

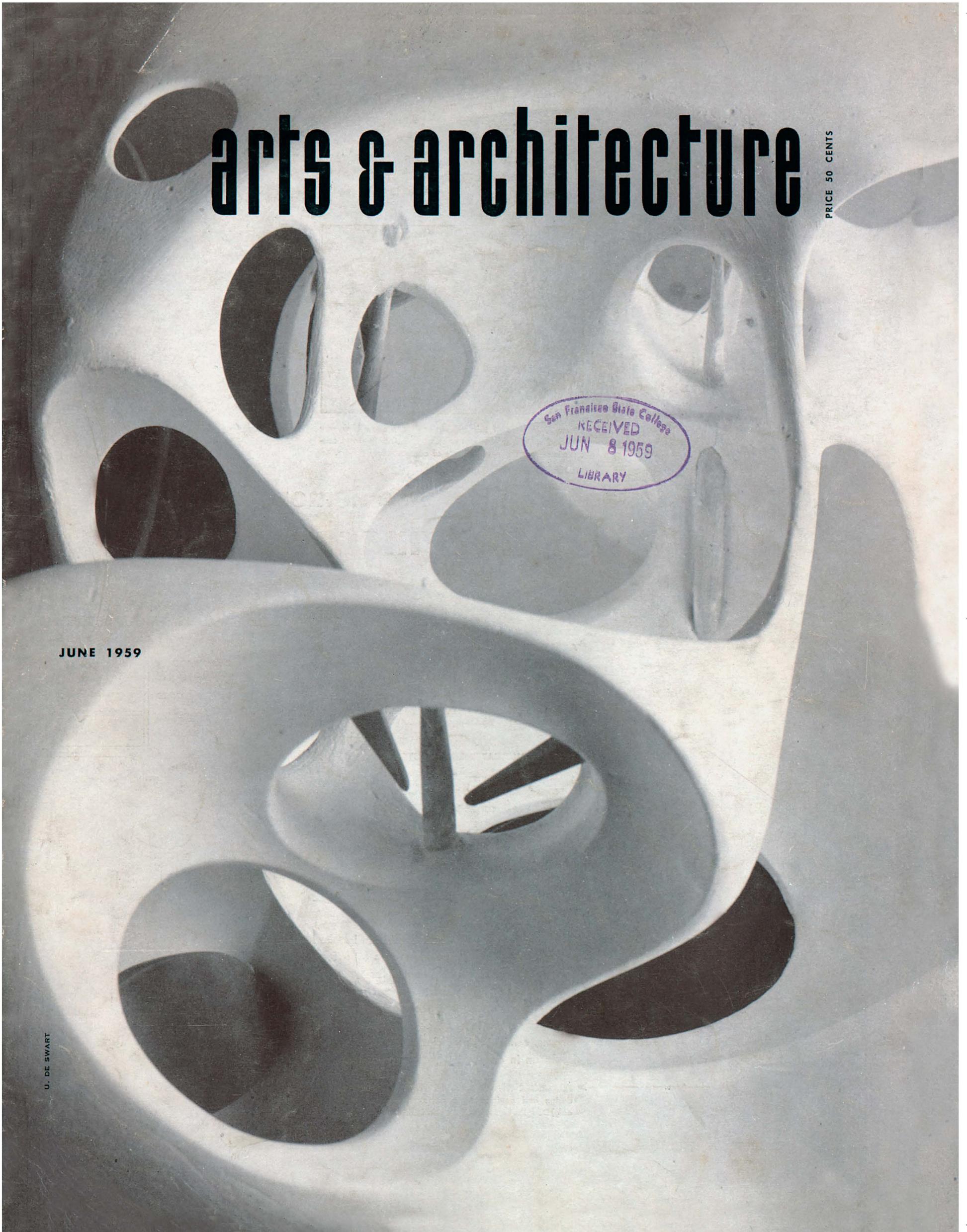
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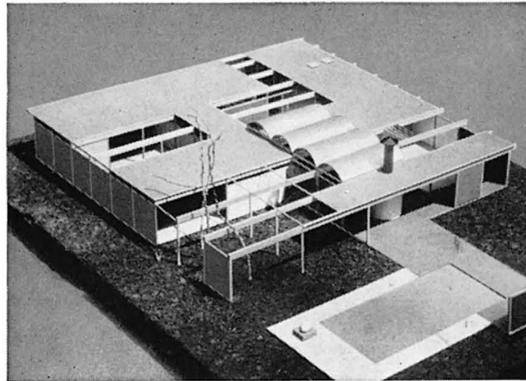
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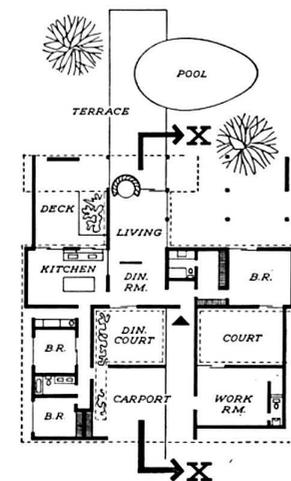
