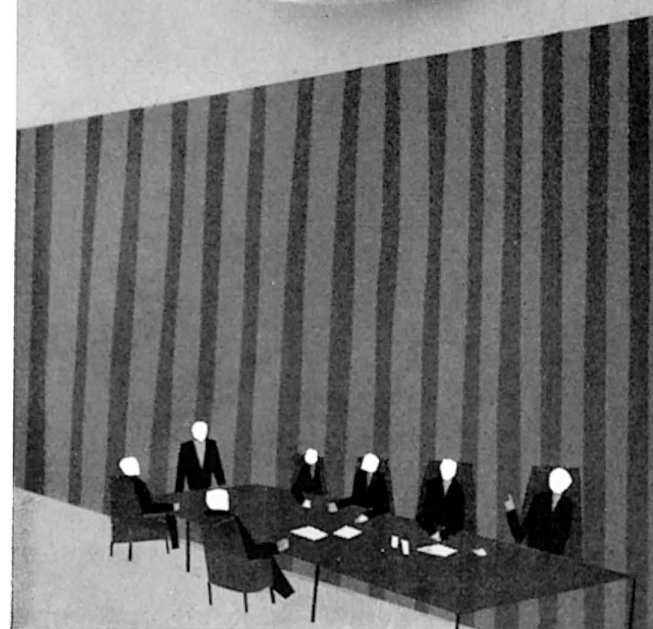
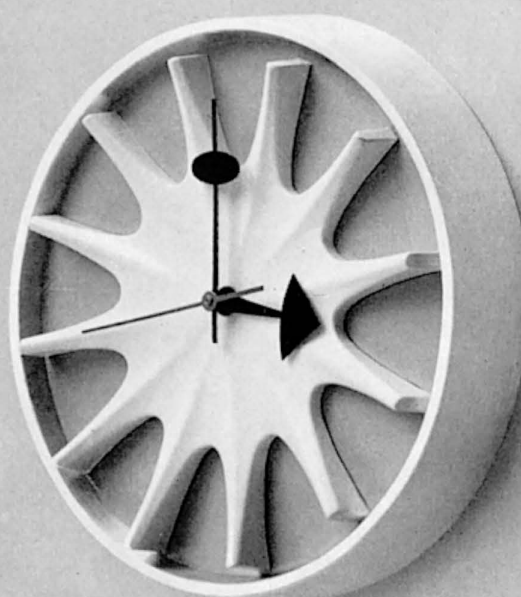
Cage quotes Thomson's own analysis of this *Symphony*: "It is a set of variations on the hymn 'How Firm a Foundation'; each movement consists of a further set of variations tightened-up in various ways, the first in the manner of a sonata, the second as a Bach chorale-prelude, the third as a passacaglia. The fourth is twice tightened-up, once as a fugato, once as a rondo." However neatly assembled, such work cannot be more than a sophisticated parody-pastiche. Like the nineteenth century addiction to tone-poems, twentieth century parody-pastiche is not necessarily bad; it may have the referential effectiveness of collage. Among the better American critics Thomson is the only one who has not admitted the fundamental importance of Ives and has continued to treat him as a primitive. So much for the depth of Paris-oriented culture! Ives, characteristically, is listed among the small group who contributed to the handsome publication of *The Mother of Us All*.

Last week, while browsing in a second-hand record store, where, grateful that others do not always share my interests, I have picked up cheap some unworn treasures, I came on the *Hora Novissima* of Horatio Parker. In his day Horatio Parker was the most accomplished of American composers. *Hora Novissima*, for vocal soloists, chorus, and orchestra, in the romantic-derivative style, with Handel-like fugues, of the English nineteenth century choral festivals, was composed in 1893 and brought its composer immediate acclaim. To quote the jacket notes: "It received singular acknowledgment when it became the first American work ever to be presented at the famous THREE CHOIRS FESTIVAL in Worcester, England. The composition created such an extraordinary impression that Parker was awarded an honorary degree at Cambridge University and a commission for a new work." Though his operas won substantial prizes, *Mona* the \$10,000 prize offered by the Metropolitan Opera Company in 1912, and *Fairyland* the prize of a like amount offered by the National Federation of Women's Clubs, for whom it was performed at Los Angeles in 1915, neither became even briefly a part of the repertory. Horatio Parker is now remembered chiefly because he was the Professor of Music under whom Charles Ives studied at Yale. As somebody once wrote, "So it goes with the world's glory."

My *Hora Novissima* is not unworn; the record surfaces are less worn, one might think at a first hearing, than the idiom. Such was my own opinion, but the first complete, attentive listening denied it.

When *Hora Novissima* was revived and performed in Carnegie Hall in 1937—that's 44 years after it was first performed or less than the time we reach back to *Sacre de Printemps* and *Pierrot Lunaire*—John Tasker Howard paid tribute with these words: "*Hora Novissima* may be mentioned in the same breath with César Frank's *Beatitudes*." Current piety might mention it in the same breath with the Fauré Requiem. But French devotion to that scholarly master—in particular the devotion of Nadia Boulanger, who has given so many American composers their hard, contemporary glitter—has

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kept the Requiem polished and shining. Among Americans such devotion to American music is not fashionable. Olin Downs came a little closer, in words which would apply equally well to the Requiem: "In harmony, form, melodic line it is irretrievably old-fashioned and genuine, glorious music." Both of them mentioned choruses, fugues, and so on, but being professional newspaper critics neither got around to a description.

Well, the fugues are there all right, and they are beauties. Fugues are somewhat old-fashioned now that canons are back in. But a good Handelian choral fugue, panoplied in well-ordered vertical harmonies and moving individually for voices in all its parts, can never be disdained. The a cappella chorus before the finale presents most gratefully a vocal line that rouses the ear at once to the pleasures of pure vocal polyphony, and this pleasure is not immediately overwhelmed by Handelian harmonic panoply in the wrong place. Handelian fugues, you might say, are ornamented like the uniforms of the Swiss Guards, each distinguished by itself but all rather alike, whereas unaccompanied vocal polyphony must speak in individual parts, with the tongues of men if not of angels. Horatio Parker, who appears to have been a craftsman of uncommon taste and adaptive ingenuity, has taken care of that.

The solos, of a polite Puccini, out of Verdi, though the accompanying obbligato may run interestingly in the style of Wagner, are real operatic melodies in Latin, liturgically subdued, as should be expected, but lacking neither ardor nor melodic continuity and development. Every vocal part, choral or solo, including the quartet in the final movement, adapted from that of Beethoven's Ninth Symphony, has been written to sing; nothing stuffy, sentimental, otiose, flat. This is music in the line of Bruckner and Mahler, by whom Horatio Parker was certainly not influenced, but with a strongly British orientation. It is perhaps a better work than any nineteenth century Briton produced, until Elgar, and I much prefer it to the flaccid lamentations of Elgar's *Dream of Gerontius*.

What puts you off at first, when you listen to *Hora Novissima*, is the continuous string of references to established masterpieces. Brahms' *Tragic Overture* comes in at once, and from there on you can be busy as a bee identifying all the flowers that the honey comes from. Yet with all this Parker never loses or lets down his sense of style or drops his continuity. Each recognizable steal drops into its place as if made for it and leads at once forward to something else that fits as well into the context. The inferior composer prolongs his savoring of borrowed liquors or having stumbled upon a modulation carries it too far; Parker allows no such slackness. He knows when to turn his line, to break off, when to extend, and when to stop. His harmony, if old-fashioned as that of Brahms, grows in the same way out of parts. In other words, Horatio Parker, when he wrote *Hora Novissima*, worked like a real composer, if not independently as a creator, and I am sure he knew as well where each of his stolen treasures came from as he knew what to do with it when he had found it. You can call this a parody oratorio, if you like, but no parody was intended. The music is serious and it is genuine; it is rhythmically directed and substantial. I make no defense of *Mona* or of *Fairyland*—I shall most likely never hear them—or of his numerous contributions to the Protestant Church literature; in these Parker had to do the best he could. A truly creative opera would not have won either \$10,000 prize, and the anthems of modern Protestantism remain an open scandal.

So Parker was not a primitive; with due recognition of MacDowell he was the most important American composer of his day known to the public. Nor is Virgil Thomson a primitive, though he is not the most important American composer of his musically more active time. Both are, in the technical sense, parody composers, Thomson more often by choice, as if, you might say, to get the better of the music. Both did a great deal besides for American music, Parker by teaching, and Thomson as a critic and propagandist. In particular Virgil Thomson's long, quiet, and successful labors to help his fellow American composers, to find them jobs, to get them performed, to have their music published and recorded, should be recognized with gratitude. But when we get down to the absolute fact of their genius as composers, neither of these great men measures up to the standard of the "primitive" Charles Ives. The compositions of Parker and Thomson never outgrew their formal education, whereas Ives immediately put it behind.

Between the *Symphony on a Hymn Tune* and the present, Virgil Thomson has composed a large body of compositions, a few well known, the larger part never likely to become so. The greatest day in his creative life was the day he first called upon and won the

(Continued on page 12)





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## MUSIC

*(Continued from page 10)*

interest of Gertrude Stein. His song-settings of her poems, his music for the operas *Four Saints in Three Acts* and *The Mother of Us All*, for each of which he persuaded her to write the libretto, is simple, avoiding his usual parodistic extremes of counterpoint; he uses native tunes as if with pleasure, avoiding the high-pitched comedy of a composer who is either not quite sure of himself or feels himself above what he can write. The operas are Thomson's most natural music and his best, though I doubt he believes so. These are, with Gershwin's *Porgy and Bess*, whether or not one likes to admit it, the only successful American full-scale operas.

Of Virgil Thomson's work as a critic I have written elsewhere. He has been admired, and he has been influential. His opinions, however limited, are set forth in excellent prose, sharp as a pin. He wields his literary skill for red cloak as well as sword, to deceive as well as kill. He is a superb showman. I find in him small gift of prophecy or insight and much unfairness, but he has never hesitated to fight for what he believes in and, great virtue in a critic, he knows how to praise.

Reading him I have discovered, as I always discover about an American composer who is worth knowing at all, that I need to hear more of his compositions. Even so successful an American composer has not been performed as he deserves.

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*(Continued on page 40)*

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# ART

DORE ASHTON

## NEW IMAGES OF MAN

A comment on "la condition humaine" in terms of an exhibition would not be considered exceptional in France. But in the United States, a philosophically speculative show immediately rouses uneasy reflections. The fear of the "literary" in plastic art is still deeply rooted, and it will take more than Dr. Peter Selz' exhibition, "New Images of Man," at the Museum of Modern Art, to allay it.

But the literary aspect does exist and Selz, who is far from dogmatic, has performed a necessary critical task in examining that which exists. His choice of artists to illustrate the general theme is irrelevant. What is relevant is that there are artists here and in Europe whose expression of their view of the human condition requires the use of the human figure. How they use it is the subject of the exhibition.

Selz chooses artists whose work only assumed importance after the Second World War. In other words, artists born after 1900, into a fluid iconoclastic cultural situation. And make no mistake, these artists were shaped by the heady iconoclasm of our time as much as any nonfigurative artist. The general dissolution of conventional forms—the main accomplishment, it seems, of the arts in our century—made it impossible for artists concerned with the human image to begin with the figure itself. On the contrary, almost without exception, the artists in this show began with that which is outside of the human figure. They show us not man inviolate, but man as he exists in a situation, most often buffeted by unfriendly outer forces.

It is in this submission to the leitmotif of the epoch—unnameable forces—that the artists here represent merely another facet of the irresistible urge to abstraction. No one, it seems, is exempt these days from the urge to dissolve. In the abstract artists, it takes the form of reduction to fundamental forces. In the figurative artists, more often it is a fragmentation of identifiable images. But reduction and dissolution it is. However we look at it, "forces" are the subject for both figurative and non-figurative artists today.

Is the principle of reduction of philosophical interest? I think so. To reduce the human figure (or landscape, or imaginary cosmos) is to make a symbol, or better yet, a metaphor—that is, something that substitutes for something else. Ironically, many young artists and writers today regard the metaphor as one of the many inherited conventions it is their mission to dissolve. Yet, in the very process of avoiding metaphor—as in long-winded novels of surface description, or formless sculptures that are composed of additions of surface details—the artists emerge with one large metaphor. Life is so, they say, with its frightfully random elements. But it can be reduced, it is reduced finally, to the object that is here considered a work of art. The implications, then, are "literary," or symbolic.

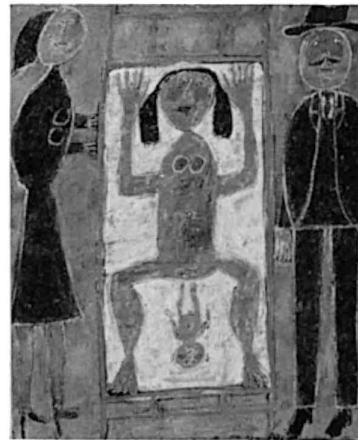
Such reductions are not new to the history of art. On a very simple level, the story of Nobody illustrates my point. Nobody appears in the Bible, and he appears in Homer. During the Renaissance, he often appeared satirically represented as St. Nemo. The earliest woodcut representing Nobody appeared in 1500. It was an empty rectangle "since nobody is depicted therein." Nobody, naturally, has a dialectic relationship to Somebody. In Shakespeare's time, Somebody was represented as the villain, all body and no legs, while Nobody was all legs—usually billowing pantaloons to his shoulders—and no body. But Somebody and Nobody were symbiotic. Dubuffet's wry-faced man, troughed with lines and dusted over with sand and rope, is a latter-day "Somebody," ridiculous, and in the some hopeless conundrum as Nobody. Dubuffet's symbol is as direct as the naive Renaissance empty rectangle.

That Selz wished to stress the symbolic character of 20th century art—no matter what form it takes—is apparent in his choice of an author for the introduction to the book accompanying the exhibition. The introduction is written by Dr. Paul Tillich, considered by many an authority on Existentialism. Dr. Tillich, while intelligently tentative in his remarks, cannot resist equating the absence of the human image in abstract art to what he considers the increasing "dehumanization" of the world. The fear of "becoming a thing" he believes inspires these artists to resurrect the human figure; he sees their work as "representations of the human predicament."

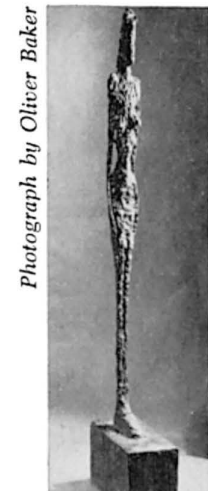
Selz also leans heavily on the Existentialist thesis in his essays. "Instead of a canon of ideal proportions," he writes, "we are confronted by what Nietzsche called 'the eternal wounds of existence.' " The artists he selects, he thinks, are concerned with "existence rather than essence," and portray "the disquiet man."

Both Tillich and Selz point out that these artists are in what Tillich calls "the negative" tradition that embraces Bosch, Grunewald and Goya. But that may not be a significant observation since after all, the disquiet man appears in many forms in art history—in Leonardo's sketchbooks, in Bronzino's portraits, in Holbein's drawings, even in Gericault's portraits—he is nothing new to artists.

Nor is grotesquerie and the magnet of the macabre new to art. Sporting in Hell is old sport for painters. The possibilities of the macabre, plastically speaking, have always been cannily recognized by artists, many of whom had no other end in mind than a free field for their imaginations. Certainly the "eternal wounds of existence" have smarted throughout history. And certainly artists suffer them with greater anguish than most. But depression, despair, monsterism—the terms often affixed to this exhibition—are not the whole story.



Jean Dubuffet  
*Childbirth*



Alberto Giacometti  
*Tall Figure*

The existentialist thesis Selz expounds works very well with the European masters. But it doesn't cover many of the other artists in the show. For Giacometti (certainly the master in the show), Selz' argument is completely justified. Giacometti's close relationship to the literary figures of post war Paris; his own existentialist statements; and the content of his work fully bear out Selz' observations. His "new image of man" can be considered a direct reflection of Existentialist despair right after the war, as the Existentialist writers were quick to point out. The same may be said of Dubuffet, whose idiosyncratic quest for truth led him back to primitive sources. His reductions, as he points out in an important statement in the catalogue, are not intended to be satirical or bitter, but to "perform a solemn office of celebration."

But what of the artists who are younger, and whose formation included exposure to Giacometti and Dubuffet? Is theirs a direct reflection of Existentialist despair? Or, once-removed as they are from the personal and communal tragedy that befell both Giacometti and Dubuffet, do they not express something else?

In short, Giacometti and Dubuffet and a few others opened a vein to be explored, and the younger artists proceeded to explore. What they found and what they used in their work, often appears to me to have implications other than those in the work of their precursors.

Let's take two of the younger European sculptors, Paolozzi and César, two robust young men whose variations on themes already established in post-war Paris—where they schooled themselves—

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have since acquired individuality. Paolozzi, it is true, began with the anxiety-ridden effigies he had seen in Dubuffet. But a number of other factors shaped him as well. For one thing, he was heir to the tradition of Picasso, who assembled bits of oddments decades before him, and who, together with Gonzalez, suggested the plastic possibilities of fragmented images in sculpture. Like everyone else in this show, Paolozzi grew up on Picasso, the foremost "new" imagist, and the invaluable technical background that that provided him pointed the way for experiments in largely plastic, non-philosophical terms.

To Paolozzi, the 20th century tendency to dissolve form and reduce to essentials (I'm afraid it is essence rather than existence he pursues) was perfectly natural. It was no longer an esthetic problem to be confronted, but a given, and unquestioningly accepted, canon. Like Richier, he accepted the prime "subject" of modern art established as early as 1910: metamorphosis. Richier wrote that her subjects "belong to the world of metamorphosis." He wrote that his idea is to "achieve a metamorphosis of quite ordinary things into something wonderful and extraordinary."

Far from being a tragic idea, this idea, as propounded by Kandinsky for instance, was the fruit of a non-ironic optimism, and I don't think Paolozzi falls very far from that non-tragic view, no matter what he says intellectually about his work. He, and other young artists, wanted to show the movement of "forces" and how "forces" work on the human body. Paolozzi writes in the *New Images* catalogue that "I was more interested in destroying certain formal ambiguities by using ready-mades of a mechanical nature than creating some kind of philosophy about machines. . . ." As for the fragmenting of the image, it comes as much from discoveries Paolozzi made within his métier as it does from a philosophical superstructure. I think Selz' interpretation of Paolozzi's sculpture as "pitiful robots"—a phrase that insists on their literary connotations—is misleading. Perhaps Paolozzi's image abstractly suggests to some viewers the inroads of machinery on the soul of man; or his involuntary spiritual isolation; or degradation of his flesh. But if we look only at the work itself, that interpretation is challenged: Paolozzi's native vigor is greater than his world weariness, and it transforms these figures into something other than pitiful or robot-like.

I think the same holds for César. It is true that his nude is a bumpy, armless, legless, organless fraction of a human. But it is not a tragic symbol; not much more, in fact, than an interesting object that is partly determined by the particular technique used to make it. César makes a network of rods, uses them as an armature, then welds small bits of metal together until he has shaped a section of



Willem de Kooning  
*Woman and Bicycle*  
Photograph by Oliver Baker



Rico Lebrun  
*Doble Disparate*

a nude figure. He fashions a fragment, but with a curiosity that seems to say, why not? Why not leave out this or that? Bits of metal lend themselves admirably to being left out. Selz calls César's sculptures "a savage assertion of the corruption and frailty of once undefiled flesh." Perhaps the bolt at the elbow and the exposed wires resembling bones spell out pathos for some. But I am inclined to think that César's image grew primarily from his technique, and that the nude is gratuitously selected as a motif. The Icarus-like bird, on the other hand, depends on a formal illusion

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for its strength—the asymmetry produced by the long, plated wing that extends beyond what would normally be in balance. It is only one wing, and maybe some would consider even that a symbol of our destructive, depressing era. But, as in Paolozzi's case, I'm more inclined to regard it as an imaginative invention of a rather robust temperament, quite unconcerned with the black chaos faced by veterans like Dubuffet and Giacometti.

Getting back to metamorphosis. . . . There can be something terrifying and unnerving about metamorphosing form. Organisms that are becoming, such as human embryos and plant cells, have an amorphous, sticky, repellent aspect. But since time and space were wed at the end of the last century, artists have had no choice but to present their subjects as the issue of this incontestable marriage. And what, after all, is so desperate about an observation of metamorphosing form? Depending on the temperament of the artist, a subject depicted as "becoming" can be terrifying or just as easily, pleasantly exciting. When painters began to make use of erasure, or the blurring of forms, to suggest metamorphosis, they used it according to their personality, with results varying from singular beauty (Gorky) to perfect horror (Bacon).

The convention of the blurred form is now an acceptable one, with a history dating back to 1910. In the hands of deKooning, the feathered stroke, dimmed edge, brush-over plane has certainly not been an illustration of despair and the general falling-to-pieces of culture. It is more nearly rooted in the desire, expressed early in the century, to show the effect of time and space together on matter or human flesh; time as it flows over subjects.

In the hands of Bacon, the same tendency to erasure is infinitely disturbing. Anxiety is the grand theme. DeKooning's extraverted venting of emotion is simply not comparable to the silent, strangled horror of Bacon's image. Yet both have availed themselves of the same convention—that of the half-formed, the transitive, the fleeting.