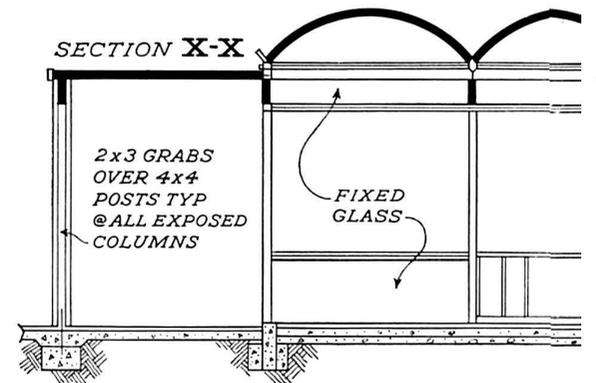
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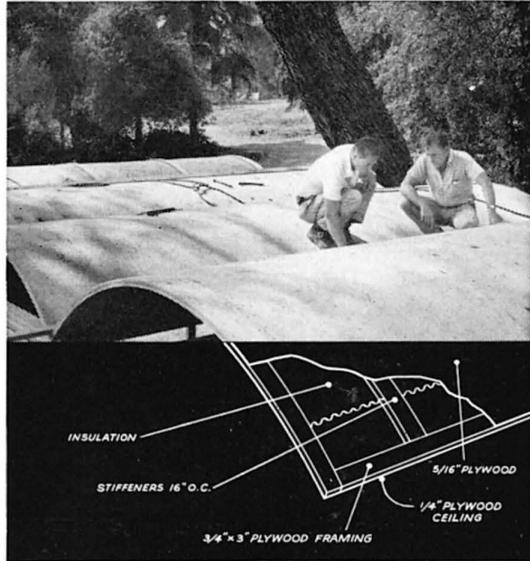
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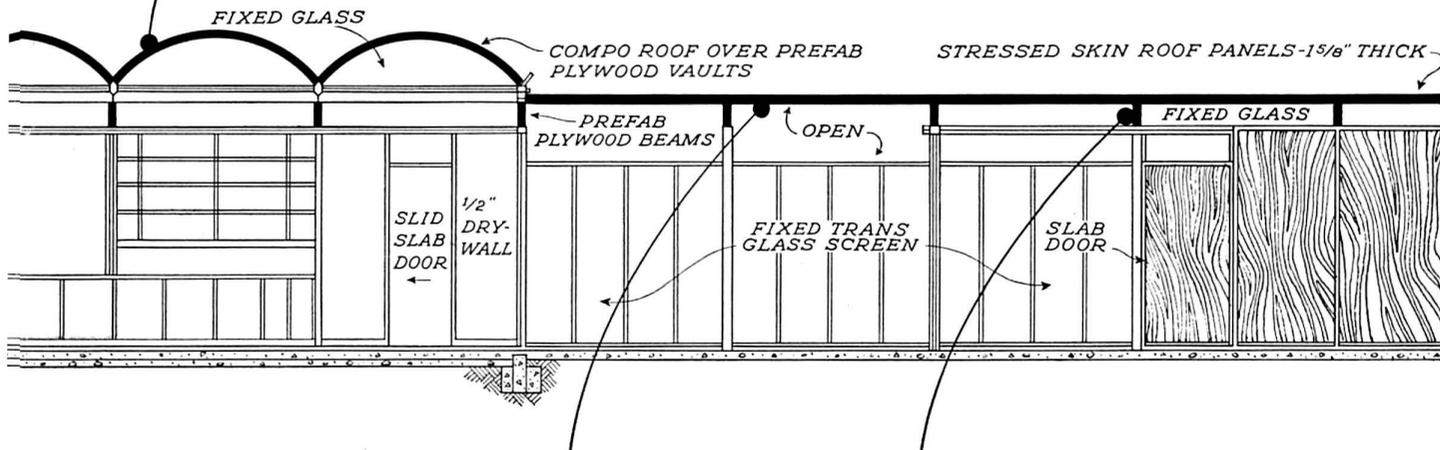