It is apparent, not only in two representations of childbirth in the show, but in other more subtle ways, that the longing for primitive direct expression is very strong in the artists here. Ideas of effigy, of a child's vision, of ritual and ceremony, underlie the show. As Selz aptly puts it, "when they (the artists in the show) study an African carving, they are enraptured not so much by its plastic quality or its tactile value, but rather by its presence as a totemic image. They may appreciate the ancient tribal artist's formal sensibilities; they truly envy his shamanistic powers."

In this, perhaps, the real value of the new image of man resides. Not surprisingly, the most sophisticated artist in the exhibition is the one whose image is most convincing, most magical. Giacometti. His incantatory power doesn't have to be described. Why do his shafts in space mean more than the many literal representations of the miserable human condition in the show? I think it is because, unlike some others Selz refers to, Giacometti is concerned with essence, since essence is irreducible form. Giacometti is creating a large metaphor. He is restoring mythic grandeur. His province is the universe, and though his human figures stand alone and are perhaps threatened by that universe, they do stand immovable with the aura of ineffability that surrounds an Egyptian carving. There may be a ref-

(Continued on page 40)



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# notes

## *in passing*

No matter what system is used, the pervasiveness, immediacy and intimacy of radio place a heavy burden on those who control its use. By design or accident broadcasting can be turned into a wearisome, bigoted governmental propaganda machine, or it can be used to present unbiased news and to help the listener to understand his neighbour's problems. It can also be transformed into a mere outlet for "popular" music and singing commercials, at best just another background noise of modern civilization, or it can be used to widen cultural horizons and to aid in educational advancement. Constant vigilance is necessary to keep broadcasting from sliding into either of these undesirable extremes.

There are several serious obstacles—economic, technical and political—that impede the most effective use of broadcasting and thus deny far too many the freedom to listen. Probably the most important is the lack of success in making broadcasting facilities, especially receivers, available to all parts of the world. While Europe and North America have a fairly adequate distribution of receivers—half of the world's total being in the United States alone—and South America is in a relatively good position, the condition is still shocking in many parts of Asia and in most of Africa.

In Asia, with the exception of certain countries bordering on the Mediterranean in the west, and Japan and the Philippines in the east, the average number of receivers per 100 persons rarely exceeds six, and in some areas there are less than one per 100 inhabitants. In Africa, with the exception of Algeria, Egypt, Morocco, Tunisia, and the Union of South Africa, few countries have as many as one receiver per 100 inhabitants.

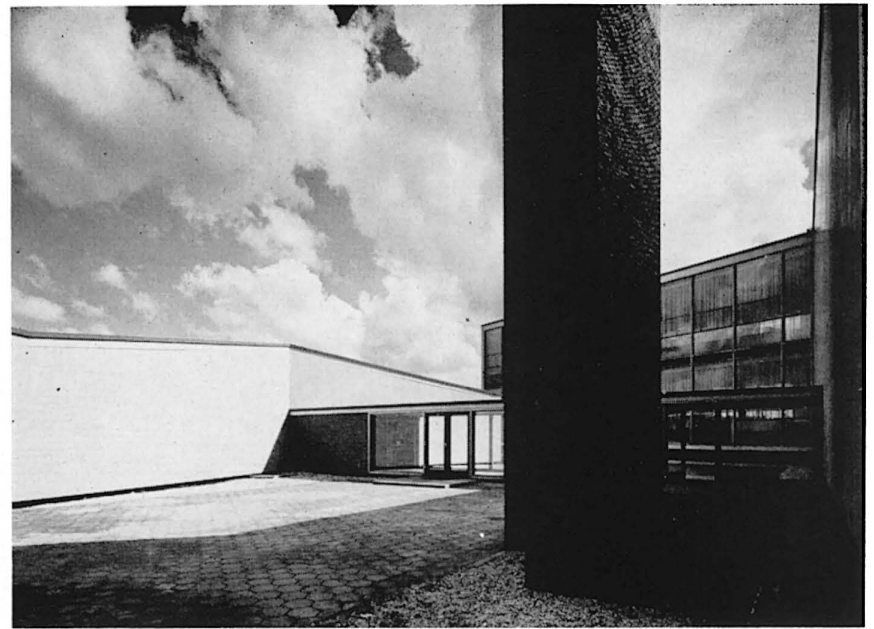
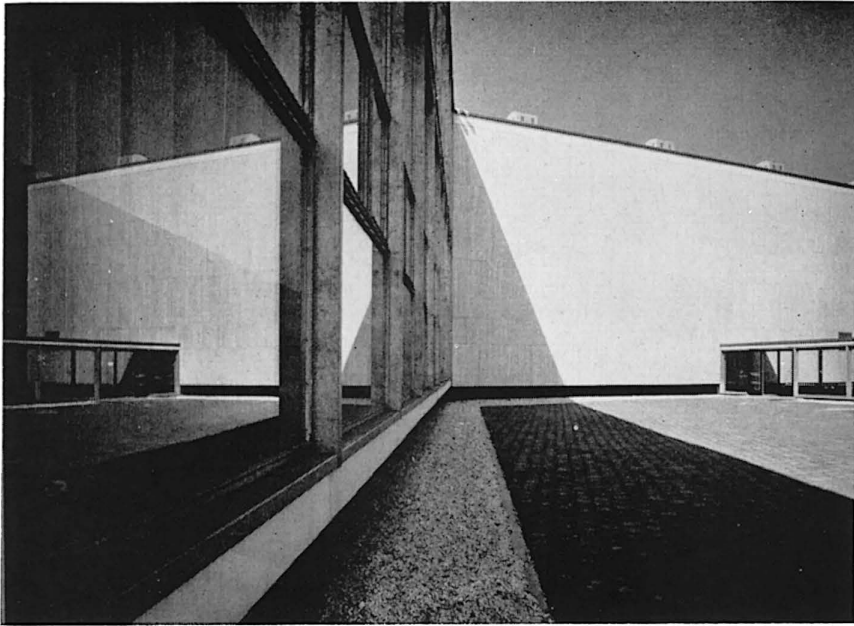
It is important to note that the areas which do not have adequate broadcasting facilities are those where the need is the greatest. While lack of adequate transportation may make it difficult or even impossible to distribute newsprint, books or film, radio can communicate over long distances despite mountains, rivers, and jungles. Broadcasting can also overcome economic barriers that exist in most underdeveloped countries. After the costs of installation have been met, the

maintenance of a broadcasting service is relatively inexpensive in relation to the area that it can cover and considerable use may be made of local resources. Film and newsprint, on the other hand, are expensive and must be purchased from abroad in the currencies of the major producers. The third and most important advantage of radio is that it can inform and educate whether or not the listener is literate. As has been pointed out, the countries which are poor in information media are also those where the level of illiteracy is the highest.

The expansion of broadcasting to meet the needs of underdeveloped areas, and perhaps even its continuation on the same level in more fortunate areas, depends upon the solution of another basic problem. The radio spectrum is used by many services in addition to broadcasting—ships, aircraft, telegraph and telephone, and amateurs, to mention but a few—and new ones are being introduced. Since the radio spectrum is limited, and the appetites of the radio services are not, over the years it has become more and more crowded especially in some of the more desirable frequency bands. The interference between stations that has resulted is so serious in certain bands that the future of broadcasting as well as other radio services is actually in serious danger.

If any conclusion can be drawn from an examination of the situation of broadcasting today it is that broadcasting is one of the most important means of mass communication at mankind's disposal and if it is to have a future worthy of its potentialities positive action must be taken by all concerned. It is everyone's responsibility to see that broadcasting facilities, both transmitting and receiving, are available to all. It is everyone's responsibility to see that the programmes that are offered contain all that is necessary to provide the listener with means of enriching his life. It does not follow, of course, that the listener will always take advantage of the best in broadcasting, but if he does not have access to radio, and to a choice of good programmes, he is being denied the basic right to listen.—UNESCO





This was a project designed to serve as a new suburban administration center near Amsterdam. Four wings looking out in two directions over a well landscaped setting provided many innovations in design and arrangement. Eliminating the usual cubicles for employees, the well lighted and spacious pooled office space was developed in order to provide scale privacy with better than usual natural light.

This suburban site has maintained its natural characteristics described by the architect as being unusual, mossy, and heathlike.

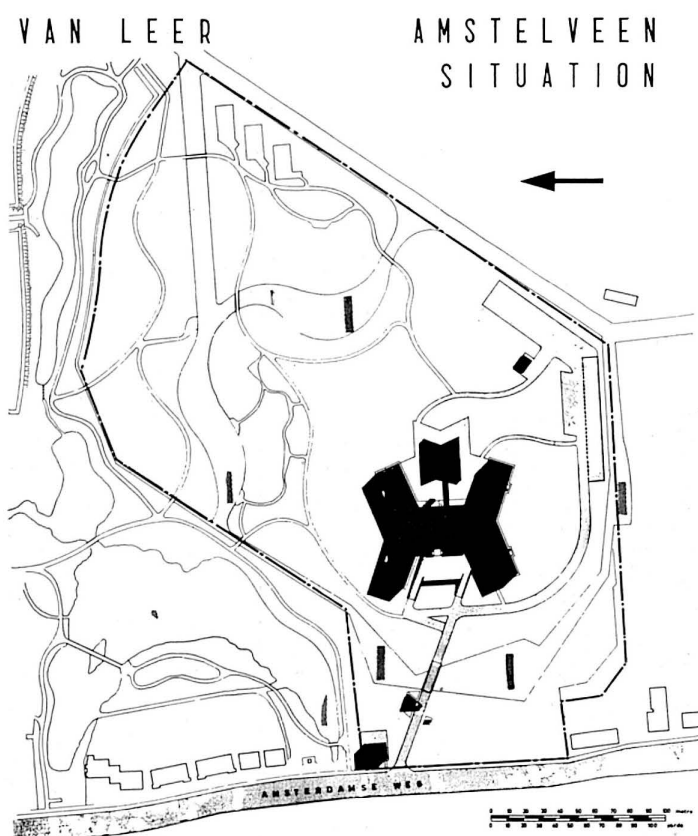
The building rests on a concrete mat on piles, with the substructure designed to withstand hydrostatic pressure. The exterior metal is hot-dip galvanized steel left to weather. The entrance canopy is of concrete. The exterior stone is Roman travertine. The central lobby and canteen are of concrete with folded plate roofs. The wings are of conventional steel construction and slabs. The supporting columns are precast. The roof plates were poured in place.

Natural ventilation in the office areas is provided by a combination of opening sash above the floor and overhead exhaust fans. Drafts are avoided by air movements being created above the heads of the office workers.

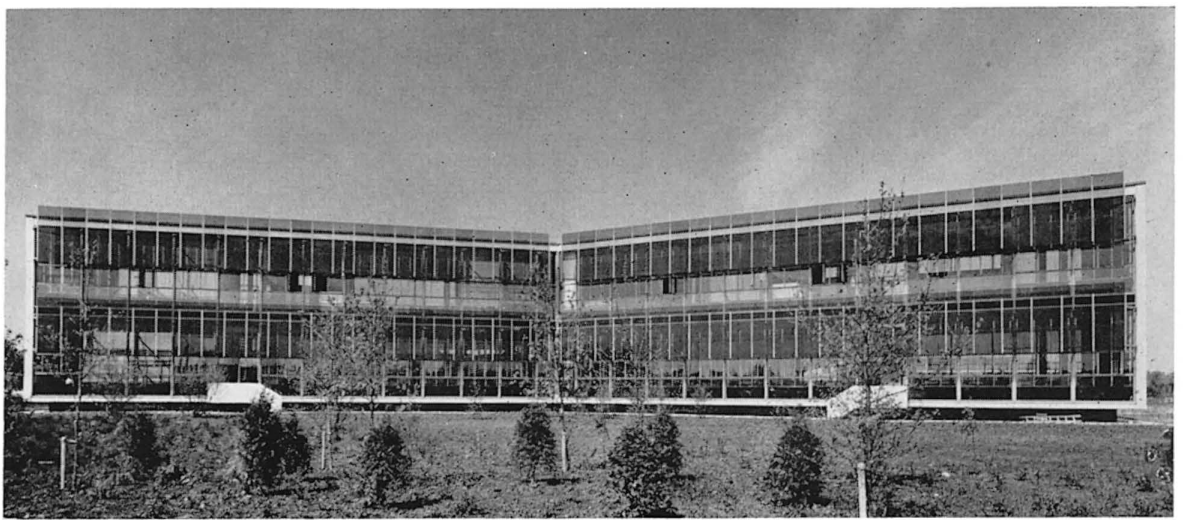
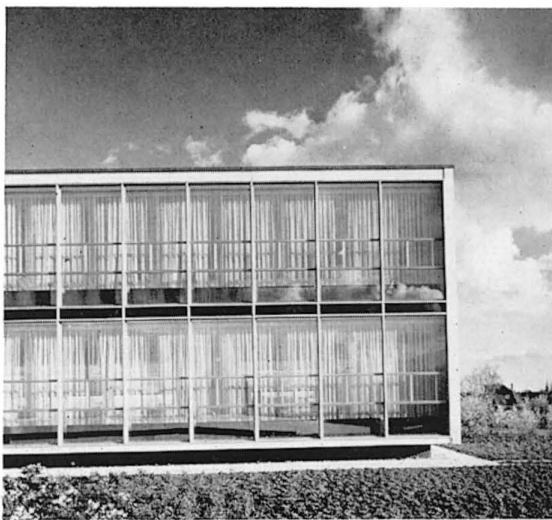
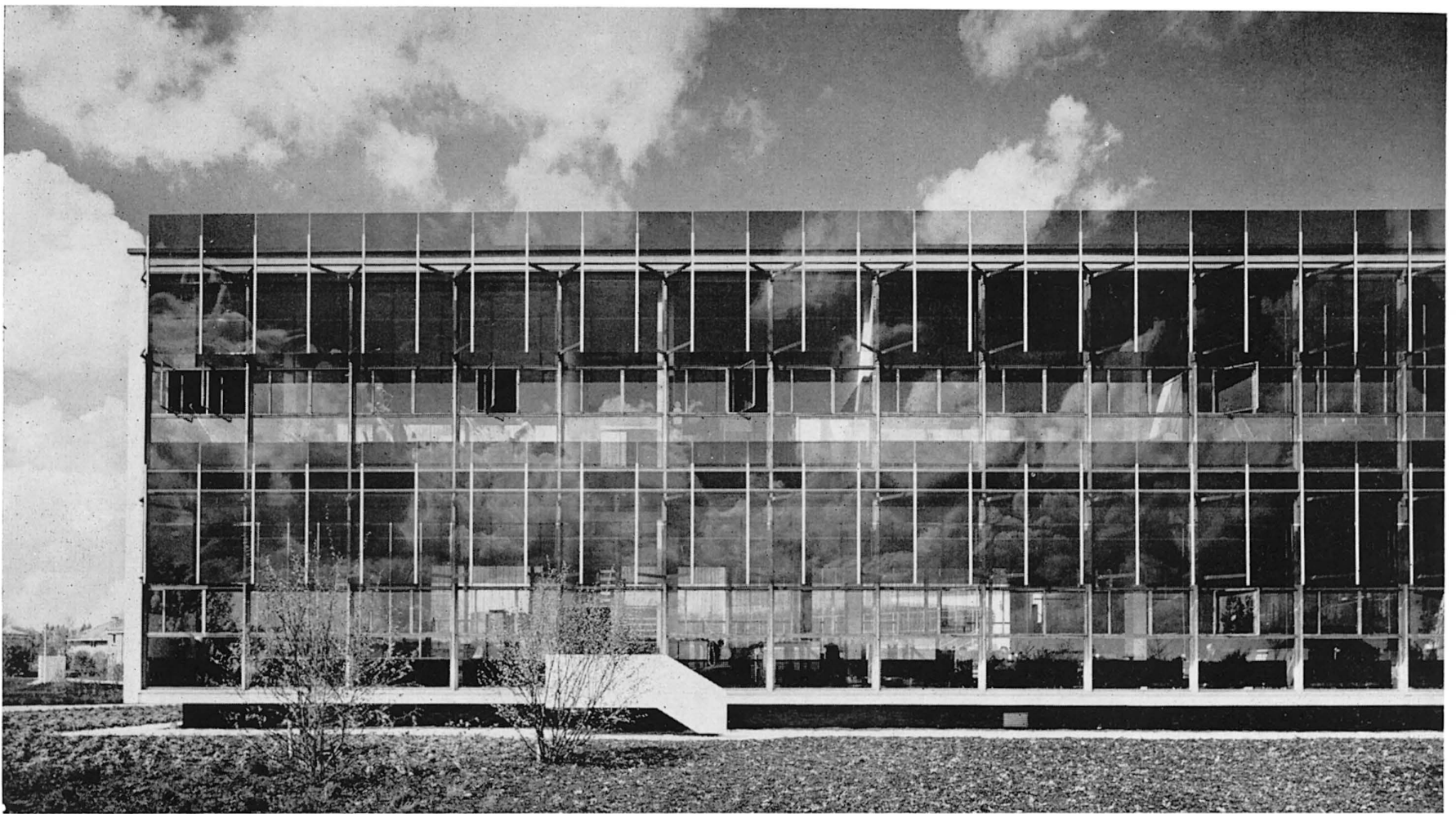
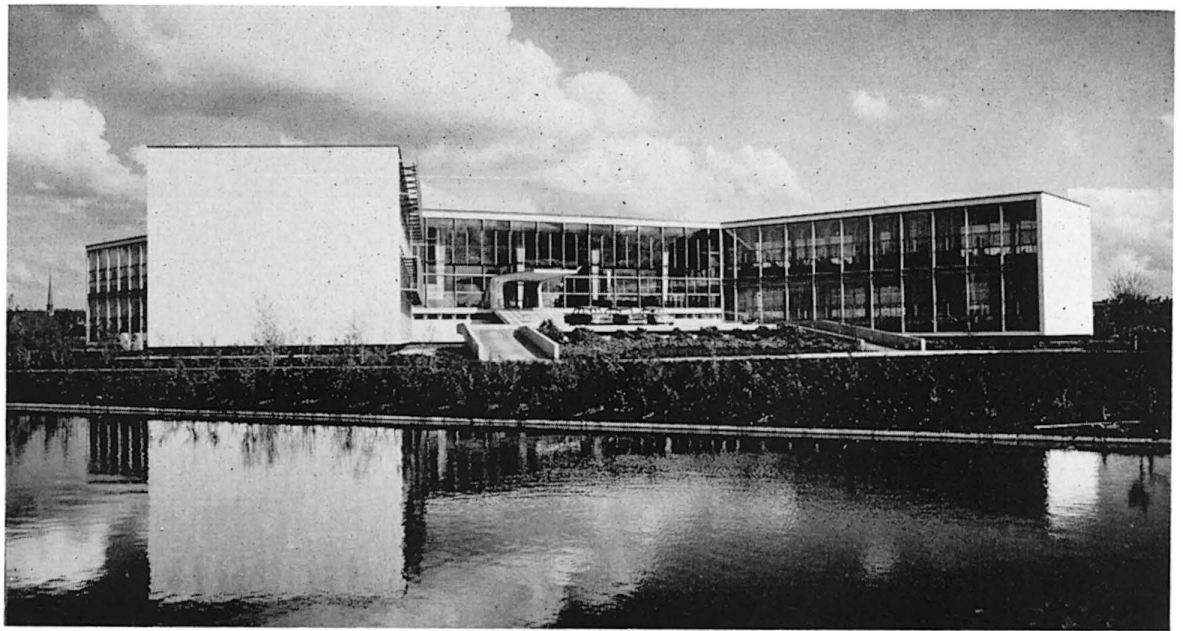
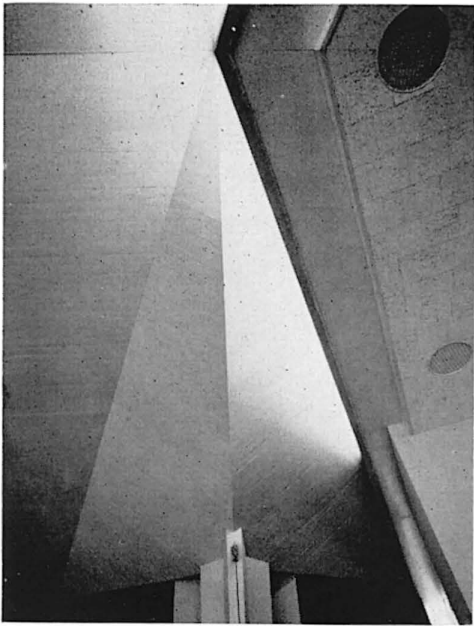
The walls are plaster covered with an off-white plastic. Circular lighting fixtures contain three fluorescent tubes, shielded by an egg-crate of plastic. Floors are typically of gray linoleum.