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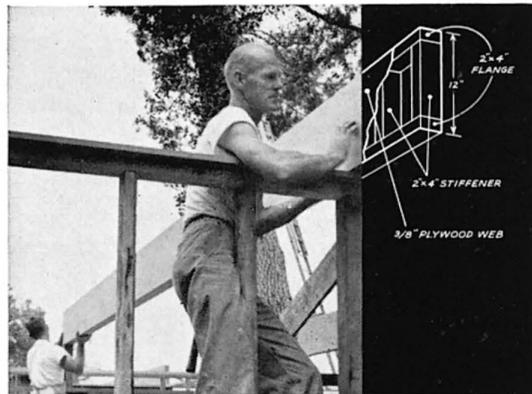
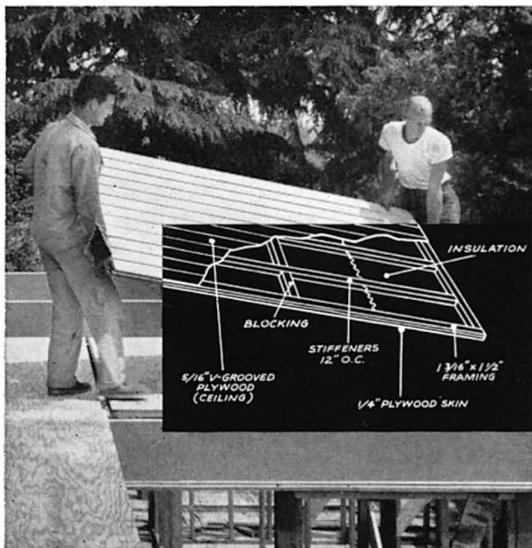
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MUSIC

PETER YATES

SEVERAL PROGRAMS REVIEWED

The other evening a friend and I were playing through recordings, while my eldest son sat reading. Turned out he was reading some of my recent articles about American composers. Finally he gave up and asked me, raising his voice to be heard through the music, if I thought he could be expected to get much good out of the articles when he didn't know anything that I was writing about. So I explained to him that while he had been reading I had been playing the very music mentioned in the articles. I suggested he might do better listening instead of reading.

We were playing the Ives Second Quartet. I remarked that this music is completely dissonant. He said it didn't sound dissonant to him; he had heard some dissonant music recently, by a composer who seemed to be imitating Stravinsky. I explained that he was confusing polytonality with pure dissonance; the clash of consonances is now in innocent ears more perceptibly dissonant than dissonance without strict harmonic relationship.

The next afternoon I found an ashtray full of butts where he had been sitting listening to Beethoven's Ninth Symphony. I asked him how he liked it. He said it didn't sound like much of anything to him, except the last movement. We tried him on a movement of Bruno Walter's magnificent new recording of Mahler's Second Symphony. He said it sounded pretty to him.

All this was very encouraging. Here is someone who has never listened below the surface of any music, whose favorite show music is *Carousel*—not a bad choice, by the way, taking Broadway shows in general—and he is of a sudden listening and reacting. Starting, by the accident of a parental interest, at a level where most listeners give up. He is capable of distinguishing between clashing harmonies

and the harmoniousness of well-made pure dissonance, and he prefers the latter. Proof that music has come a long way since I started out with it thirty years ago. What in my ears was peculiarity, to be conquered, is now in his ears recognizably, or at least intuitively, the mainstream.

The University of California at Los Angeles put on a program, nearly all American music, which indicated how far things have gone in this direction. The first half of the program consisted of pieces for several hands and more than one piano. The single non-American work, *Musica per Tre Pianoforti*, from the youth of Luigi Dallapiccola, failed to convince many listeners that strictly percussive dissonance improves the tone of three pianos. Against all opinion of that period, which is now passing, I have contended that the piano is not a percussive instrument, that percussion is only one of its minor effects. The art of the piano is not really in its sound at all, however that be managed, but in its extraordinary suggestiveness. The piano can simulate an orchestra or sing with the persuasiveness of a voice; more than all else it can speak. When you deny it suggestiveness, or multi-instrumental simulation, or song, or speech it becomes merely noisy. For generations the piano spoke, sang and simulated a plethora of sweet noise, and we rejected gradually this type of music, though we still retain Rachmaninoff. To simulate sour noise with it, or simply noisy noise, denies the piano expressiveness. Yet I must thank the players for troubling to bother my ears in this way. The critic who puts aside unusual music he doesn't like, as if he would prefer not to have heard it in the first place, should get into some other business. He should be prepared to hear any music receptively at least once.

Then there was the Recitative and Improvisation for Four Kettle-drums by Elliott Carter, rather impressively beaten out by Robert Winslow. It's a good piece considering the limitations of the medium, but it makes you wonder how our music manages to get along with drums that can do so little except boom around a pitch, when the world is full of so wondrously expressive drumming.

After that we had *Ice Age*, for clarinet, glockenspiel, and piano by Henry Brant. This composer, domiciled at Columbia University, has won reputation, if not yet fame, by composing for the darndest combinations. Early in his career he turned out a work called *Angels and Devils*, for solo flute accompanied by an orchestra of flutes (*Composers Recordings*). Everything fluty happens except that interesting creative phenomenon I think of as music. The piece is otherwise extremely well written and brims with ideas. If you like the flute, you may enjoy it. That's about as much as I can say, too, for *Ice Age*, except that Mr. Brant has turned here from sweet-sour dissonance to sour-pickle dissonance, and he has still not managed to make it—just for itself—music. But I have in my heart a hope of Henry Brant. Somewhere among his astonishing titles he may have done it. There's a piece for tin whistle and orchestra called *Chico, Groucho, and Harpo*. And I wait in awe to hear somewhere, sometime his antiphonal opera, full so they say of "non-synchronous poly-rhythm and counterpoint," *The Grand Universal Circus*. If the music doesn't live up to that title, I'll be finished with him.

Serenade, for oboe, clarinet, horn, viola, and piano by Seymour Shifrin, closed the proceedings. This difficult, unrewarding composition demonstrates how far a potentially worthwhile composer can misdirect himself into technical dissonance without getting anything in return. By technical dissonance I mean bad sound with technical justification in theory, the sort of music written when the ears have been subdued by sheer determination. This is the currently interesting backside of the sweet harmony we reject. I suspect that within a few years such composition will sound, if one ever hears it, even more peculiarly unpleasant than it does now. The mainstream of music is moving in another direction.

The principal fault of the program was not its music, because it's possible that any one of these works, properly located in a program, might have shown a different aspect. As it was, they dragged one another down into a new fashionable commonplace, like newspapers of the latest gowns shown at Paris. Even Ingolf Dahl's witty, quite unpretentious *Quodlibet on American-Folk Tunes (The Fancy Blue Devil's Breakdown)*, for two pianos, eight hands, was subdued by the preceding pianistic clamour.

Before anyone gets around to saying, Well, that's American music, make the most of it, let me take up another program, given by

(Continued on page 6)



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VOL. 76, No. 6

MUSIC*(Continued from page 4)*

Monday Evening Concerts in collaboration with the Fromm Foundation. The concert opened with Stravinsky's Octet for Wind Instruments, played under the direction of Robert Craft. The Octet not long ago stood for the extreme of ultra-fashionable dissonance that one could accept. Listeners were able to go along with it because the constant accompanying figures reminded them of 18th century restraints. Taste—or listening capacity—has now gone far beyond it, so that although it is as good a piece as it ever was—a gorgeously gay parody which becomes less gay when you grow aware that the central body of the music seems to have been written around the *Dies Irae* and the gaiety may be that of a Dance of Death—in our ears Stravinsky's Symphonies for Wind Instruments has become by far the greater, if not altogether the more accessible work. The two are almost contemporary, but until the present decade the nearly atonal Symphonies had been put aside. My eldest son, attending his first Monday Evening, thought the Octet the most dissonant item on the program. It was in fact the most strictly harmonic. Which reminds me of the critic who described as singularly dissonant that one part of Stravinsky's *Agon* which subsists on simple triads. In the new terrain of intervallic music, as in science, one can no longer safely apply Dr. Johnston's method of kicking a rock to demonstrate a solid.

A late horn-player diverted the order of the program, so that *Octandre* by Edgar Varese was played next. I shall discuss the works in order as originally programmed.