## ADMINISTRATIVE HEADQUARTERS

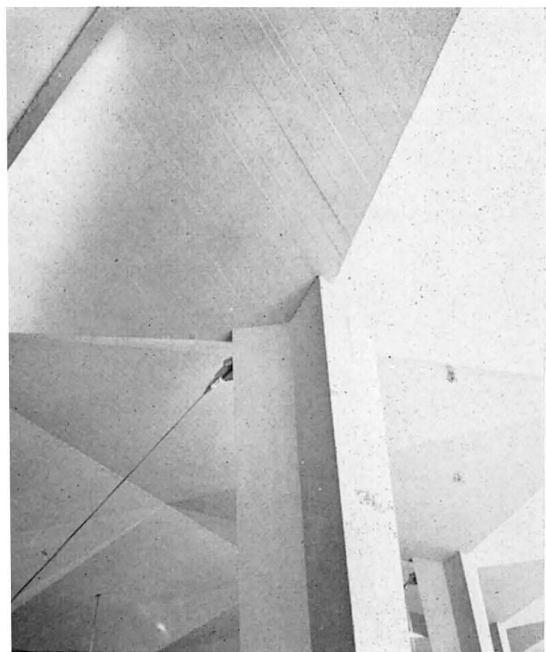
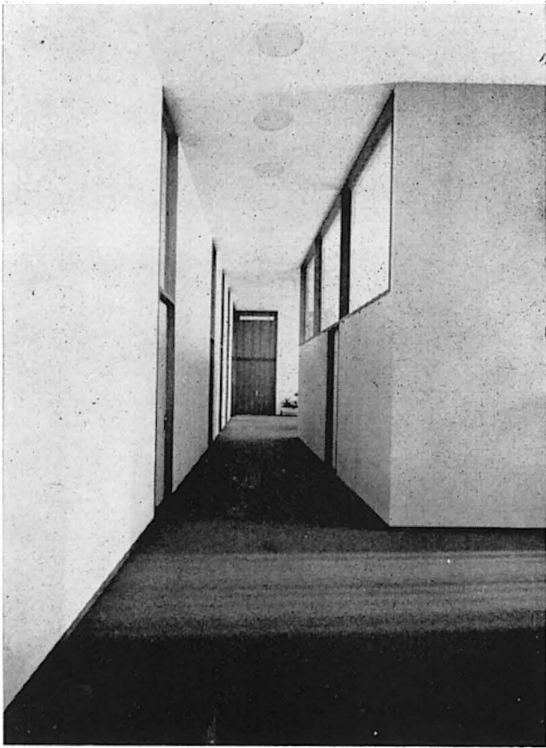
BY MARCEL BREUER AND ASSOCIATES, ARCHITECTS











**BREUER**





*The project for the new Capital City in the heart of Brazil is now well on its way to completion. While we have been aware of the magnitude of the undertaking shown in photographs of the models, it would seem that a fuller understanding of this, the birth of a great modern city, would be best understood by presenting the thesis upon which Lucio Costa won the competition for the pilot plan. This major undertaking is now being brought into reality through the virtuoso performance of Oscar Niemeyer on a great central plain of Brazil.*

*The magazine will subsequently show the developing progress of this giant undertaking. The following is the exact text with detail illustrations from Mr. Costa's winning project.*

In 1823, José Bonifacio suggested transferring the Capital of Brazil to Goiás, and rechristening it Brasília.

First of all, I should like to apologize to the Directors of the Development Company (Novacap) and to the Jury of the Competition, for the sketchy manner in which I am submitting the idea which I have followed in my suggested outline plan for the Federal Capital; and at the same time, I must justify myself.

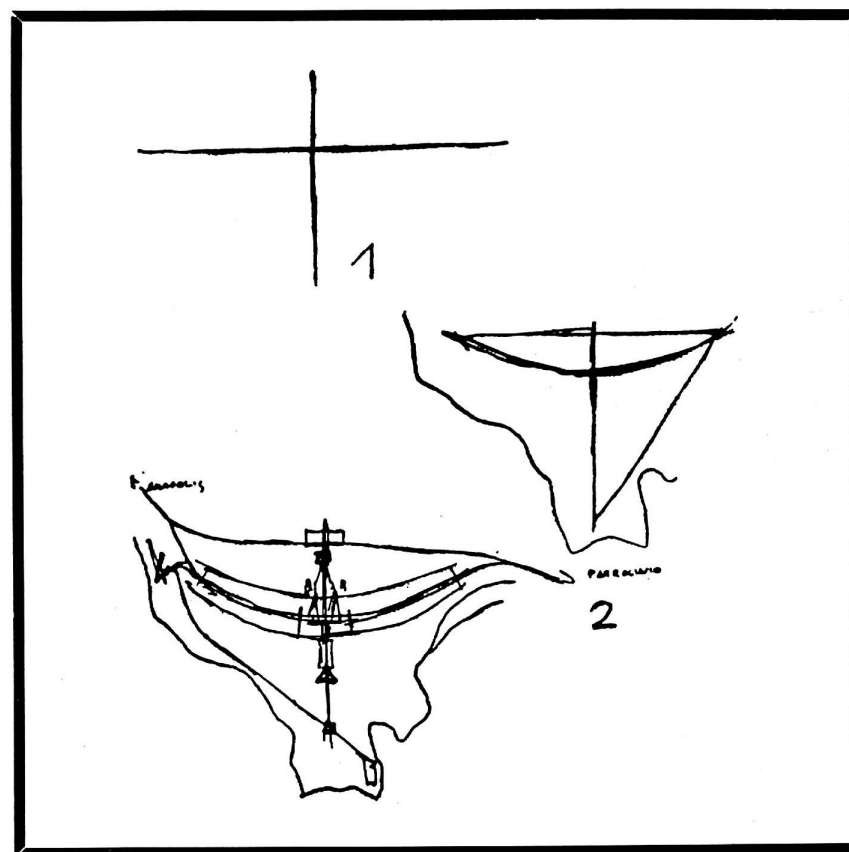
It was not my intention to enter the competition—nor indeed am I really so doing. I am merely liberating my mind from a possible solution which sprang to it as a complete picture, but which I had not sought.

I therefore come forward, not as a properly equipped expert, since I do not even run an office of my own, but as a mere "maquisard" of town planning who does not even mean to continue working out the idea offered in this report, save perhaps as a consultant. And if I speak with such candor, it is because I base my reasoning on this simple assumption: if my idea has any validity, my data—although given apparently in such a sketchy manner—will prove quite sufficient, showing that despite its spontaneous origin, I subsequently gave it a great deal of thought before reaching this solution. And if the suggestion has no validity, then the Jury will find it easy to eliminate, and I shall not have wasted my time, nor that of anybody else.

Since there were no restrictions in the way of entering the competition, there was less possibility of consulting the Development Company on what is, in fact, a point of great importance: namely what, from a planning standpoint, they think this city should be—since in

# BRASILIA

PILOT PLAN—LUCIO COSTA



this instance it will not be the outcome but the cause of the regional plan. For this is a deliberate act of possession, the gesture of pioneers acting in the spirit of their colonial traditions: and each competitor is, in effect, being asked how he conceives of such a city. It should be conceived of, I believe, not as a mere organic entity, able to function effortlessly and vitally like any modern town; not as an "urbs," therefore, but as a "civitas," having the virtues and attributes appropriate to a true capital city. To achieve this, the town planner must be imbued with a certain dignity and nobility of purpose—for it is from this basic attitude of his that must spring the sense of order, fitness and proportion which will confer real monumentality on his urban scheme. I use the word not in the sense of ostentation, but as the palpable and conscious expression of true value and significance. He must design a city in which orderly and efficient work may be carried out: but also a city of vitality and charm, conducive to rêverie and intellectual speculation, capable of becoming not only the seat of Government, the administrative headquarters of the nation, but also a center of culture which will



## BRASILIA

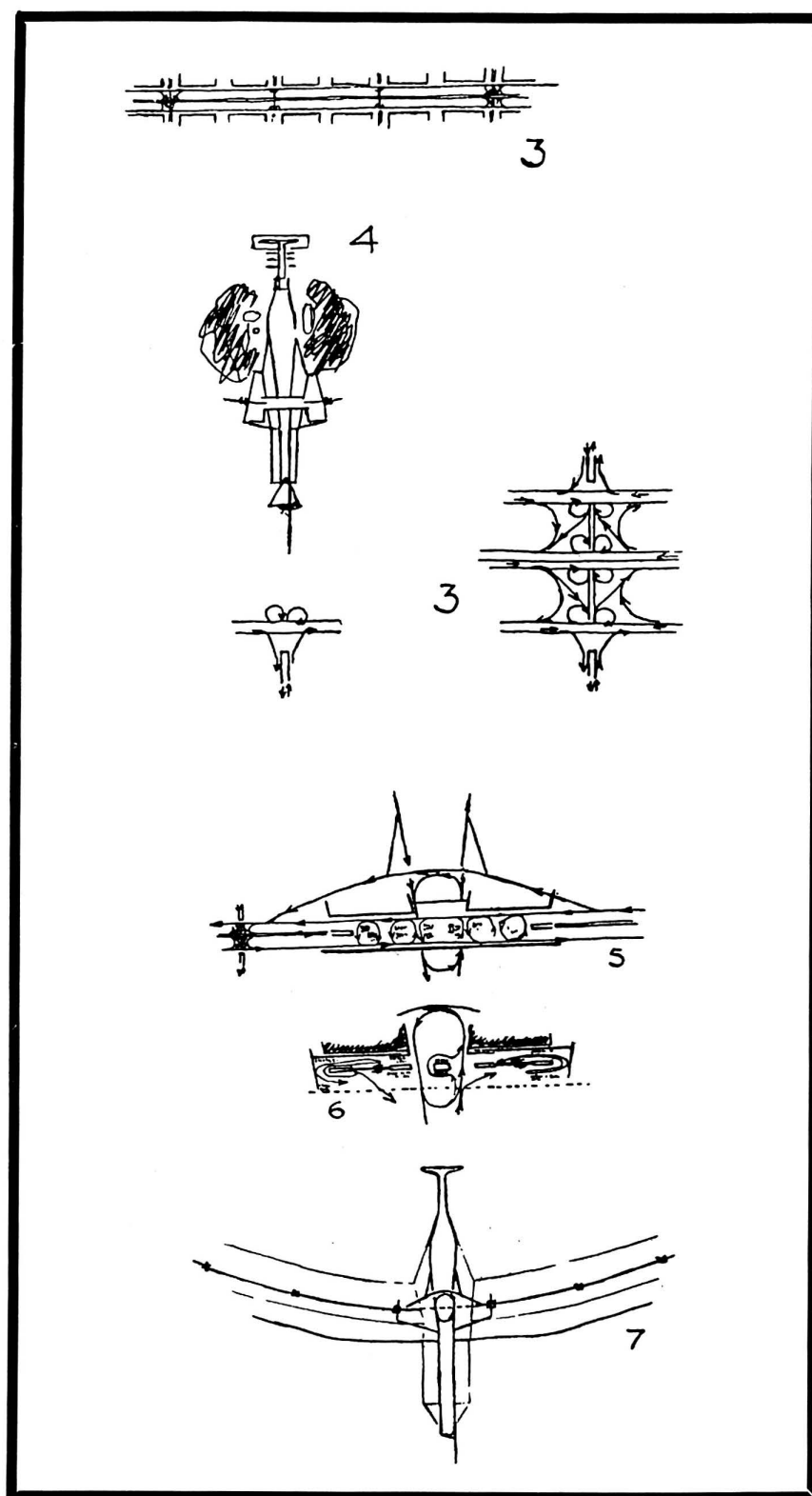
attract to it the finest and most perceptive intellects in the country.

And now let us see how the plan was born, outlined, and developed to its present conclusion.

It was born of that initial gesture which anyone would make when pointing to a given place, or taking possession of it: the drawing of two axes crossing each other at right angles, in the sign of the Cross, 1. This sign was then adapted to the topography, the natural drainage of the land, and the best possible orientation: the extremities of one axial line were curved so as to make the sign fit into the equilateral triangle which outlines the area to be urbanized, 2.

Finally, it was decided to apply the free principles of highway engineering, together with the elimination of road junctions, to the technique of town planning. The curved axis, which corresponds to the natural approach road, was given the function of a through radial artery, with fast traffic lanes in the center and side lanes for local traffic. And the residential district of the city was largely located along this radial artery, 3.

As a result of this concentration of the city's housing, it seemed logical to dispose the other important centers along the transverse radial artery, which thus came to be regarded as the monumental radial artery. Here, then, are located the Civic and Administrative Centers, the Cultural Center, the Entertainment and Sports Centers, the Town Hall and other Public Buildings, the Barracks and the zones designated for warehousing and supply, local light industries and the railway station, 4. At the intersection of the two arteries, but functioning essentially as part of the organization of the monumental radial artery, are the banks, the finance corporations, big business buildings and offices housing the liberal professions as well as extensive markets and shopping centers. Since the monumental radial artery underpasses the residential radial road, it was necessary to create a spacious platform, to be kept clear of all traffic not specifically intending to park there. The quiet refuge of this platform makes it the logical site for the Entertainment Center where cinemas, theatres and restaurants are grouped together, 5.



Traffic heading for the other parts of the city flows down in a one-way stream to the lower level roofed over by the platform. It is thus sandwiched as it were between two platforms, with the sides left open. The 'under-platform' will also house a large car-park and here too is the Interurban Transport Center—a building reached by passengers from the upper platform, 6. Only the fast traffic lanes, already underground, dive below the center of the 'under-platform' which spreads down the hill until it reaches the Esplanade on which the Government Buildings are located.

Thus, with the creation of three complete clover-leaves in each arm of the residential radial artery, and of an equal number of underpasses, car and bus traffic will flow unimpeded through the central and residential districts, and with no road intersections. An independent and secondary traffic system has been worked out for heavy vehicular traffic; it has crossings marked by traffic lights, but does not communicate with the first system except beyond the Sports Center. It has basement level access to buildings in the Shopping Center, and it skirts the Civic Center at a lower than ground level, with approach galleries tunnelled through the terraced embankment, 7.

Once a general network for motorized traffic had been established, an independent grid of safe-transit footpaths for pedestrians had to be organized, 8. However, separation of the systems of circulation must not be taken to unnatural extremes, since it must not be forgotten that the car, today, is no longer man's deadly enemy; it has been domesticated and is almost a member of the family. It only becomes "dehumanized" and reassumes its hostile, threatening attitude, when it is



reintegrated into the anonymous body of traffic. Then indeed, man and motor must be kept apart, although one must never lose sight of the fact that, under proper conditions and for mutual convenience, co-existence is essential.

Within the framework of regulated traffic, the separate areas are linked together to make one harmonious system; let us see how. The highlights in the outline plan of the city are the public buildings which house the Fundamental Powers. These are three, and they are autonomous: therefore the equilateral triangle—associated with the very earliest architecture in the world—is the elementary frame best suited to express them. For this purpose, a triangular, terraced embankment (terreplein) was designed: it will be supported on retaining walls of rough stone rising above the surrounding countryside, and can be reached from the ramp of the autostrada running between the President's Residence and the airport. At each angle of the triangular piazza—the Place of the Three Powers, as it might be called—stands one of the three buildings: the Government Palace and the Supreme Court at the base; the Congress Building at the tip. This building also fronts on to a wide esplanade on a second, rectangular embankment on a higher level, according to the local topography: the entire perimeter of this embankment is also supported on walls of unfaced stone. To transfer to present-day usage the ancient technique of the terreplein lends a certain harmony to the pattern and creates an unexpected and monumental strength, 9. This esplanade—the Mall as it would be called in England—is lined by a wide grass verge used by pedestrians and

also for parades and processions; onto it front the Ministries and the Offices belonging to the Public Authorities, 10.\* The Ministries of Foreign and Home Affairs occupy the lower corner sites adjoining the Congress Building, and they are suitably landscaped; the War, Sea and Air Ministries face a separate square, while the remaining ministries are sited in a row along the Mall, each with its private carpark. The last in the row is the Ministry of Education, making it adjacent to the Cultural Center which is treated as a park so as to make it more effective as a background for the Museums, Library, Planetarium, Academies, Institutes, etc. Close to these is a wide stretch of land reserved for the University City, its General Hospital, and, later on no doubt, for the Observatory. Along the Mall, space has also been allocated for the Cathedral, but this will face its own piazza, not so much for reasons of protocol, since in Brazil the Church is separated from the State, but more because of the question of human scale and the need to give this building its monumental value. Another reason, even more important, is of an architectural nature: the Mall's perspective must be undisturbed up to a point beyond the central platform, where the two radial arteries cross each other.

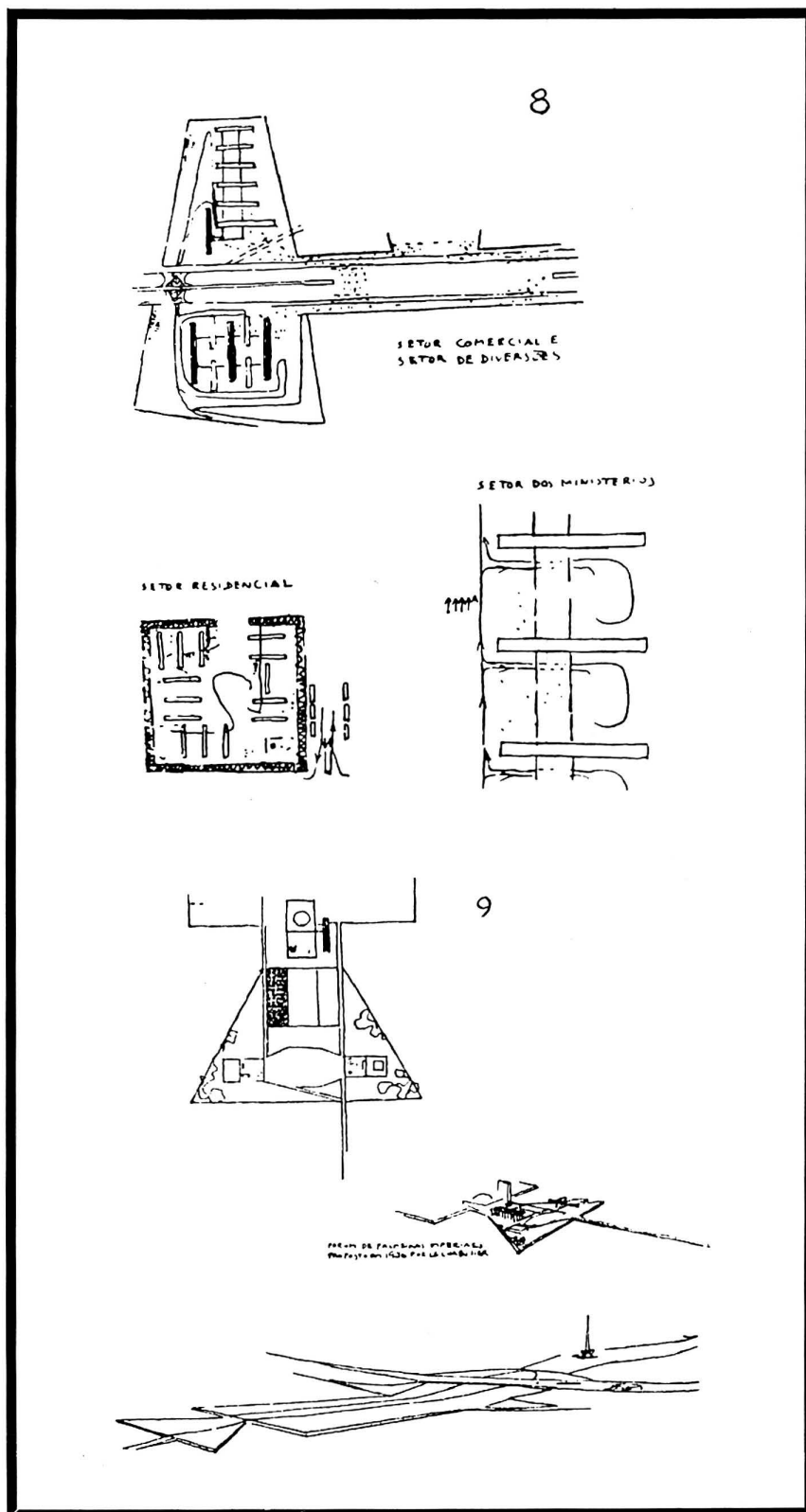
On this platform, as we have seen, traffic is only local; and the Entertainment Center—which has something in it of Piccadilly Circus, Times Square and the Champs Elysées—is situated on it. The side of the platform which overhangs the Cultural Center and the Mall will not be built over, with the exception of the Opera House and a tearoom, reached directly from the Entertainment Center, or through a lower level passage from the Cultural Center. The front of the platform will be lined with cinemas and theatres, all with the same low height regulations, so that if viewed as a whole, they will make an uninterrupted architectural mass, with arcades, wide sidewalks, terraces and cafes. The facades of the buildings provide a fine field for illuminated advertisements, 11.\* The theatres will be inter-connected by lanes barred to motor traffic, in the traditional manner of Rio's Ouvidor Street, Venetian alleys, or arcades which run into small patios where there will be bars and cafes. Behind the buildings, footpaths and lanes will lead to "loggias" overlooking the park. The purpose of this careful planning is to provide pleasant surroundings for social gatherings and friendly intercourse. The street level of this theaterland complex will be open and unobstructed except for the cores of access leading to the upper floors, so as to maintain an uninterrupted perspective. The upper floors will be glassed-in on both sides, so that the restaurants, clubs, tearooms, etc., may look on to the lower esplanade on one side, and on the other may have a view of the hilly park—an extension of the monumental radial artery on which the commercial and tourist hotels are located—and beyond this, of the imposing Radio-TV Tower, which is treated as a plastic element in the composition of the urban mass, 9, 11\* and 12.\* Slightly to one side of the center of the platform is the entrance hall of the Interurban Transport Terminal with its ticket-offices, bars, restaurants, etc. This is a low building connected by escalators with the lower departure hall which, in its turn, is separated by glass partitions from the departure quay proper. One-way traffic forces the buses to make a detour leaving the road under the platform; this gives the travellers their last view of the monumental radial artery before the bus enters the residential radial artery, and is a psychologically satisfactory way of saying farewell to the national Capital. Also situated on the platform (which, like the lower platform, will house extensive car-parks) there will be two spacious piazzas for pedestrians; one facing the Opera House and the other, symmetrically arranged, looking on to a pavilion overhanging the gardens of the Cultural Center and consisting of a restaurant, bar and tearoom. In these piazzas the carriage roads are one-way only, and are raised for a good distance of their course, so that pedestrians may cross freely in both directions. They will also have direct access through the piazzas to the Shopping Center, to the Banks and the Finance Corporations.