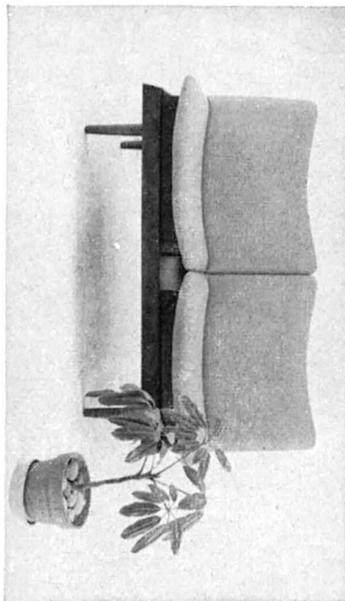
Five Pieces for Five Horns by the New York composer Gunther Schuller, first horn of the Metropolitan Opera orchestra, tested the sonorous possibilities of the odd medium with imagination and a positive feeling for design. Unlike Henry Brant, Mr. Schuller does not advertise his fancy in the title but discovers it in context. One passage of fine-edge embroidery in, I believe, the third piece particularly won my respect. The fifth, the most outwardly demonstrative, brought off the set to applause. From five French horn players one can scarcely expect much spontaneity, even less when, combatting

the natural recalcitrance of their instruments, they are producing quarter-tones. The performance, by James Decker, Wendell Hoss, George Hyde, Sinclair Lott, and Richard Perissi, each a master of the instrument, was of an extraordinary delicacy and flawless.

Basic instrumental studies of this sort, whether or not one judges the product to be music in the full, satisfying meaning of the word, have been at the centre of the independent tradition of American music from its start. Such etudes in sound, though at all times a part of the European tradition, have been peripheral to its development through the great period. The clear distinctions of media and of form drawn by the European tradition, though never quite so clear as in the musicological afterthought, have been maintained for the most part even by the more radical composers. It is precisely the acceptance or refusal of these distinctions which appears to divide the American academic-eclectic continuation of European music-making from the native American tradition. Between the two parties lies a wide Everyman's-Land of advanced eclecticism, where the composers accept some or many of the premises from both sides while laboring to distinguish their own individual lines of motion.

Ingolf Dahl's Quartet for violin, viola, and cello with piano, composed in 1957 for the biennial Music Festival at the University of Illinois, was commissioned, as was the Schuller Five Pieces, by the Fromm Foundation. The Quartet is dedicated to Igor Stravinsky. It is in three movements, each designed to bring out a differing relationship between flexible strings and intransigent piano. In the first movement they are opposed, in the second they alternate, in the third they are combined. The cadenza-like Fantasia, built around a 5-note row, shows, in the composer's words, "traces of sonata-allegro ancestry, although . . . I cannot consider them of really foreground validity." In similar manner, formal modulation and fugue are introduced, always subordinate to the intention of a free-flowing instrumentally independent polyphony.

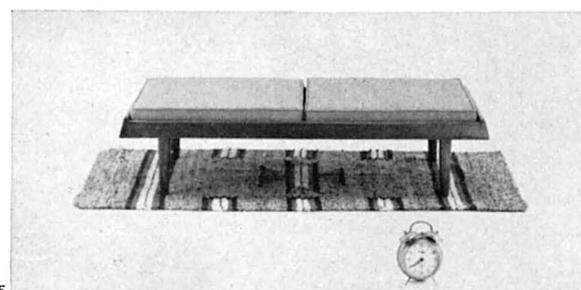
The second movement advances still farther into the true American anti-formalistic tradition. While the 5-note row does not determine the growth of the first movement, it is there to refer to. The



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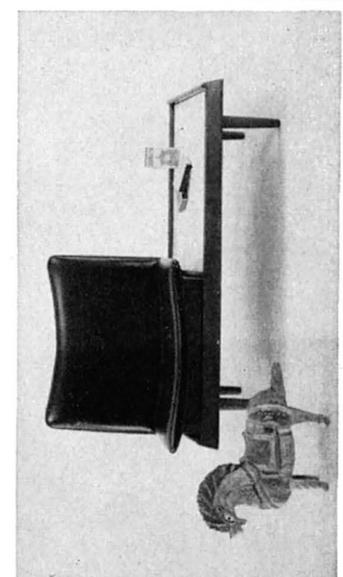
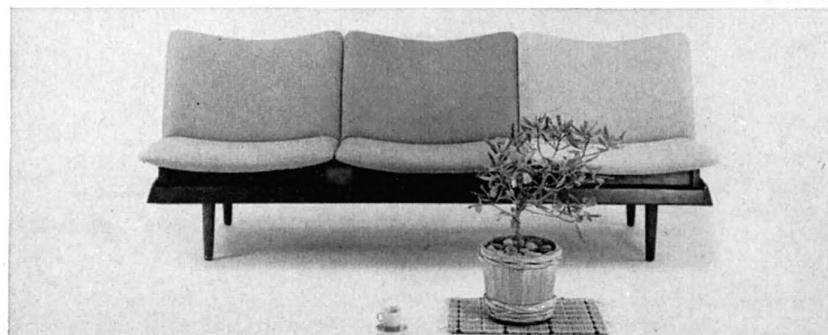
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second movement, called Antiphon, progresses, without row or other thematic reference, along a key-scheme of modulation by thirds, marked by return of the initial harmony of the strings. Against this preliminary the opening piano solo sets the character of the movement; the alternations becoming more rapid, with more rapid modulation, throw up metrical schemes in polyrhythmic complexity, combining so effectively that the ear follows without trouble a movement very troublesome to explain.