To one side of the Entertainment Center and connected to it are the two great cores of the Shopping Center, with their smaller shops and department stores, and also the other Centers which are quite distinct from these—the Banks and the Finance Corporations, and the Center which groups together the big business firms and agencies, and the liberal professions. Here, respectively, are the Bank of Brazil and the General Post and Telegraph Office. These centers can be reached by car via the respective approach roads, and by pedestrians along sidewalks which avoid street crossings, 8. There are also two-level car-parks and basement entrances corresponding to the lower level of the central platform. Both in the Banking and Business Centers, the pattern of the building plan is to be three high-rise blocks and four lower ones, all interconnected by a wide street-level area with mezzanines, which will provide covered communication and ample space for branches of banks, business firms, restaurants, etc. In the Shopping Center the pattern suggested is an ordered row of long buildings followed by one larger building, but all having a uniform height and all interconnected by a similar street-level area of ample proportions, for shops, mezzanines and arcades. Two raised branches of the road ringing this building group will give pedestrians access to each building.

The Sports Center, with its extensive car-parks, is situated between the Municipal Square and the Radio-TV tower. This tower is triangular and consists of a monumental base of unfaced reinforced concrete,

\*See page 36

(Continued on page 36)







The site is an interior lot flanked by existing buildings on both sides. The building is located on the site to provide maximum visual recognition and maximum convenience for customers arriving by automobile.

The entire public banking facility is located on the main floor. Employees' rooms, records, storage, and mechanical equipment are located on the second floor. Provision has been made for a future escrow area on the second floor, thus allowing for additional tellers' counters on the ground floor level when needed.

The two entrances are approached by carpets of paving brick flanked by veri-sized circular planters. The main public area has a 16-ft. ceiling and it is enclosed by glass on two sides to give the maximum feeling of openness. A prominent feature of the interior is a 22-ft. by 16-ft. aluminum screen which is placed in front of the entrance to the vault.

The building has year-round air conditioning system, acoustical tile ceilings, recessed fluorescent and incandescent light fixtures, terrazzo and asphalt tile flooring, Norman face brick, plaster, and glass walls. The bulkheads are panels of porcelain enamel and precast terrazzo.

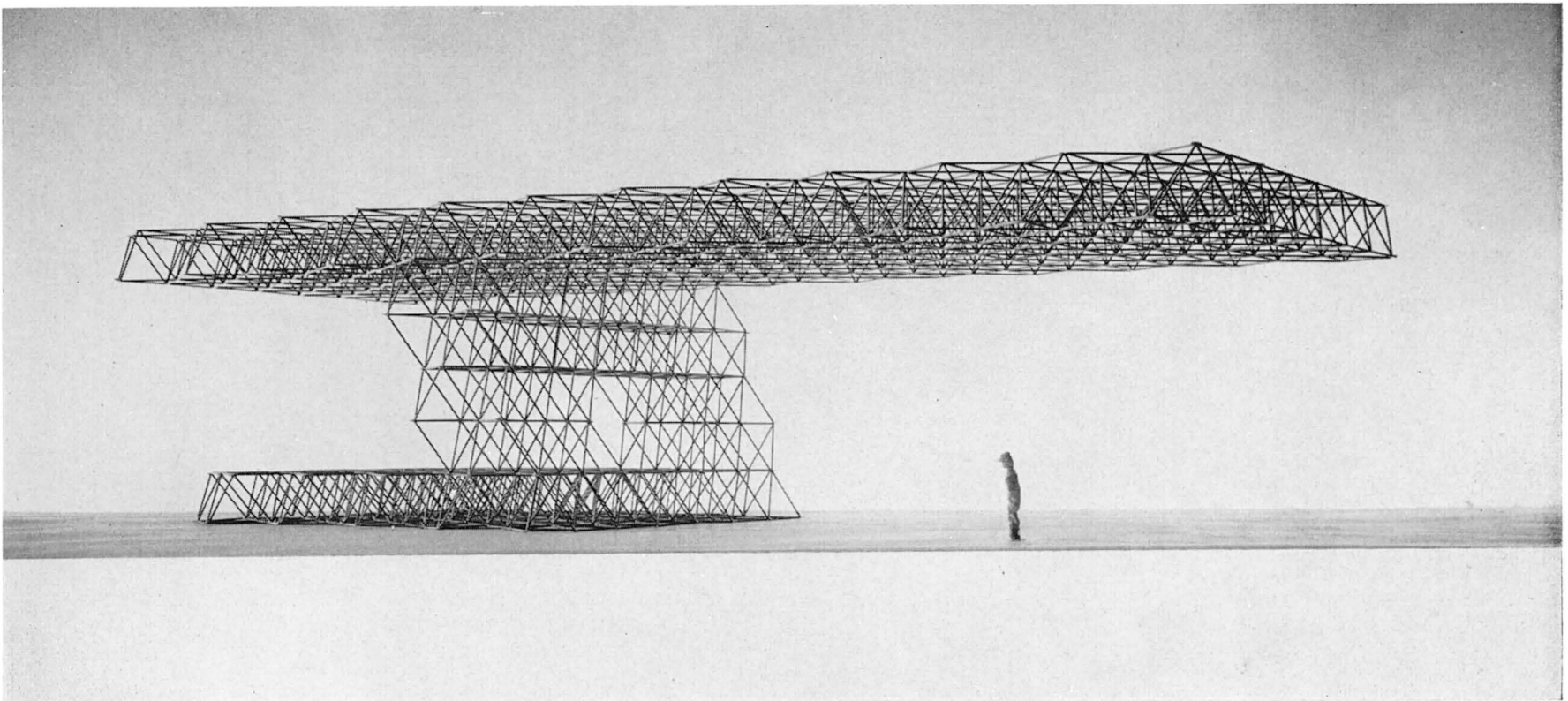
A 44-ft. sign pylon has been designed as a vertical accent for the horizontal structure. A panel of vertical louvers, extending the full length of the glass front on the easterly side of the building, offers protection from the south-east sun while leaving maximum openness for light from the north to enter the interior. Other interesting features are glass mosaic wall panels and a decorative ceramic tile wall which is planned as a buffer strip between the main bank front and an adjacent existing building.

## BRANCH BANK BY VICTOR GRUEN AND ASSOCIATES, ARCHITECTS



PHOTOGRAPHS BY GORDON SOMMERS





### THREE STRUCTURES BY BUCKMINSTER FULLER

These structures demonstrate some principles of design developed by Richard Buckminster Fuller. The plastic dome is manufactured for use as a radar station or exhibition pavilion, but the gold-colored aluminum octet truss and the aluminum mast are not actual buildings. They have been made to further illustrate the strength and lightness possible through Fuller's engineering.

Buckminster Fuller is an engineer, mathematician and philosopher whose work is based on an analysis of the principles of structure as found in nature. His ideas are not merely isolated solutions to specific problems; they are aspects of what he calls *comprehensive design*.

The function of comprehensive design, in Fuller's view, is to isolate from the dynamic universe of energy and experience all the local patterns that can be turned to men's advantage; in order to increase all possible advantages for all men—everywhere. To describe whatever contributes toward the maximum mastery of the universe, Fuller evolved the word *Dymaxion* (from dynamic, maximum, and ion). All of his designs for shelter, utilities, and transportation are part of his world plan for abundance.

But if man is to master the universe he must learn to make use of all the fundamental behavior phenomena nature demonstrates, as for example in the structure of atomic particles. Most of Fuller's designs are geometric systems developed from such fundamental building blocks of physics as tetrahedrons (pyramids with four sides including the base), octahedrons (eight-sided figures), and icosahedrons (twenty-sided figures).

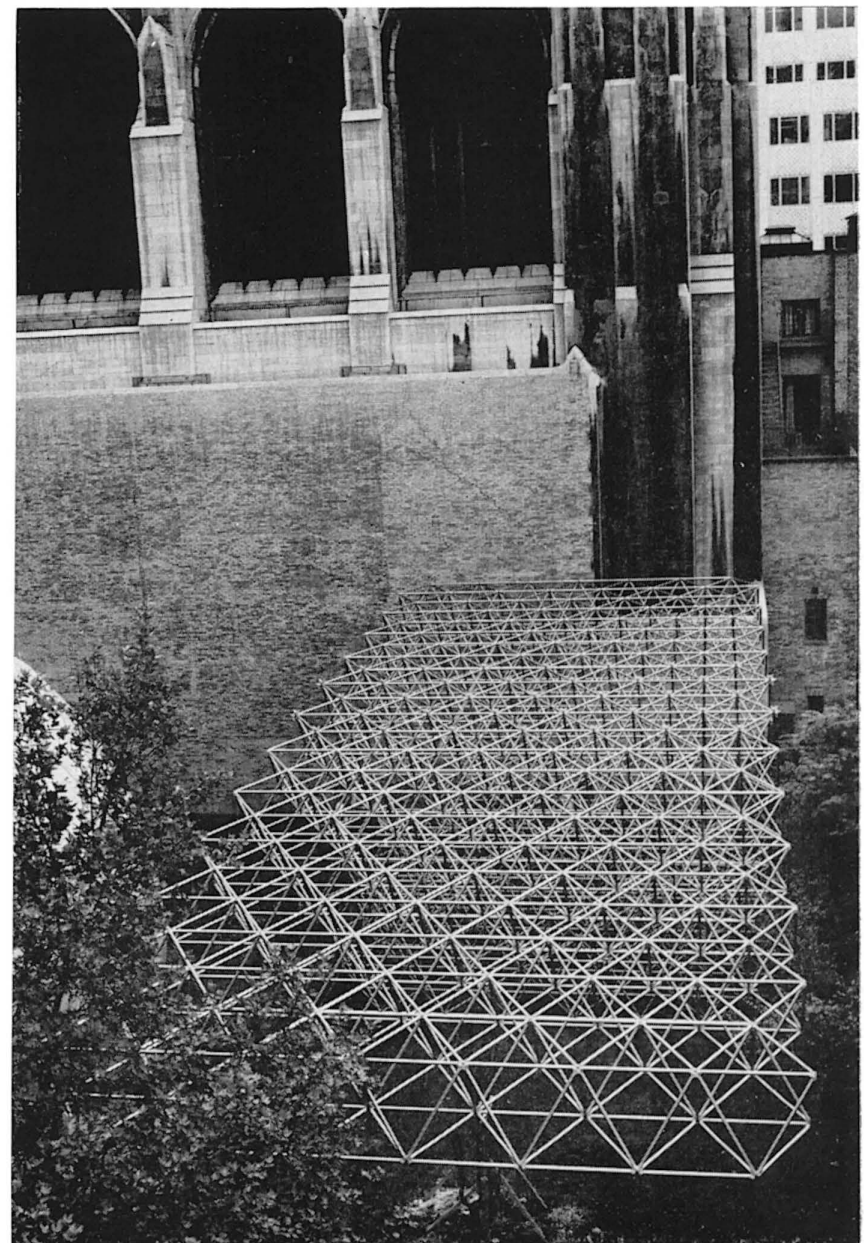
It is this system of "building blocks" that constitutes Fuller's startling leap in replacing habits of thought that are centuries old. Most buildings reflect our nearly automatic assumption that a right angle is equivalent to stability, both physically and psychologically. Yet we have all observed the necessary introduction of diagonals—of lateral bracing—to stiffen right-angled structures. What Fuller has done may be described—in greatly simplified terms—as the transformation of structure into nothing but lateral bracing. The "structure" has disappeared. In its place Fuller builds very large diagrams of the lines of force by which atomic particles—matter itself—seem to adhere.

Obviously Fuller does not think of himself as a designer, architect, or engineer as those terms are usually understood. He believes that the designer's real responsibility no longer is the creation of individual buildings or objects, but rather that it is now the interrelating of physics, mathematics, and the well-being of the race.

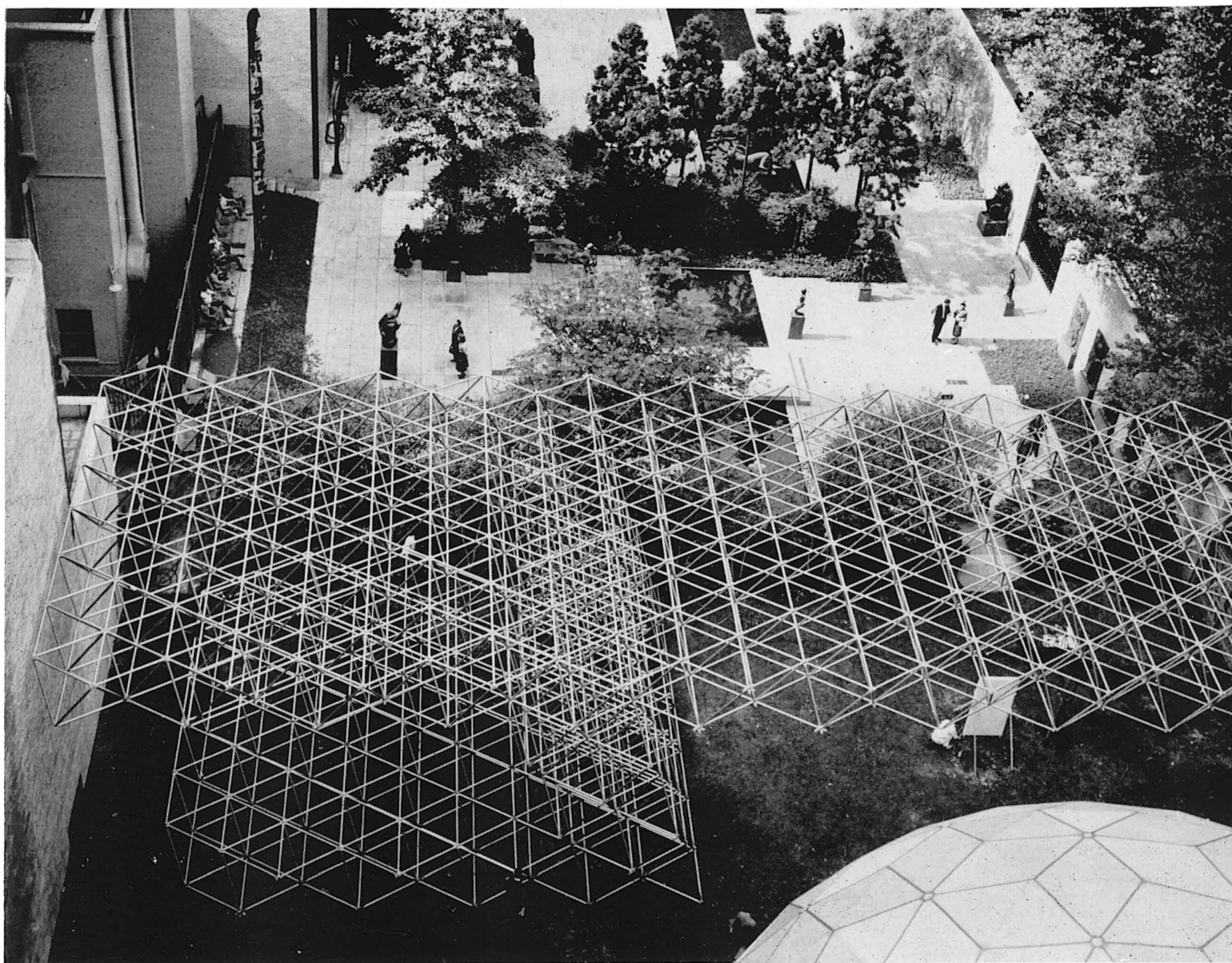
Although he is not directly concerned with esthetics, Fuller is quite aware that many of his designs are extraordinarily beautiful. But he observes that their beauty is incidental, because each of his designs is merely a local pattern embodying pure principle—and it is our recognition of the principle, however incomplete, that makes the pattern so pleasing to us. **ARTHUR DREXLER**

#### OCTET TRUSS

Made entirely of aluminum tubes, connectors, and rivets, the octet truss is one hundred feet long and thirty-five feet wide. The roof is held twenty feet above the ground. Measuring from the center of the supporting tower, the roof cantilevers sixty feet toward the street and forty feet toward the wall. The base, running along the ground behind the tower, serves to







From an exhibition, recently opened at the Museum of Modern Art, of three revolutionary structures designed by Buckminster Fuller. The projects are: a 100-foot long space frame of aluminum anodized gold; a green plastic dome 55 feet in diameter, and 40-foot high aluminum mast.

These structures illustrate Mr. Fuller's patented construction ideas which are based on mathematical formulas and follow patterns found in nature to utilize in an unconventional way the forces of compression and tension on which all buildings depend. The application of his principles could lead to architecture of an entirely new appearance and character.

balance the entire structure. Although it requires only shallow concrete pads on which to rest, it has been anchored to deep concrete foundations in accordance with New York City building codes. The entire structure has been anodized gold in order to make it more easily seen against the background of city buildings.

Like the dome, the octet truss derives from geometric configurations Fuller believed were characteristic of those found in atomic structure. (Electron microscope photographs have since verified his conclusions.) The truss is composed of tetrahedrons with octahedrons between them, from which combination it derives its name "octet truss." These geometric figures disperse load pressures equally along three sets of parallel planes. Pressure applied at any one point is instantly distributed throughout the entire structure. It is this dispersal of forces which gives the structure its great strength.

The most immediately impressive aspect of the octet truss is its delicacy in relation to its size. When it is realized that the entire structure is made of aluminum and weighs only eight thousand pounds, the remarkable strength made possible by Fuller's engineering is more readily appreciated.

The aluminum struts used throughout are all of the same length. Three-pronged aluminum castings have been pressed into the tubes, and the

(Continued on page 38)

#### TENSEGRITY MAST

Buildings usually are held together by their compressive strength—their resistance to weights which tend to crush the materials of which they are made. Although most of our buildings employ steel in compression, we have all observed that steel is far stronger when used for its ability to resist a pull. (The tensile strength of steel is perhaps most familiar to us in suspension bridges, with their vast roadways hung from steel wires.) Since men began to build the compressive strength of materials has increased only very little, but tensile strength has been increased many thousands of times by the development of modern metal alloys.

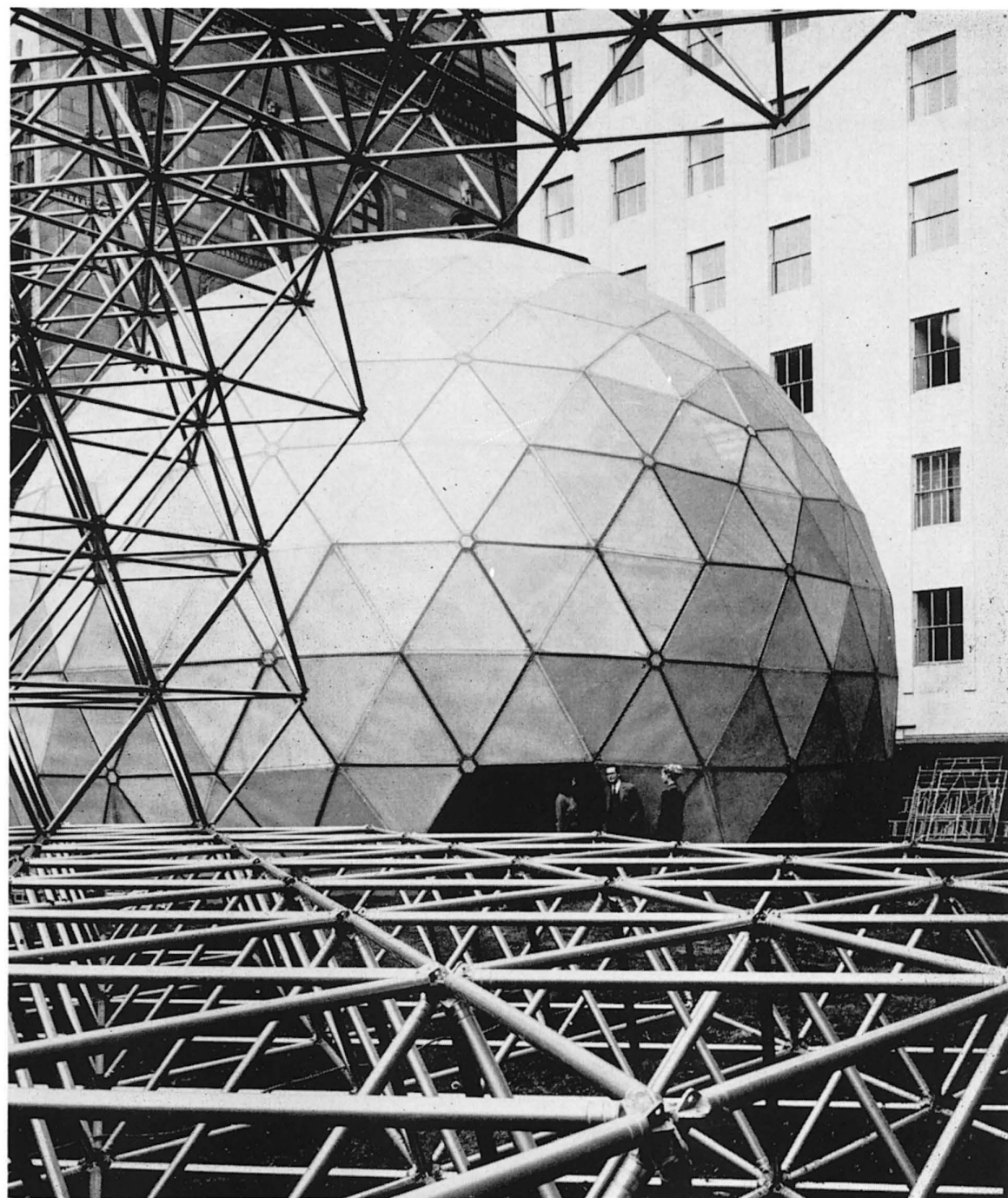
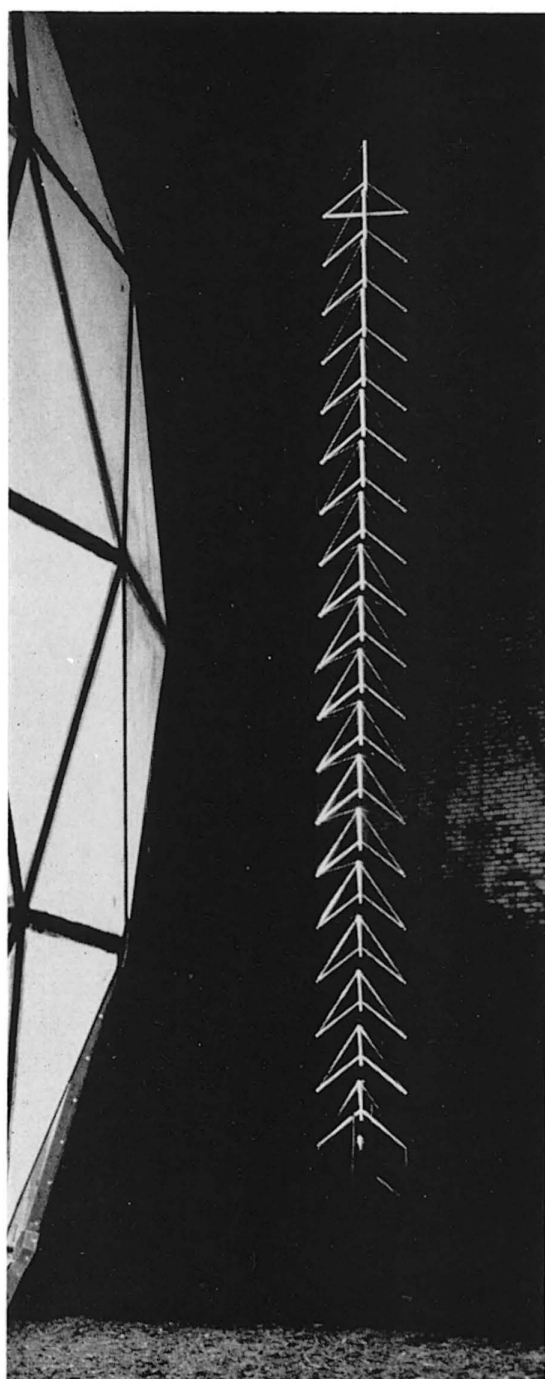
Perhaps the most dramatic development to grow out of Fuller's theories is the discovery made by Kenneth Snelson, and analysed by Fuller as tension-integrity. In the octet truss one kind of structural member is used to handle both the forces of tension and compression. Tension-integrity describes a system in which tension and compression forces within the same structure are handled in different ways and with different materials.

The tensegrity mast assigns compressive forces to aluminum tubes. The tubes separate thin wires of Monel metal which are all in tension. The continuous pull of the wires is resisted by the isolated discontinuous tubes. The system is called tension-integrity, or tensegrity, because it uses compression discontinuously and tension continuously.

The mast as such has no practical purpose. In theory structures organized on this principle have the astonishing characteristic of becoming stronger as their size increases. Domes or other shapes built with tensegrity elements could theoretically be of unlimited dimensions. The mastery of universal forces tensegrity implies is meaningful, however, not simply because it will enable us to make larger structures. More important, and perhaps central to Fuller's genius, is the insight his ideas give us into universal order. That is an achievement which ranks him with other great poets, scientists, and artists.

*Designed by Buckminster Fuller, pat. pending.  
Built by Shoji Sadao and Edison Price, Inc.*





PHOTOGRAPHS BY ALEXANDRE GEORGES

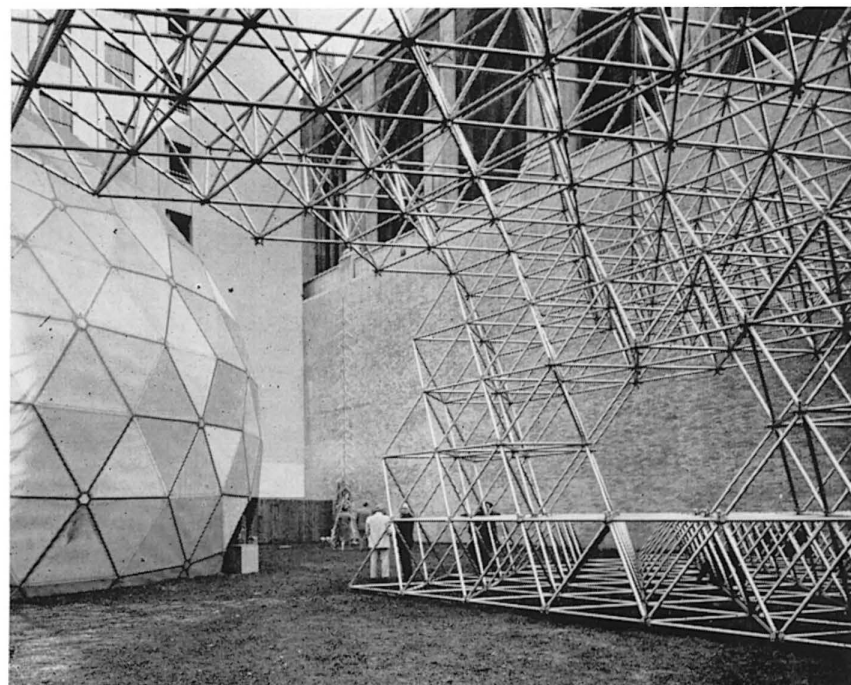
#### GEODESIC RIGID RADOME

The Rigid Radome is one of many geodesic domes designed by Fuller or based on his theories. The Radome is built without a separate skeleton structure carrying a weatherproof enclosure: the structure and its skin are one. It is made of diamond-shaped panels of translucent plastic reinforced with Fiberglas. Each panel has turned-up edges, like the rim of a pie pan. The dome is assembled simply by bolting together the rims of adjoining panels.

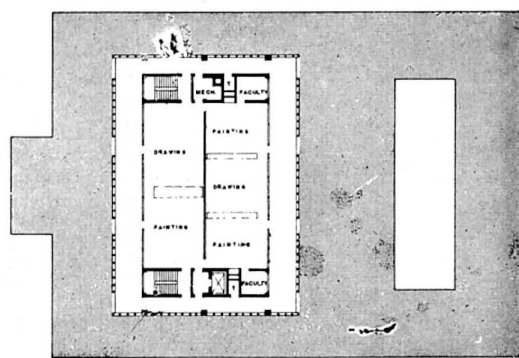
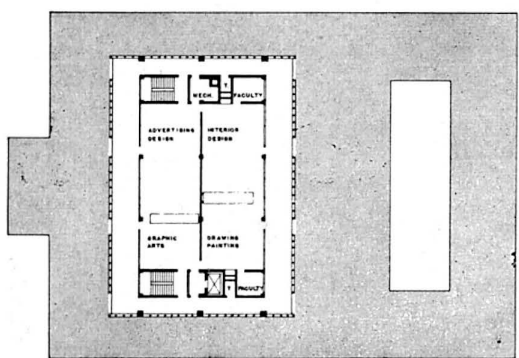
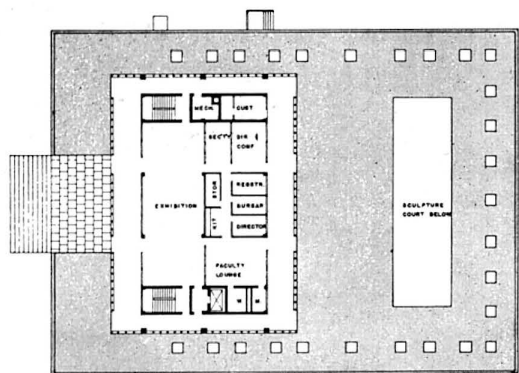
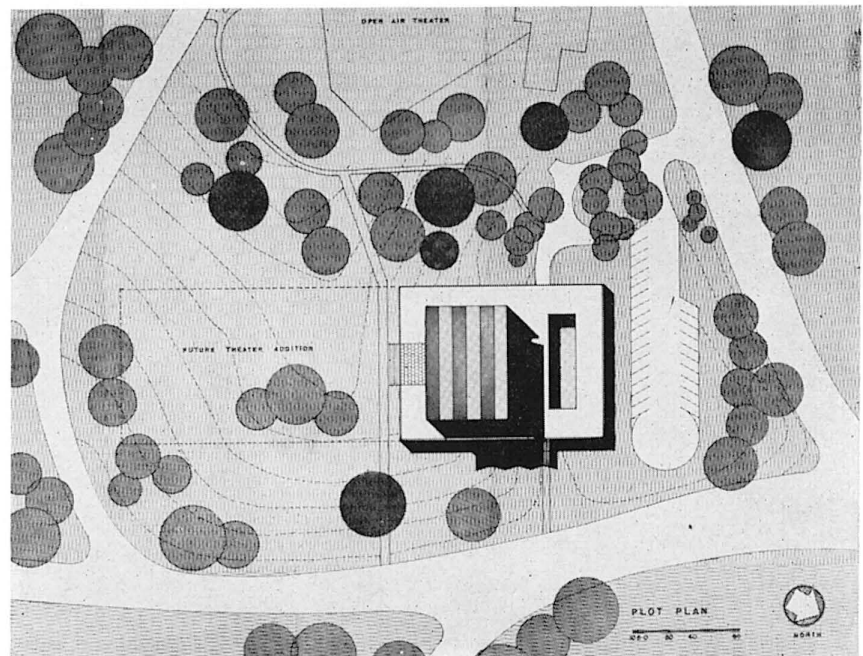
Because the shortest distance between two points on a sphere is an arc of a great circle (called a geodesic), all the force lines of the dome lie along great circles. This arrangement results in an equal distribution of stresses in all directions, balancing tension against compression. It also makes possible the use of light-weight materials which in conventional structures would hardly be able to support their own weight. The thickness of the plastic wall on each of its triangular facets is approximately one-sixteenth of an inch. The rims (visible at the entrance and on the inside surface) are approximately one-fourth of an inch thick.

As with other Fuller domes, it is possible to assemble the entire structure, lift it off the ground by helicopter, and fly it to another site where it can be dropped in place. Because they enclose a maximum amount of space with a minimum surface, domes are the most economical shelters in terms of materials. Fuller domes are now in use as train sheds, exhibition halls, etc. They might also be adapted to make giant "houses" enclosing gardens and lakes. And, with variations of the structural principle Fuller has developed, domes might also be used to enclose whole cities.

*Developed and tested by Lincoln Laboratory, M. I. T.*





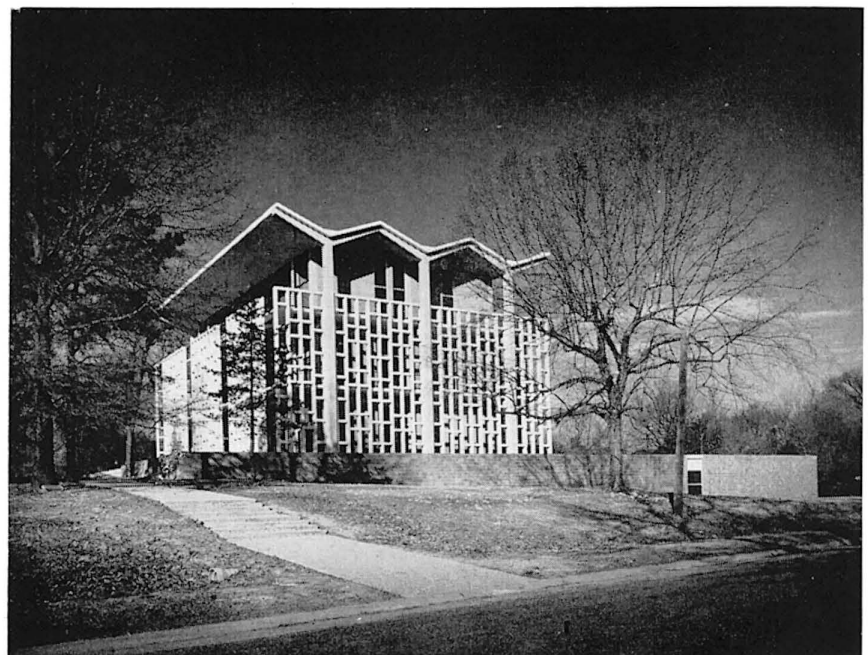
THIRD FLOOR  
0 10 20 30 40SECOND FLOOR  
0 10 20 30 40PLAZA LEVEL  
0 10 20 30 40BASE LEVEL  
0 10 20 30 40

The Memphis Academy of Arts is the first stage of a larger project for a Fine Arts Center. The design was previously shown in ARTS & ARCHITECTURE (November 1956) as the winner in an architectural competition held by the city. This completed building houses all the necessary areas for the Academy of Arts, an independently functioning "Fine Arts" School at this time. Crafts and shops occupy the base level, with the sculpture court providing light and visual interest. Administration and exhibition spaces are located on the plaza level, with studio floors above open, divided only by movable partitions and storage walls. Stairs and an elevator provide vertical circulation while the external corridors allow for complete movement around the building.

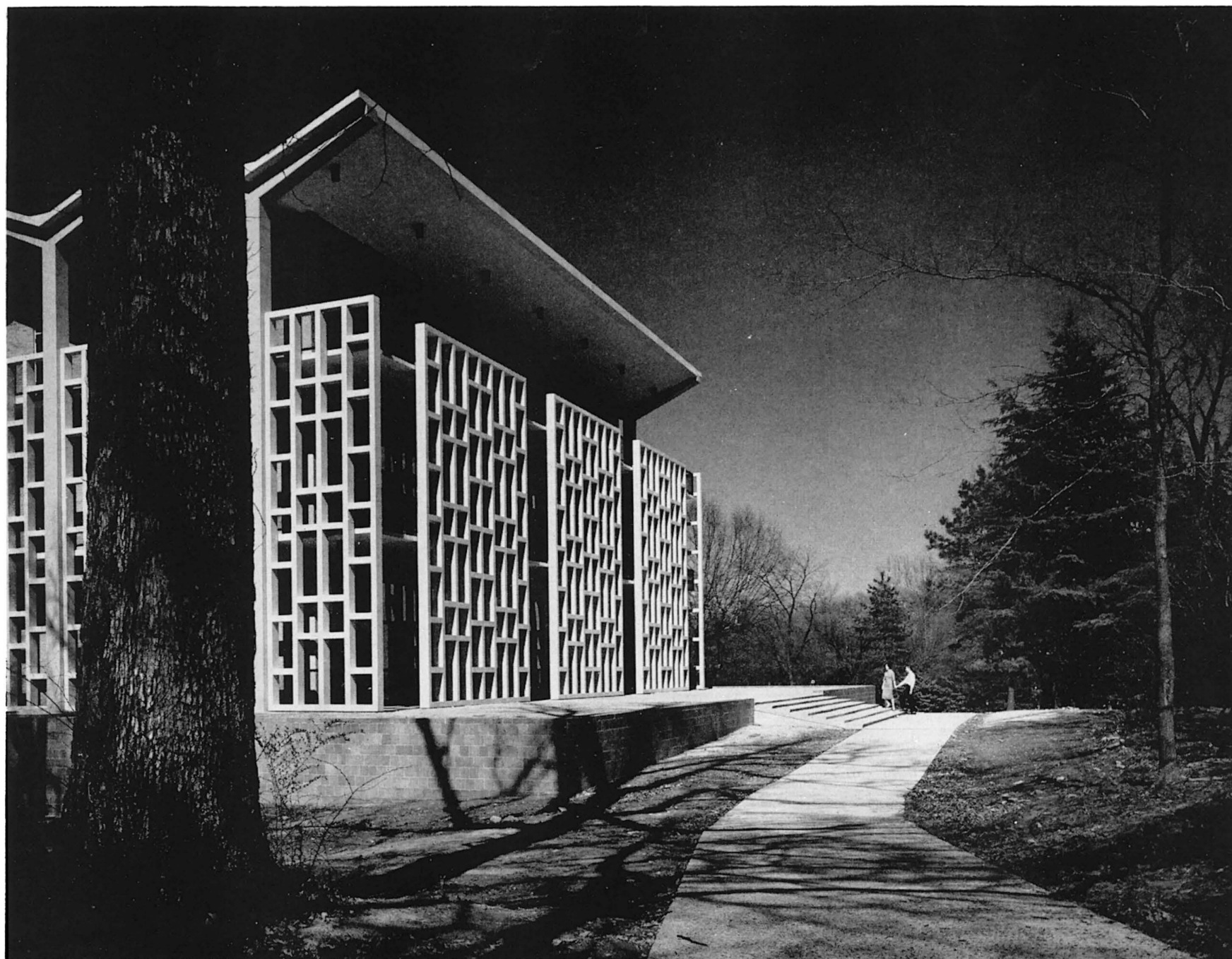
The building is of reinforced concrete construction, with steel curtain wall and brick exterior panels. It is roofed with a 5" thick cast-in-place folded plate roof spanning a clear distance of approximately 95 feet. Interior walls are brick, plaster, or concrete block. Floors are finished cement or terrazzo. Exterior walls are gray manganese brick with sliding glass window walls on all north and south exposures. Cast stone screens give scale and unity to the overall center.

The site is in a large public park and the design evolved from a careful consideration of the relation of the pedestrian and motorist traffic to the building. Successive units will include a theater and music hall.