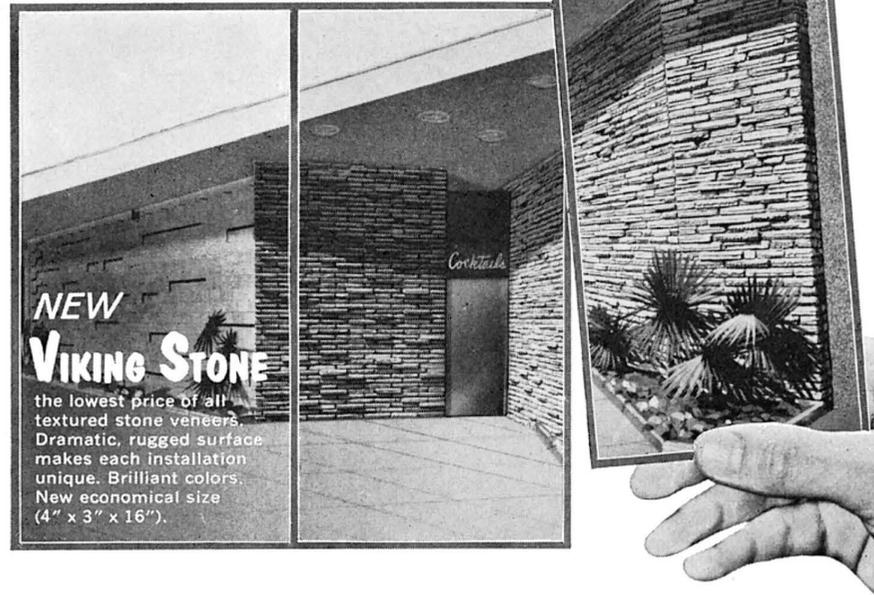
The final movement, a Rondo composed around the sonorities of bells (Campanella), runs in fairly traditional design over a five-note carillon ostinato. In the first version, of which I have heard a recording, this movement, though traditional, was the least clear. The composer had improved it by extensive rewriting before this concert, so that in my ears the effect of the movement, in spite of the more traditional form, was more "modern" than that of the first-movement Fantasia, perhaps because the opposition of piano against strings suggests tradition more strongly than internal form. The composer himself has related his first movement to the final movement of Mozart's Quartet for Piano and Winds.

Compared with its origin, the 12-tone Piano Quartet by Aaron Copland, the Dahl Quartet seems to me in every way the more vital, the more deeply thought composition, unburdened by the disposition of the tone-row, which Copland does not adequately manage, and free of the elder composer's sometimes painful clichés. The performance, with the participation of Eudice Shapiro, Milton Thomas, and Victor Gottlieb, must have given great satisfaction to the composer at the piano.