## AN ACADEMY OF ARTS

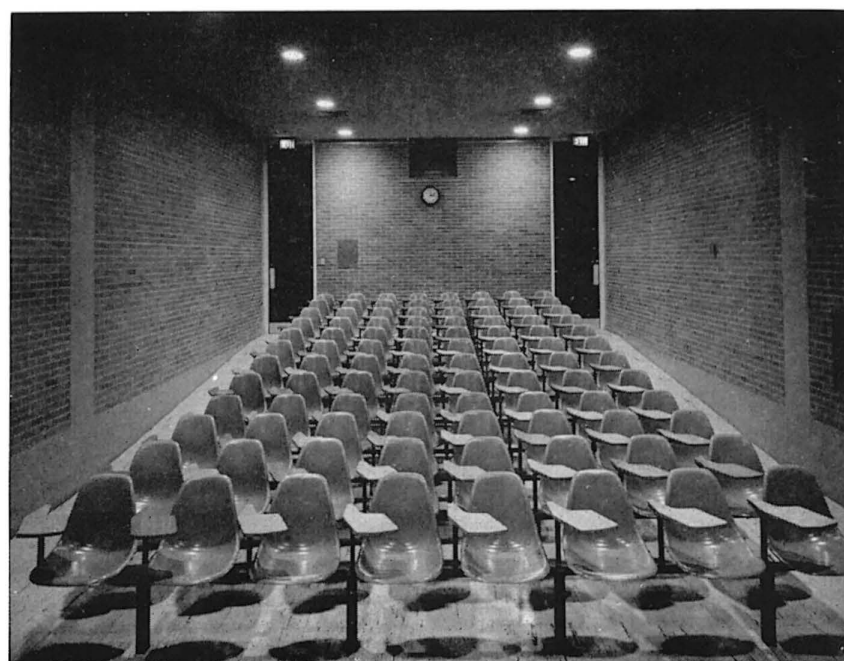




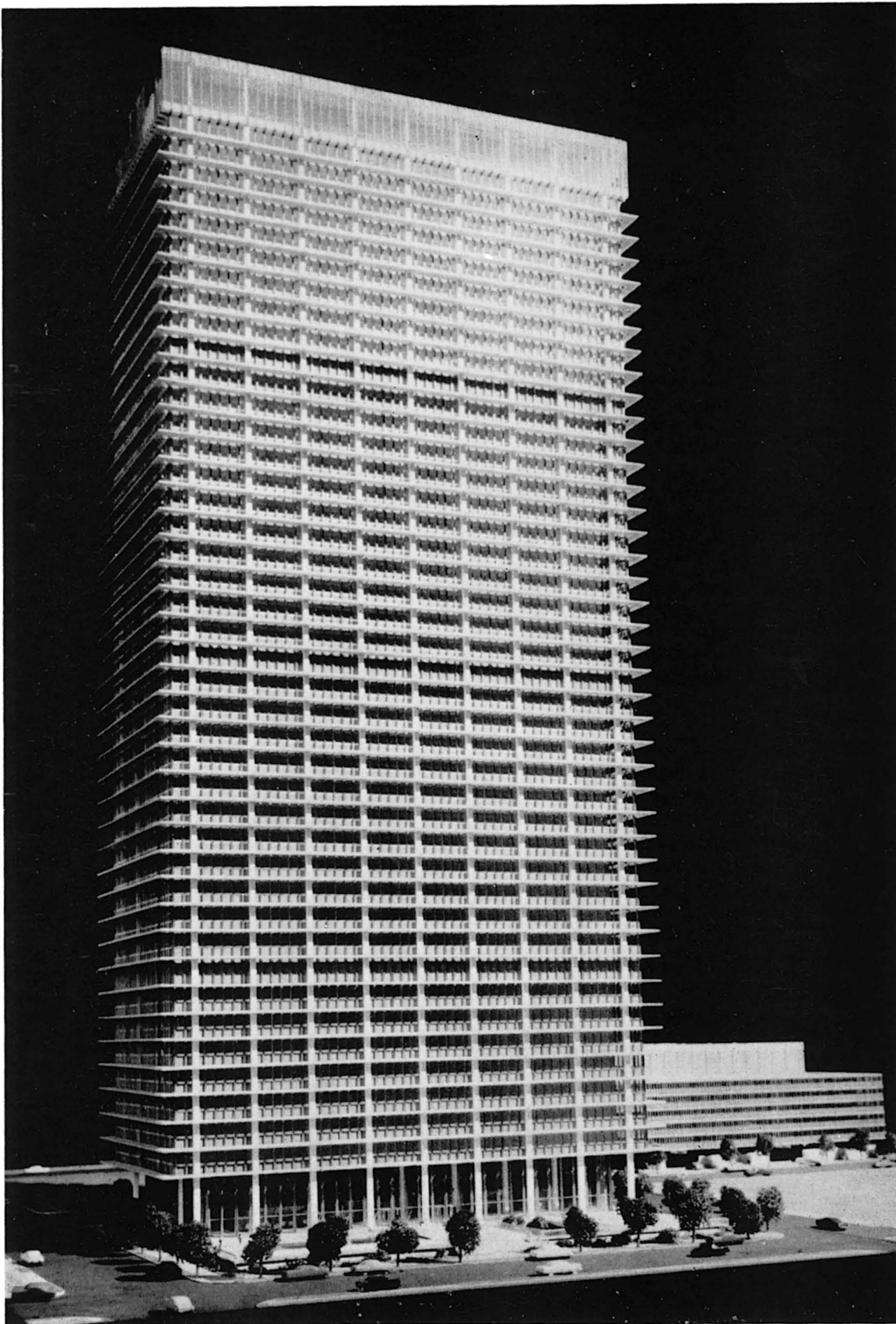


BY WILLIAM MANN AND ROY HARROVER, ARCHITECTS

LEIGH WILLIAMS, ASSOCIATE







# OFFICE BUILDING BY WELTON BECKET & ASSOCIATES, ARCHITECTS

A HOME OFFICE FOR HUMBLE OIL & REFINING CO.

This project was designed for the purpose of enabling the client to consolidate all of its home office operations under one roof with half of the total space to be available for sub-letting. Provision is made for the necessary activities of approximately 3300 home office employees.

Plans call for a building of 44 stories containing approximately one million square feet of usable space, with an adjoining garage having a capacity for approximately 1300 cars; the garage to be connected with the main structure by an underground passage.

The building planned is a simple rectangular tower 225 feet long by 115 feet wide, facing north toward the city of Houston. Plans have been developed for an extensively landscaped plaza with a reflecting pool and fountains.

On the concourse level beneath the lobby and the plaza, there will be a cafeteria seating 1200 persons, a 500-seat auditorium, lounges and shopping spaces.

The new building will incorporate the latest advances in structural methods, lighting, and air conditioning. The entire structure will be shielded from the sun by horizontal aluminum and porcelain sunshades designed to permit only filtered light to directly strike the windows.

All service facilities, including elevators and rest rooms will be grouped in a central core, permitting full use of the space on all four sides of the building.

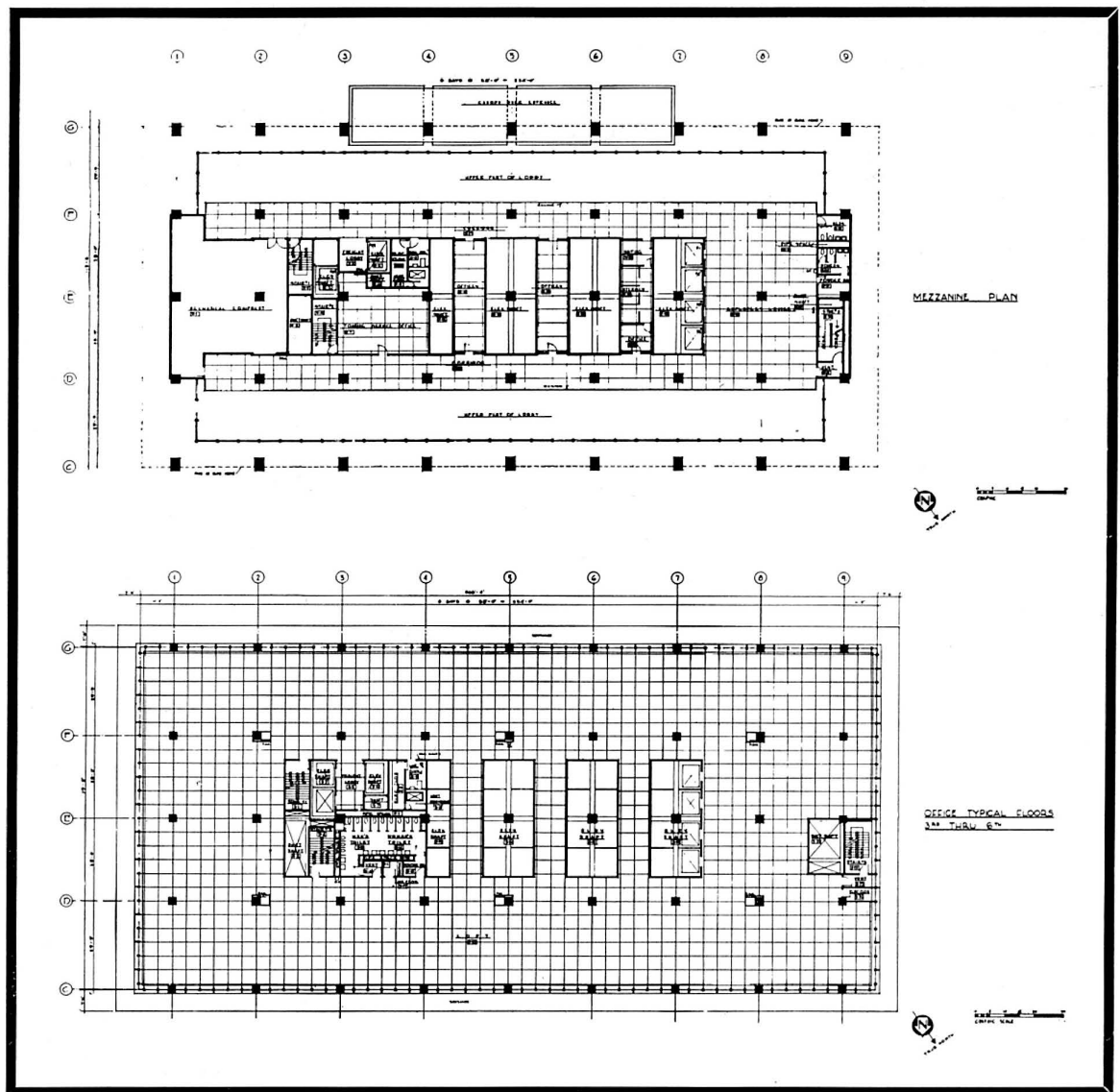
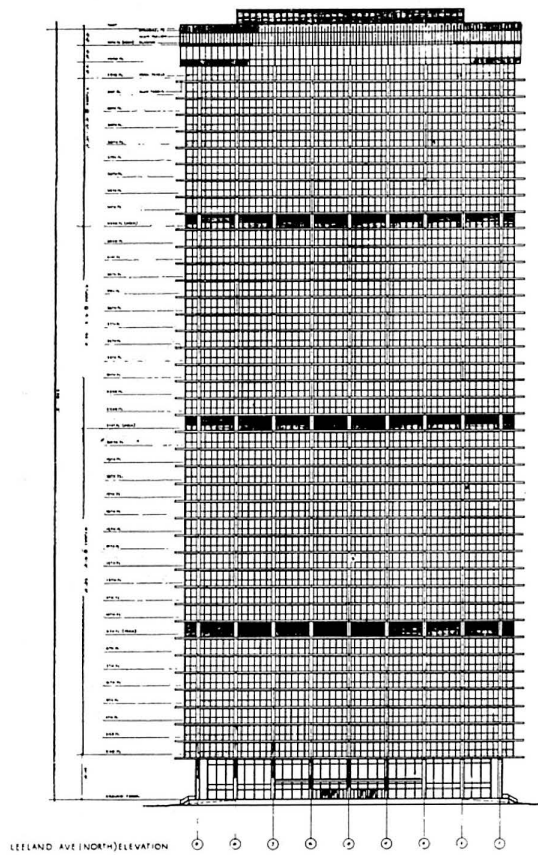
The basic "building block" of the structure is a module or grid, 4 feet, 8 inches square. Each module to be a self-contained unit with its own electrical and telephone connections and with access to air

(Continued on page 40)





PHOTOGRAPH BY HERBERT BRUCE CROSS



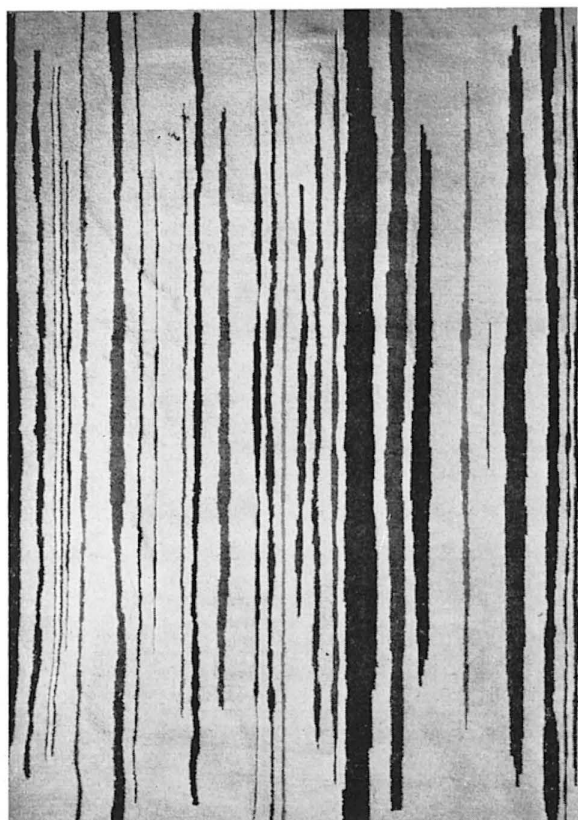
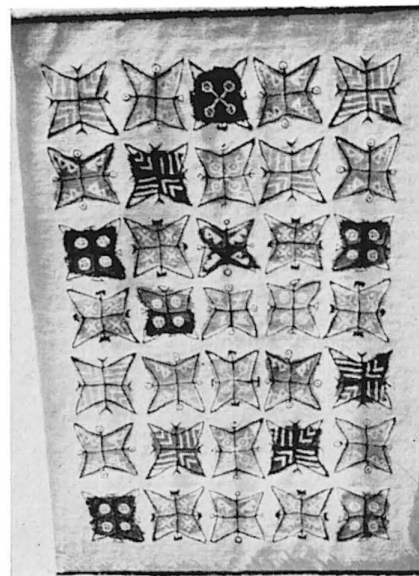




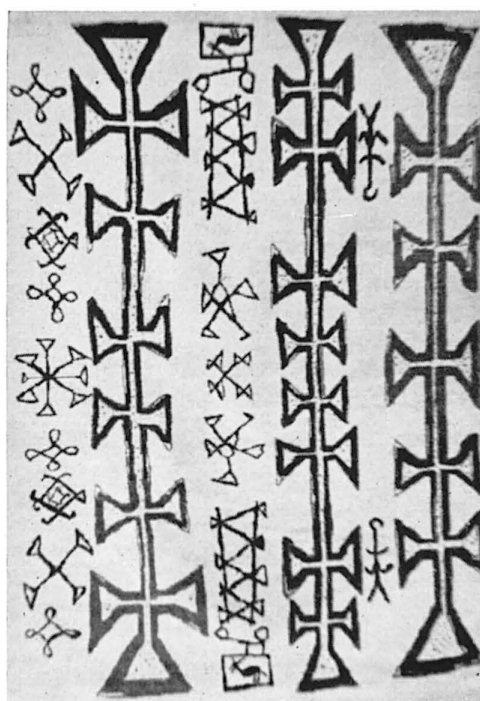
OLGA FISCH STANDING AT THE LOOM.

## HANDWOVEN RUGS FROM ECUADOR—OLGA FISCH

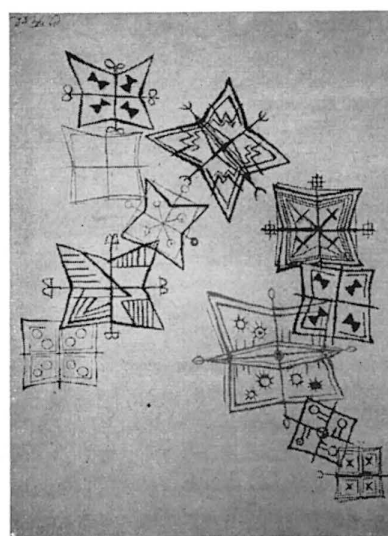
VARIATIONS ON THE "CARCHI" RUG. THE BACKGROUND IS NATURAL WHITE OR BLACK, WITH BLACK AND BROWN PATTERN AND SHADED GRAY AND GREEN SPOTS.



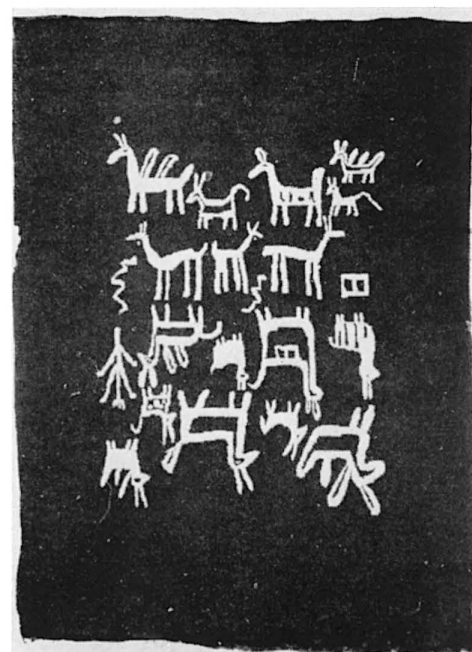
"CHONTA," BROWN, BLACK, OCHER AND TURQUOISE FREE STRIPES ON GRAY BACKGROUND.



THE PATTERN IS TAKEN FROM A TAPA-CLOTH FROM THE JIBARO HEAD-HUNTER INDIANS.



ARCHEOLOGICAL MOTIF, VARIATION OF THE UNITED NATIONS RUG DESIGN.



PRIMITIVE INDIAN MOTIF, WHITE ON BLACK BACKGROUND.

These rugs, from a recent exhibition, are based on the designs of the Inca and pre-Inca civilizations, as well as contemporary Indian motifs used as sources of inspiration by the artist.

Three rugs are based on archeological findings from the Ecuadorian province of Carchi. Several rugs, size 25' x 29' in variations of this pattern are in the United Nations Building, in New York. Both the "Carchi" and the "Jibaro" patterns use geometric symbols.

Colors range from the natural black and white of the sheep's wool to soft greens, golds and browns. Vegetable dyes are used wherever possible, supplemented with chrome colors, all fast to light and washing. Weaves used include the Persian hand-knotted type. The looms are as primitive as those of 2000 years ago, with strong beams of eucalyptus wood to withstand the tremendous tension of the larger sizes.

A workshop was established in Quito, Ecuador, employing over fifty Indian workmen, where, after extensive research in the Inca and pre-Inca civilizations, the ancient rug-weaving craft of the Indian people has been re-activated.



The project is a new concept of suburban merchandising and features a "floating mall" with surface parking directly beneath it.

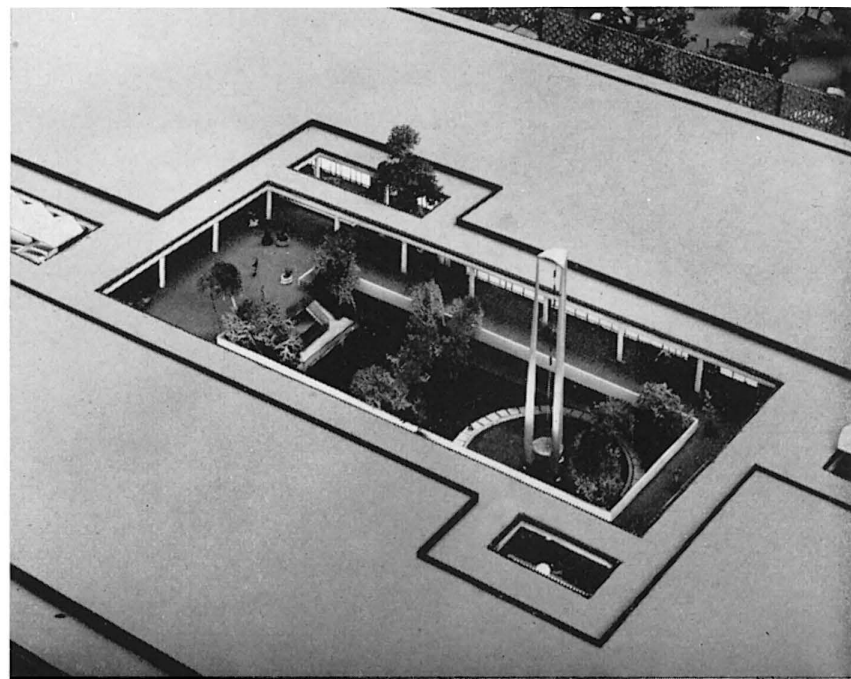
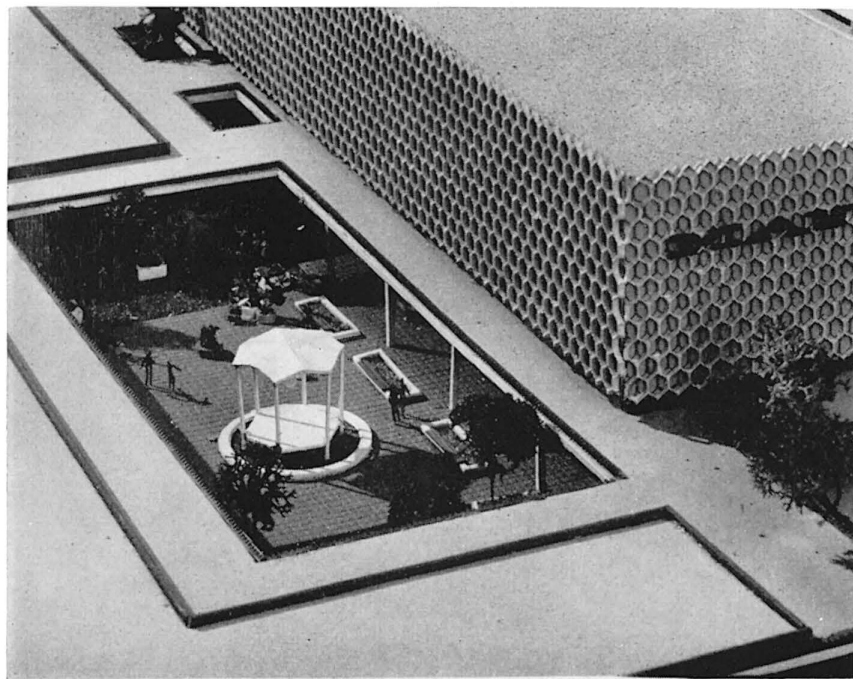
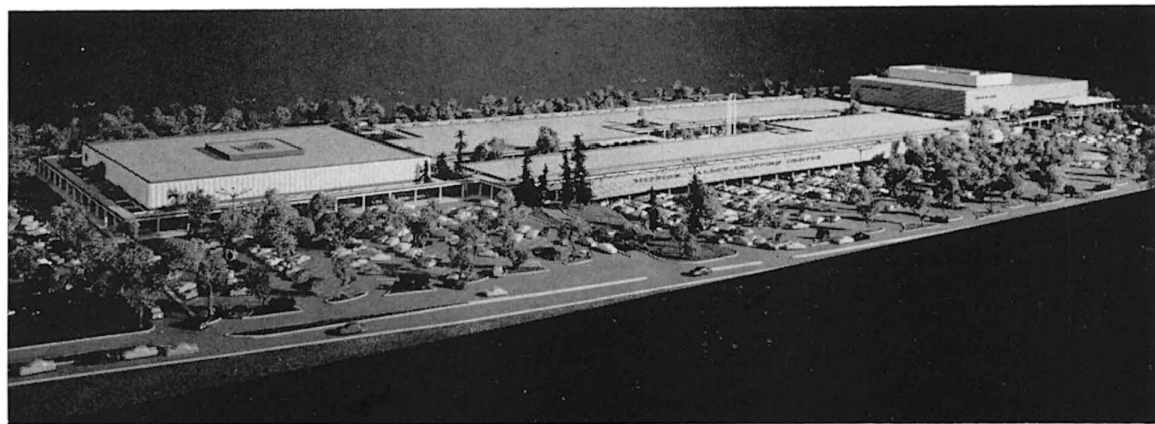
The basic principle of the new design is a "parking basin" scooped out of the center site, with the excavated earth banked into gently sloping escarpments at each end of the shallow man-made crater. The two major merchandising establishments are placed on each of these banks with the mall containing the specialty shops extended across and over the basin. Not only providing valuable additional parking space, this parking plaza permits shoppers to drive directly into the heart of the merchandising area and find themselves within a few steps of the moving sidewalks that carry them up to the mall.

By placement of the main entrance, most visitors are exposed to the shops on their way to either of the major department stores. Because the shops have only one public opening, the necessity for double store fronts is obviated, with consequent reduction of construction costs and control problems. By combining service, storage and sales areas on a single level, as opposed to the conventional basement storage area served by an underground service tunnel, material-handling efficiency is considerably increased, and flexible partitioning between sales and storage areas permit optimum use of all available floor space. Service corridors behind the shops on the mall deck are screened from public view by decorative grilles.

The Mission Valley Center will occupy a site five-sixths of a mile long and 800 feet wide, east of a major traffic intersection. To the east will be the four-level major store, surrounded by a covered arcade with a glass-walled restaurant projecting from the second floor. A thousand feet to the west will be another major department store, with the 450' wide mall spanning the intervening distance like a broad low bridge. Still further west will be the commercial center, including an office building, super markets and service stores. Ramps from the adjoining interchanges will provide direct access to the center from both freeways and space for approximately 6000 cars will be provided by the plaza and the peripheral parking areas.



SHOPPING CENTER BY ALBERT C. MARTIN & ASSOCIATES, ARCHITECTS



PHOTOGRAPHS BY HERBERT BRUCE CROSS

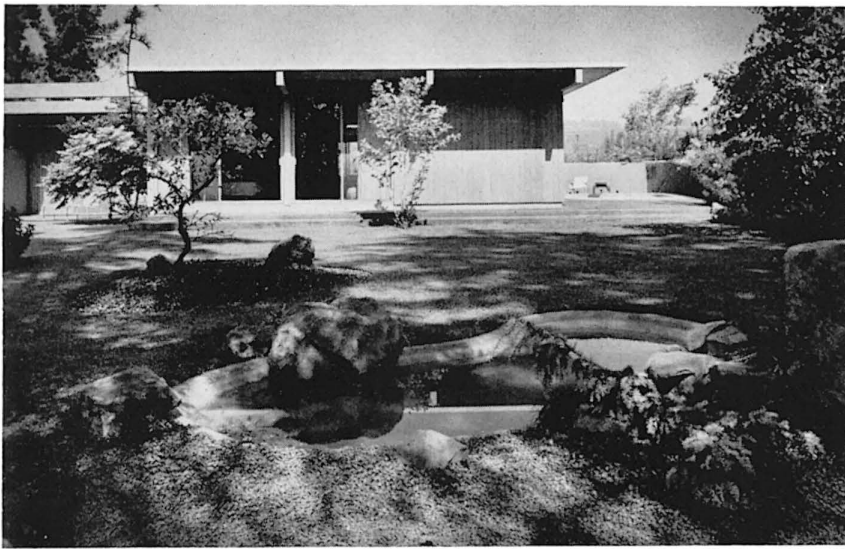




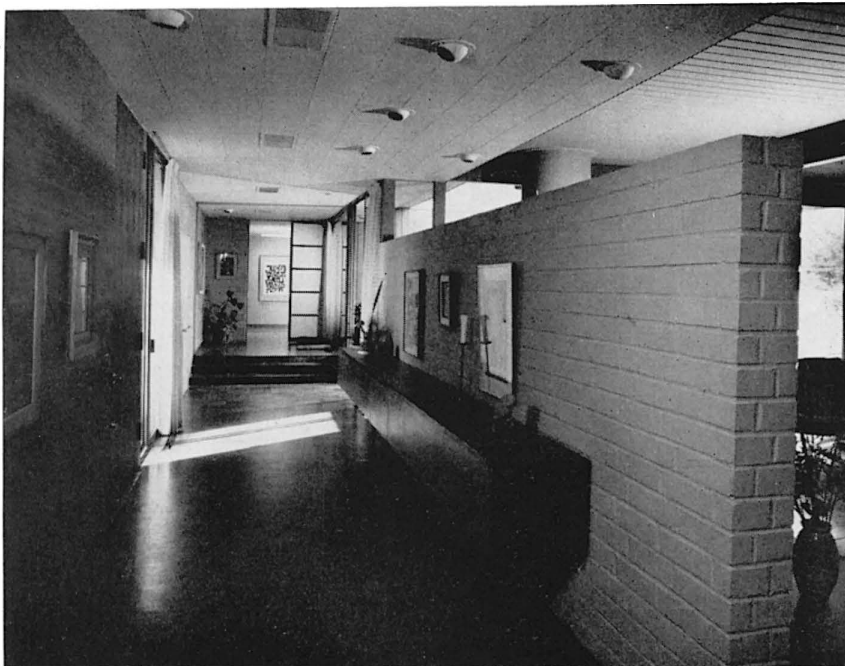
HOUSE BY THORNTON M. ABELL, A.I.A., O'NEIL FORD AND ASSOCIATES, ARCHITECTS







BETTLER BALDWIN, LANDSCAPE ARCHITECT



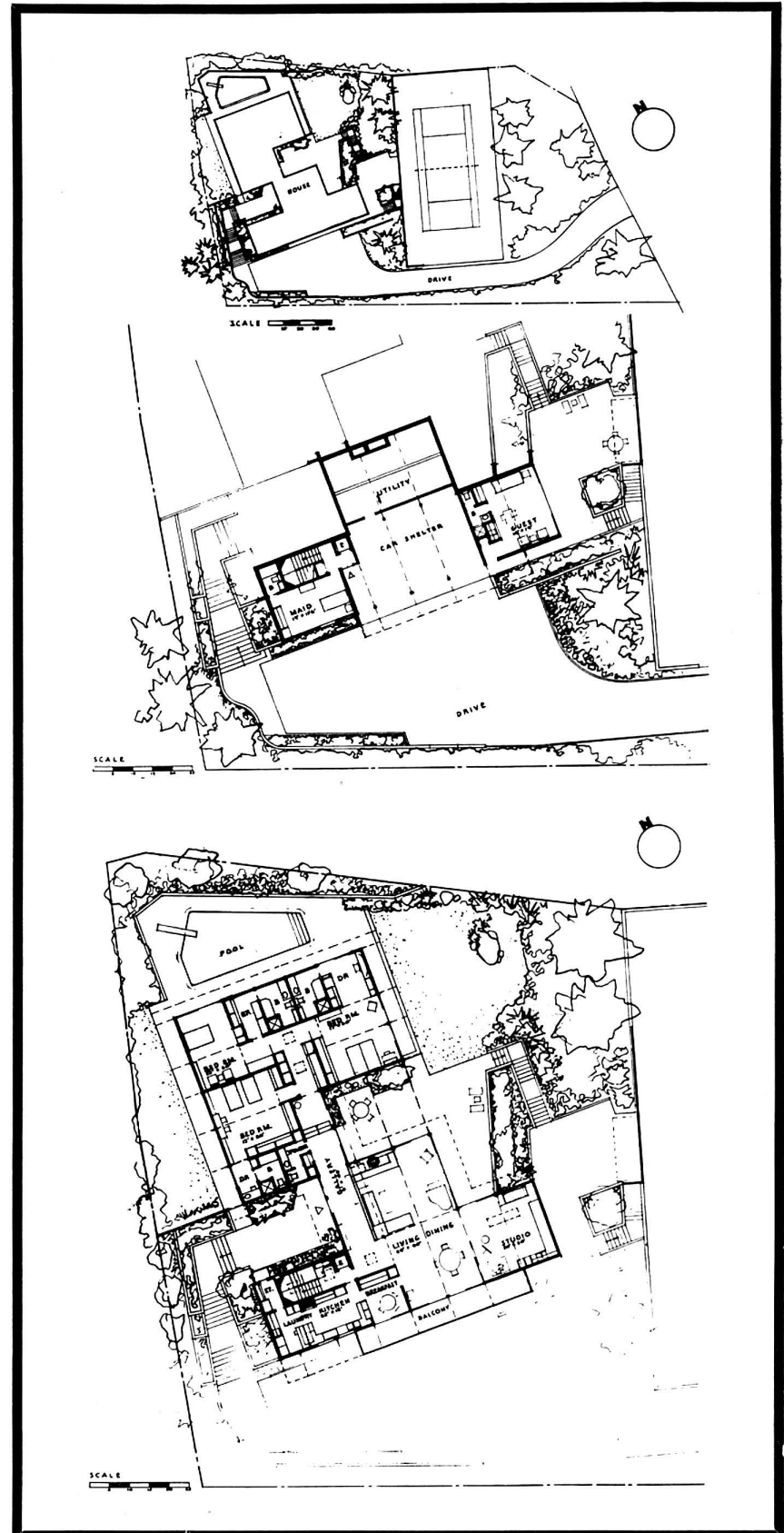
PHOTOGRAPHS BY JULIUS SHULMAN

**THE SITE**—An old estate was purchased by the owner. It was divided, with a fine commanding view site reserved for his home. There were handsome pine trees that could be saved, and the original tennis court was retained.

**THE PROBLEM**—The family consisted of two adults, a young daughter and a servant. Their requirements were for a spacious house; a well-equipped kitchen and laundry, with adjoining breakfast area; a gallery, and generous wall areas, strategically placed, for paintings; a complete bedroom, dressing room and bath for each member of the family; ample storage facilities; an isolated guest room, bath and tiny kitchen, that could also be used as a small recreation room.

**MATERIALS**—The main floor level is a radiant-heated concrete slab, with dark Danish cork covering throughout. The walls of the ground floor, at the fireplace, and all garden walls, are of oversize brick. The main floor walls are wood frame, with cedar exterior and drywall interior finishes. Roof construction is 3" plank on laminated wood beams and wood posts, with a 10-foot by 20-foot module. Certain interior spaces have furred drywall ceilings with acoustic tile finish. Roof is gravel-surfaced composition, over board insulation on the plank. All glass doors and windows are sliding steel units. Ceramic tile was used for walls in baths, and for bath counters.

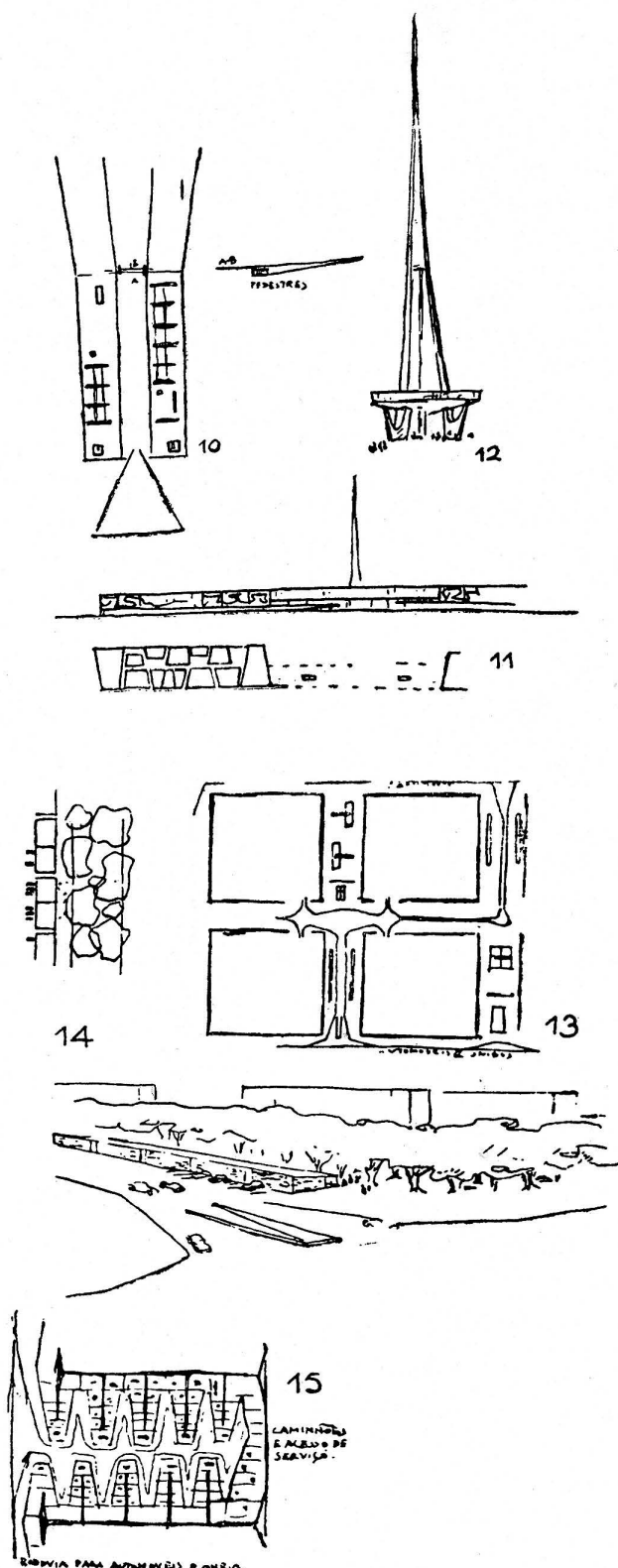
(Continued on page 38)





**BRASILIA***(Continued from page 23)*

stretching up to a studio and office floor, and of a metal super-structure with a look-out section half-way up, 12. On one side it overlooks the stadium and its pavilions, with the Botanical Gardens behind them; on the other, it has a view of the race-course, grandstands, stables and ancillary buildings and, adjacent to these, the Zoological Gardens. The two great green parks, symmetrically laid out in relation to the monumental radial artery, are the 'lungs' of the new city, 4.



The Town Hall, Police HQ, Fire Station and Public Welfare Building stand in the Municipal Square. The Prison and Insane Asylum, though set apart at a good distance from the central built-up area, also belong in practice to the same part of the outline plan.

Beyond the Municipal Square are the City Transport Garages; and beyond them, on both sides of the monumental radial artery,

the Barracks. A large area which stretches across the artery from one side to the other will concentrate the warehouses, the local light industries and their own housing schemes; at the far end is the railway station which is also linked with one of the branches of the road for heavy vehicular traffic.

Now that we have travelled down the monumental radial artery from point to point, we can perceive that its flexibility and compactness of pattern, 9, from Government Piazza to Municipal Square, do not exclude variety; and that each part appears to be individually important, forming a living, plastic organism in the over-all planning scheme. Since each part is autonomous, it has been found possible to create spatial areas which correspond to a human scale and the inter-relation between the great buildings does not detract from the contribution made by the architectural characteristics of each area.

As regards the problem of housing, the solution chosen was the arrangement of an uninterrupted sequence of super-blocks, in double or single rows, and with a wide green belt, densely planted with tall trees, round each super-block. Each one will give pride of place to one species of tree; the ground will be carpeted with grass, and shrubs and foliage will screen the internal grouping of the super-block from the spectator who will get a view of the lay-out through a haze of greenery, 13. This will have the two-fold advantage of guaranteeing orderly planning, even when the density, category, pattern or architectural standard of individual buildings are of a different quality; and at the same time, it will provide the inhabitants with shady avenues down which to stroll at leisure, in addition to the open spaces planned for their use in the internal pattern of the super-block.

The residential building in the super-blocks can be arranged in varying manners, though always in obedience to two general principles: uniform height regulations—perhaps a maximum of six stories above the pilotis—and segregation of motorized traffic and pedestrian transit, especially near the entrances to the Primary School and the urban amenities located in each super-block, 8.

Behind each super-block runs the service road for heavy vehicular traffic; on the opposite side of this are garages, workshops, wholesale warehouses, etc., while an area equivalent to a third row of super-blocks is given over to flower gardens, market gardens, and orchards. Between the service road and the radial artery are extensive building spaces with alternating approach roads. It is here that the Church, the secondary schools, the cinema and the retail trade serving each neighborhood are located, each according to category and classification, 13. The district market, butchers' shops, grocers', green-grocers', ironmongers', etc., line the first section of the traffic lane which corresponds to the service approaches; and the barbers' shops, hairdressers', dress shops, tearooms, etc., are concentrated along the first section of the accommodation road used by cars and buses; here, too, are the servicing and filling stations. The shops have plate-glass display windows, and they form rows along pavements protected by built-out canopies.

They face the wooded belts around the super-blocks that are only used by pedestrians, and also the belt on the opposite side of the road, adjoining the accommodation road. They are interconnected by lanes and alleys, so that they are really semi-detached, although if viewed as a whole they appear to form one single composition, 14. Where each four super-blocks meet there is a church, and behind it the secondary schools: the cinema is on the service road but facing the residential radial artery, so that those who come from other parts of the city may find it easy to reach. The space between these two main roads will be occupied by youth clubs with their sports fields and play plots.

The social structure of this housing zone can be graded by setting a greater value on specified superblocks, such as, for example, the single rows which adjoin the diplomatic quarter. This quarter stretches on either side of and parallel to the radial artery. It has a tree-lined accommodation road and a service road, the latter shared with the other residential super-blocks. The tree-lined road, which is exclusive to Embassies and Legations, will only be built-up on one side; on the other there will be a free and unobstructed view over the landscape, with one exception—the most important hotel will be located here, since it is not far from the center of the city. On the opposite side of the residential radial artery, the super-blocks fronting onto this will naturally be more valuable than those facing inward: this, too, will allow for classification according to economic conditions in





RESIDENCE DESIGNED BY PHILMER J. ELLERBROEK, AIA,  
OF PLEGER, BLUROCK, HOUGAN AND ELLERBROEK

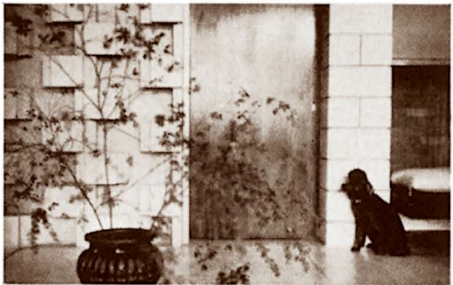
# NEW CONCRETE BLOCK

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...PHILMER J. ELLERBROEK, AIA

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force at the time. Nevertheless, the four-by-four grouping of the super-blocks will, while favoring co-existence of social groups, avoid any undue and undesirable stratification of society. And, in any case, variations in the standard of living from one super-block to another will be offset by the organization of the urban scheme itself, and will not be of such a nature as to affect that degree of comfort to which all members of society have a right. Any differences in standard will spring from a greater or lesser density, a larger or smaller living-space allocated to each individual or family, or from the quality of building materials selected and the degree of finish which these receive. And since such problems are being raised, growth of slums, whether on the city outskirts or in the surrounding countryside, should at all costs be prevented. The Development Company should, within the scope of the proposed outline plan, make provision for decent and economical accommodation for the entire population.

Provision is also being made for island sites surrounded by trees and parkland, to be acquired for individual houses. It is suggested that these plots should be staggered; thus the houses on the higher land will make a good pattern against the background of the landscape, since they will be built at a good distance from each other. This arrangement will make it possible for one service road to serve all the plots, 15. Also, the construction of some houses of a high architectural order (which does not necessarily mean that their cost will be exorbitant) has been seriously envisaged. In such cases, the regulations should specify a minimum distance between each house, of at least five-eighths of a mile (1 kilometer); this will emphasize the exceptional character of these private building concessions.