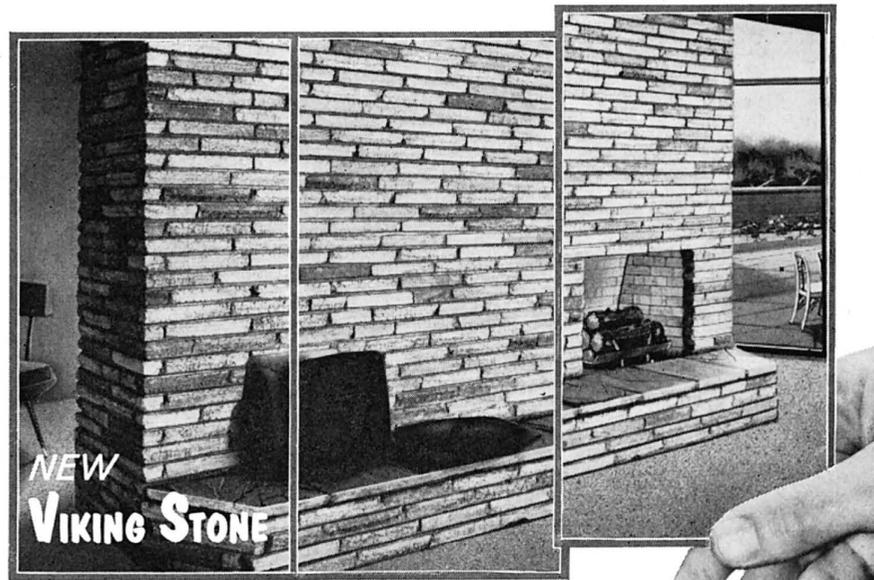
The second half of the Monday Evening program, Robert Craft conducting, was given over to three major works by Edgar Varese, whose reputation, won in the 1920's, has remained formidable during thirty years of almost complete neglect. Though Varese like Dahl was born in Europe, his music almost entirely, like Dahl's at his best, lies within the true American tradition. When I was in New York early last winter I was able to attend the first American hearing of Varese's *Poeme Electronique*, composed in electronic sound on tape (therefore in no sense performed). The work was commissioned by the Philips Electric Company of Holland at the suggestion of the architect Le Corbusier for the building which he designed to be their exhibit at the Brussels Fair. Within the odd contours of the building this sound-composition was projected through numerous dispersed speakers, to tease the prepared and startle the unwary. As we heard it in New York, inside a large flat-roofed beerhall, the sound came from enormous speakers at the four corners of the room, and the undispersed highs, at an intensity which threatened composure, fairly tore the ears from the head. I must say, in justice, that our party thrice refused invitations by the composer's wife, the admirable translator Louise Varese, to sit at the critics' table in the center of the room, where a reasonable chance of aural safety was guaranteed. As the hardy explorer, if still ambulatory, returns to the scene of his last narrow survival, so this courageous audience, which packed the place, applauded until they received a second round of the same treatment.

I am not going to argue with the composer, or with his critics, whether this succession of invented "big" sounds—he says he prefers them "big" rather than "fat"—each undergoing a progressive modification before being succeeded by the next, is or is not music. As for the bigness of the sound, any tone of a good clavichord is as rich. Among the threats to things as they are which we must expect to face during the remainder of our lives, electronic music is not the least, and Mr. Varese, now fully equipped with a sound-laboratory and funds, is hard at work towards our discomposure, the works in progress ranging from solemnity to jazz. I am more interested, musically, by the fact that as early as the middle 1920's Edgar Varese was

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inventing instrumental combinations of sound, such as the works *Octandre*, *Hyperprism*, and *Integrale*s played at the Monday Evening Concert, which contain more than the germ of his present electronic sound; and by my conviction that his control of the new medium still lacks his mastery, within temperamental limitations, of the old. I do not mean that Varese is going backwards, but that his invention of electronic sound, for all the resources of the new medium, does not yet equal his earlier ability with instruments and percussion. When he played for me at his home, apologizing that he could offer no more than a single small loudspeaker, the composition *Deserts*, for alternating and ultimately commingled instruments and electronic sound, the premiere of which set New York back on its heels a couple of years ago, this opinion was confirmed.

At the New York concert I heard a good performance of *Octandre*, for seven winds and bass, by the New Art Wind Quintet and assisting artists. The Monday Evening reading was even better. *Octandre* (or *Octandra*, as the New York program had it) was first played in 1924 at the International Composers Guild series founded by Mr. Varese. It is a work as temperamental as its composer, and I mean by temperament the high style of his mentor, the great composer-pianist Ferruccio Busoni. Submitting to no set of autodidactic regulations or rationalizing theories *Octandre* freely challenges comparison with the latest thing from Europe, where, in some advanced circles, Varese is held in high esteem. The rumpled independence of his music roots in the great age of concert virtuosity rather than in the virtuosity of note-reading required by the newer Europeans.