The city's cemeteries will be sited at the extremities of the radial arteries, so as to prevent funerals crossing the city center. They will be planted with grass lawns and be suitably wooded: the gravestones will be the simple, flat slabs used in England, the idea being to avoid any sign of ostentation.

No housing will be permitted round the lake: the area must be kept unspoiled. The lakeshore will be treated as woodland and parkland, and green spaces over which the citizens may walk and enjoy other countryside amenities. Only sports clubs, restaurants, playfields, swimming enclosures and fishermen's clubs may operate round the lake. The Golf Club is already located to the east, near the President's Residence and the Hotel, both of which are now under construction; and the Yacht Club will be sited on a nearby creek. Small woods crossing these clublands will run down to the edge of the lake, which is ringed by a tree-planted avenue that sometimes wanders inland, and will later be landscaped with flowering plants and dotted with more trees. This ring avenue joins the residential radial artery and the approach autostrada running from the airport to the Civic Center—a road to be used by famous visitors to the Capital city, although on their return they may with advantage use the residential radial artery. It is hoped that the final location of the airport will be in the near side of the lake, so as to obviate the need for crossing it or driving round it.

Street numbering should start from the intersection of the two axes—using the monumental radial artery as a point of reference to divide the city into two halves, North and South. The super-blocks will be given numbers; the buildings inside each, letters; and finally each apartment will be numbered according to usual practice. For instance, one address might be N-Q3-L, apt. 201. The buildings will be lettered in a clockwise direction, from the entrance to each super-block.

There still remains the problem of how to dispose of real estate and make it available to private capital. I feel that the super-blocks should not be subdivided, and suggest that not the land, but shares in the land, should be sold. The price of these shares would depend on the vicinity and the height regulations. This would overcome any obstacles standing in the way of present planning and any possible future replanning of the internal arrangement in the super-blocks. Such a plan should preferably be worked out before the shares are sold; but there is nothing to prevent purchasers of a substantial number of shares from submitting their own planning scheme for a specified super-block to the approval of the Development Company. Nor is there anything to stop this Company, in addition to facilitating the acquisition of shares by other corporations, from itself functioning as a building corporation. I think, too, that the price of

the shares should include a fixed percentage to cover the expenses of the project. In this way, good architects could be invited to submit designs and competitions could be started for the planning of those super-blocks which are not being developed by the Architectural Division of the Development Company. I would also suggest that two phases should be adopted for the approval of the various planning schemes: a pilot plan and a master plan—which would make selection and control of the quality of architectural solutions easier for the Company.

In the same way, advance planning should be undertaken before the final lay-out of the Shopping Centers, the Banking and Financial Center, and the Big Business and Liberal Professions Center is proceeded with. It would then be possible to divide them up into subsectors and independent units, without detracting from the harmony of the overall architectural pattern. The separate parts could then be put up for sale in the real estate market, while the total or partial construction of the buildings would be paid for by the interested parties, by the Company, or by both, working in collaboration.

To sum up—it is easy to grasp the criteria used in this plan for a capital city, since its characteristics are the simplicity and clarity of the original pattern. As has been shown, these factors do not exclude variety in treatment of the individual parts, each of which is conceived of according to the special nature of its respective function. The result of such treatment should be harmony, despite requirements which are apparently contradictory. Thus, though the city is monumental, it is also convenient, efficient, welcoming and intimate. At one and the same time it is spread out and compact, rural and urban—swiftly, unhampered by road junctions, yet the ground is given back in a fair measure to the pedestrian. And since the structure of the city is so clearly outlined, its constructions will be easy; it is based on the crossing of two axes, on two terraced embankments or terrepleins, a platform, two arteries going in one direction and one in another. This one can be built in two phases—first in central traffic lanes with a cloverleaf on each side, then the lateral traffic lanes which could continue their progress simultaneously with the normal development of the city. There would always be space for more buildings in the green belts adjacent to the radial arteries. The super-blocks would be merely levelled off and landscaped, each with its frame of green, planted from the very outset with grass and trees, but not given pavements or curbs of any kind. On the one hand, the use of highway technique; on the other, the technique of the landscaper, planting parks and gardens.

Brasilia, capital of the aeroplane and the autostrada, city and park. The century-old dream of the Patriarch.

### THREE STRUCTURES—BUCKMINSTER FULLER

(Continued from page 26)

castings are riveted to each other by means of a tool developed for the aircraft industry. Ease of assembly depends on the utmost precision of manufacture for all of the parts.

As demonstrated here, the octet truss is not an actual "building." Its structural principle can be used wherever it is necessary to make large uninterrupted roofspans: concert halls, factories, museums, train sheds, airplane hangars. A greenhouse of similar design is now being built in St. Louis. The same configuration of tubes may also be used, as they are here, for the supporting "columns," and the nature of the structural system suggests that we may ultimately learn how to "weave" enormous buildings that will differ in every way from what we now call architecture.

Designed and patented by Buckminster Fuller, Synergetics Inc.

Consulting Engineers: William McGuire and Arthur Nilson

Contributed to the exhibition by Aluminium Ltd.

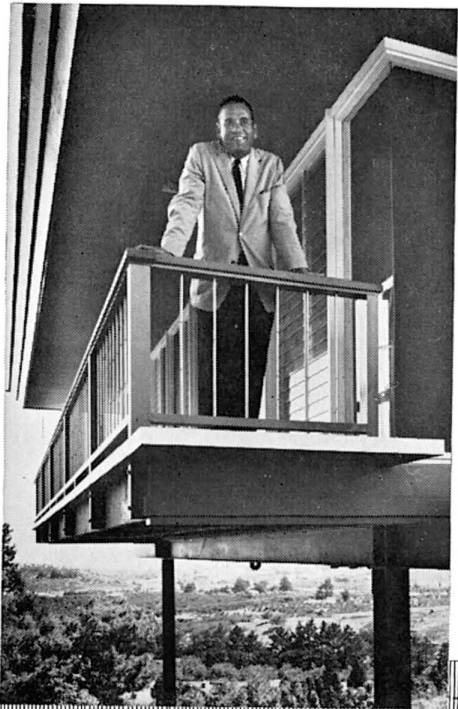
### HOUSE—THORNTON ABELL, O'NEIL FORD

(Continued from page 35)

Counters in kitchen and studio are Formica. Grass cloth and wall coverings are used on all drywalls, except in service areas.

The colors are closely integrated with the surroundings, and with each other. Cedar exterior walls are stained an olive beige; bricks have a vinyl coating of deep earth tone; exposed concrete beams, balcony, etc., are pale oyster; wood beams, posts, steel windows and doors, are painted dull slate. Wood plank ceilings and overhangs are light jade, acoustic tile ceilings are pale gold; vertical grain for cases in the kitchen are stained an olive beige. Suntan color and mustard are used for accent walls in the master bedrooms. The entrance door is natural walnut, as are the frames for sliding plastic panels between dining and studio and the walls of one bedroom.





Builder Bill Roth, of Belmont. Architects are Johnson & Hawley; structural engineers are Warren & Siebert. Both are Palo Alto firms.

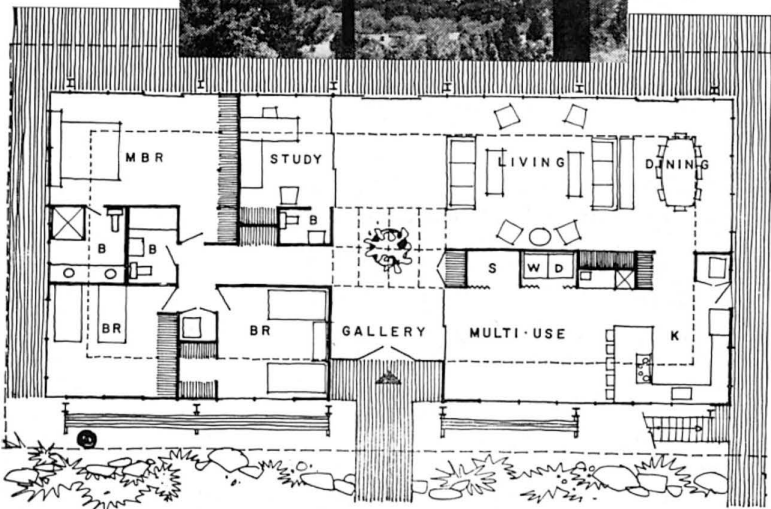
## Bill Roth's "House of the Year"

There's a remarkable model house in the Los Altos Hills of Santa Clara County, California.

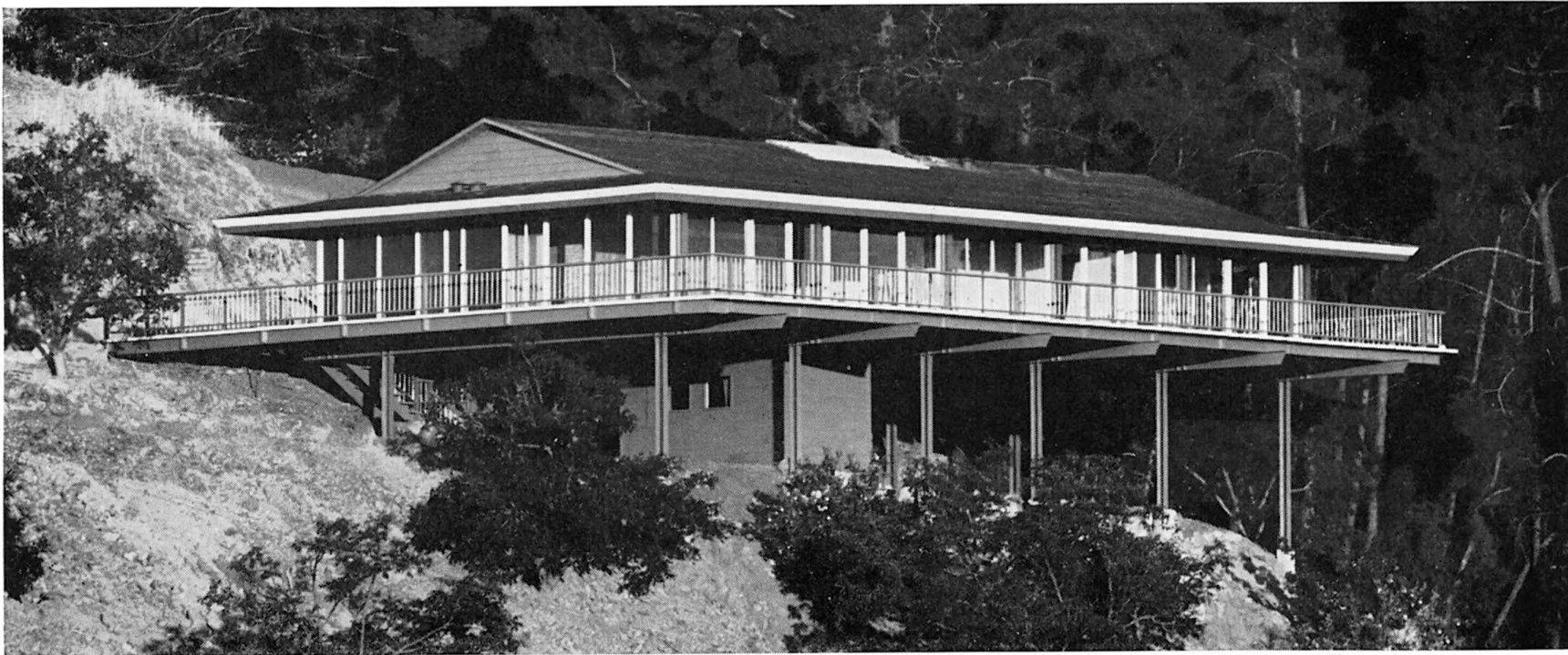
Visit it if you possibly can. Drive out Conception Avenue toward the Fremont Hills Subdivision. Pause at Viscaino Avenue. Glance eastward. There it is, fairly leaping from the steep hillside on slender steel stilts.

Then drive up the hill. Go inside. Stand on that open deck and you'll see miles of countryside spread out beneath you. And you'll feel the airy spaciousness within the house, because *there are no walls* in the conventional sense. The entire structure is carried over the slope by just twelve steel columns, while projecting steel beams support the open deck areas and the roof overhang. The exterior walls are in effect, no more than weather screens, just as those inside are really only partitions separating the various living areas.

Would *you* like to have a house like this? It's possible—with steel.



Floor plan of the 2600-sq-ft home. The steel framework, fabricated by Golden Gate Iron Works, was completely erected in only two days.



Because steel makes tough building problems easy, because it's so adaptable for contemporary design . . . architects, builders, and home-owners are turning more and more to steel framing for homes.

BETHLEHEM STEEL  
Pacific Coast Division  
General Offices: San Francisco

# BETHLEHEM STEEL





**ART***(Continued from page 15)*

erence to Sardinian sentinels, or to pre-historic figures, but it is a reference among many. Giacometti has transformed the figure as no other artist of his generation has done. He is no longer talking about what is outside the figure really. He portrays the human being when he is reduced to his essence. Giacometti does not question the validity of that essence.

\* \* \*

As I said in the beginning, Selz' choice of artists is not relevant. The show is important, timely in an expository sense. But of course, I did make some notes, and I did conclude that the exhibition would have been a lot stronger if it had been limited to about a half-dozen or so—possibly Giacometti, Dubuffet, deKooning, Pollock, Paolozzi, Bacon, Oliveira (of the younger painters, the star of the show).

**OFFICE BUILDING—WELTON BECKET***(Continued from page 30)*

conditioning. The modular grid will permit the partitioning of offices of various sizes without disrupting the floors or ceilings.

Mechanical floors will be located at the 10th, 20th, and 30th floor levels, where the air conditioning and heat distributing system will be placed for the office floors above and below. The mechanical floors will also contain the electrical distribution system and elevator machinery.

The two top floors will be glass enclosed and unencumbered by cooling towers or compressors which will be located on top of the adjacent garage building.

**PRODUCT LISTINGS***(Continued from page 12)***PHOTOGRAPHIC REPRODUCTIONS**

(334a) The Averycolor reproduction is a color-fast, non-glare, satin-finish print of durable photographic stock, not acetate base material. Two years of research coupled with twenty years of experience in the photographic field have resulted in a revolutionary change in making reproductions from architectural renderings. Other services include black-and-white prints, color transparencies, custom dry mounting and display transparencies. For further information write: Avery Color Corporation, 1529 North Cahuenga Boulevard, Hollywood 28, California.

**ROOFING**

(223a) Built-up Roofs: Newest brochure of Owens-Corning Fiberglas Corp. outlining and illustrating advantages of a Fiberglas-reinforced built-up roof. A built-up roof of Fiberglas is a monolithic layer of waterproofing asphalt, reinforced in all directions with strong fibers of glass. The porous sheet of glass fibers allows asphalt to flow freely, assures long life, low maintenance and resists cracking and "alligatoring." The easy application is explained and illustrated in detail with other roofing products.

Owens-Corning Fiberglas Corp., Pacific Coast Division, Dept. AA, Santa Clara, California.

**SPECIALTIES**

(152) Door Chimes: Color folder NuTone door chimes; wide range styles, including clock chimes; merit specified for several Case Study Houses.—Nutone, Inc., Madison and Red Bank Roads, Cincinnati 27, Ohio.

(122a) Contemporary Ceramics: Information prices, catalog on contemporary ceramics by Tony Hill, includes full range table pieces, vases, ash trays, lamps, specialties; colorful, full fired, original; among best glazes in industry; merit specified several times CSHouse Program magazine Arts & Architecture; data belong in all contemporary files. — Tony Hill, 3121 West Jefferson Boulevard, Los Angeles, California.

(247a) Contemporary home furnishings: Illustrated catalog presenting important examples of Raymor's complete line of contemporary home furnishings shows designs by Russell Wright, George Nelson, Ben Seibel, Richard Galef, Arne Jacobsen, Hans Wegner, Tony Paul, David Gil, Jack Equier and others. Included is illustrative and descriptive material on nearly 500 decorative accessories and

furnishings of a complete line of 3000 products. Catalog available on request from Richards Morgenthau, Dept. AA, 225 Fifth Ave., New York 10, New York.

**STRUCTURAL MATERIALS**

(208a) Texture One-Eleven Exterior Fir Plywood: This new grooved panel material of industry quality, is in perfect harmony with trend toward using natural wood textures. Packaged in two lengths and widths; has shiplap edges; applied quickly, easily; immune to water, weather, heat, cold. Uses include: vertical siding for homes; screening walls for garden areas; spandrels on small apt., commercial buildings; inexpensive store front remodeling; interior walls, ceilings, counters. For detailed information, write Dept. AA, Douglas Fir Plywood Association, Tacoma 2, Washington.

✓(349a) Available from the West Coast Lumbermen's Association is an excellent 44-page catalog entitled: "Douglas Fir Lumber — Grades and Uses." This well illustrated catalog includes detailed descriptions of boards, finish, joists and panels, and light framing with several full-page examples of each; conversion tables, stresses, weights, properties of Douglas fir. For a copy write to: West Coast Lumbermen's Association, 1410 S.W. Morrison Street, Portland 5, Oregon.

✓(340a) Davidson Brick Company manufacturers of Modular Steelted Common Brick and other structural clay products, are now exclusively manufacturing the Bel Air Flat. The 6" x 12" x 2" nominal dimension of the brick provides an ideal unit for patios, pool decks, window ledges, garden walks, wall-capping and many other uses. Offers 45% savings in construction costs. Sample brick and literature available from Davidson Brick Company, 4701 East Floral Drive, Los Angeles 22, California.

(348a) New Technical Bulletin on Protective Coatings Offered: A new 8-page Technical Bulletin on "Protective Coatings for Exterior Surfaces of Concrete Block Walls" is now available free of charge to qualified building professionals. Prepared at the direction of Quality Block Producers, an association of leading concrete block manufacturers in Southern California, the Bulletin is the first of its type offered. Actual research, editing and writing was performed by Raymond S. Wright, AIA, & Associates, and the Paint & Coating Committee of the Construction Specifications Institute. No brand names are mentioned and recommendations for various coatings are notably unbiased and objective. The last page, Brief Specification Data, is perforated for easy removal and extra copies may

be obtained without charge. Copies of this Technical Bulletin have already been mailed to a select list of building professionals. Readers not included in this mailing, or those desiring an extra copy, may obtain one by telephoning or writing: Quality Block Producers, Attn: Mr. Peter Vogel, 856 So. Hoover Street, Los Angeles 5, California. DU 8-0251.

(146a) Fiberglas (T.M.Reg. U. S. Pat. Off.) Building insulations: Application data, specifications for insulating walls, top floor ceilings, floors over unheated space. Compression-packed, long continuous rolls, self-contained vapor barrier. Goes up quickly, less cutting and fitting. High thermal efficiency. Non-settling, durable, made of ageless glass fibers. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

✓(326a) Construction Plywood: A new fir plywood catalog for 1958 has been announced by the Douglas Fir Plywood Association. Indexed for A.I.A. filing systems, the three-part, 20-page catalog presents basic information on fir plywood standard grades and specialty products for architects, engineers, builders, product design engineers, and building code officials. Sample copies may be obtained without charge from: Douglas Fir Plywood Association, Tacoma 2, Washington.

**SURFACE TREATMENTS**

(324a) Surface Treatments: "Byzantine—by Mosaic." This new illustrated booklet describes the brilliant new ceramic mosaic patterns for floors and walls, indoors and out. Byzantine offers great latitude in color, scale and decorative effect. For full details ask for form #219. For information about the use of Mosaic Ceramic Tile in institutional and commercial buildings write for—"Mosaic Ceramic Tile; basic floor and wall material in buildings of today"—form #208. "The Mosaic Tile Book of Beautiful Homes" (form #195-WCR) is a 16-page booklet especially designed for homemakers. Also available is the new "Mosaic Medley Patterns"; 12 pages of full-color close-ups of random mixture ceramic mosaic patterns. Write to: The Mosaic Tile Company, 131 North Robertson Boulevard, Beverly Hills, California.

(283a) Ceramic Tile: Write for information on new Pomona Tile line. Available in 42 decorator colors, four different surfaces, 26 different sizes and shapes. Ideal for kitchen and bathroom installations. Pomona Tile is practical; lifelong durability, resists acids, scratches and abrasions, easy to keep clean. No wax or polish necessary, exclusive "Space-Rite" feature assures even spacing. Top quality at competitive prices. Pomona Tile Manufacturing Company, 629 North La Brea Avenue, Los Angeles 36, California.

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- The owner is: John D. Entenza, 3305 Wilshire Boulevard, Los Angeles 5, California.
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- The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

JOHN D. ENTENZA, Editor, Publisher, Owner

Sworn to and subscribed before me this 5th day of October, 1959.

CLIFFORD G. SHAW

Notary Public

In and for the County of Los Angeles,  
State of California

(My commission expires May 27, 1962)

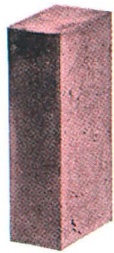
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