Hyperprism for 9 winds and 16 percussion instruments and *Integrale*s for 11 winds and 17 percussion instruments explore sonorities and shocks, pitches and non-pitches with a resolute disregard for preconceived form and a swagger of involved rhythmic assurance which remind the informed listener that we are still catching up with the explorations of the first half of the 20th century. Most of what we

presently think new differs only by the intervention of the Schoenbergian row, an expedient which, once the emancipation of the dissonance had been successfully accomplished, Schoenberg was quite willing to get rid of. While Schoenberg was emancipating the dissonance, Varese, like Ives before him, was emancipating rhythm. Henry Cowell reported that there are, on the first page of *Hyperprism*, "thirty-two different ways of filling a measure."

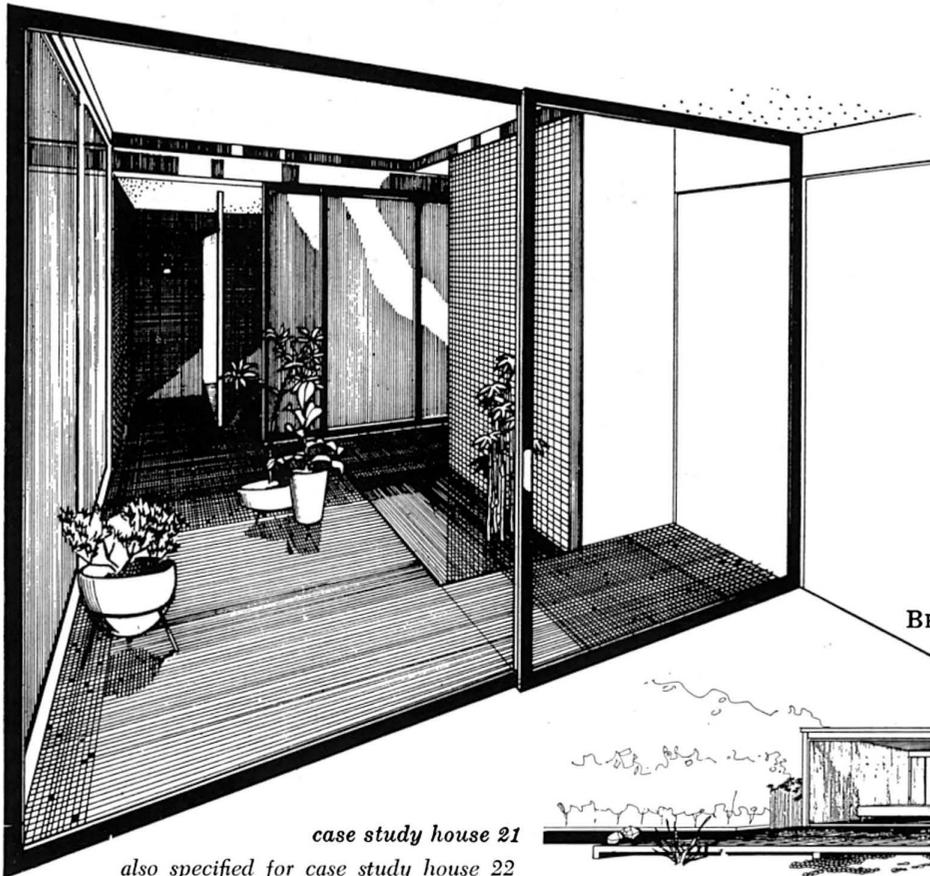
To continue with the excellent note furnished for this concert by Lawrence Morton: Varese "frequently abandoned melody altogether, letting solo instrument reiterate a single note with a few auxiliary grace-notes in order to draw attention to rhythmic patterns. Or, he might have the instruments congregate in a raw, dissonant harmony, repeating it many times in ever-fluctuating rhythm. That is why he was attracted to percussion instruments, which were able to speak rhythmically without sounding any tones at all, and show a variety of timbres without distracting one's attention with tonal material. Thus his polyphony is largely one of rhythm and timbre. More and more he began to treat tonal instruments as percussion, emphasizing their dynamic and ostinato powers . . . Only now is the meaning of his prophecy beginning to be understood and believed." The revival of this music is a real step towards American musical independence. Knowing what has been done our composers can be more aware of what there is to do. Composition in true dissonance is, if not the only, certainly one of the best alternatives to composition in theoretical dissonance.*

The previous Monday Evening Concert gave us arias by Caccini and Luzzaschi sung by Grace-Lynne Martin with a real feeling for the elaborate vocal embellishment. Carol Rosenstiel, who accompanied on harpsichord, played also three keyboard pieces by Fres-

*I am well aware that there are many who would challenge me on the exact meaning of these two terms. Let the terms stand to be filled in by the individual according to his experience.



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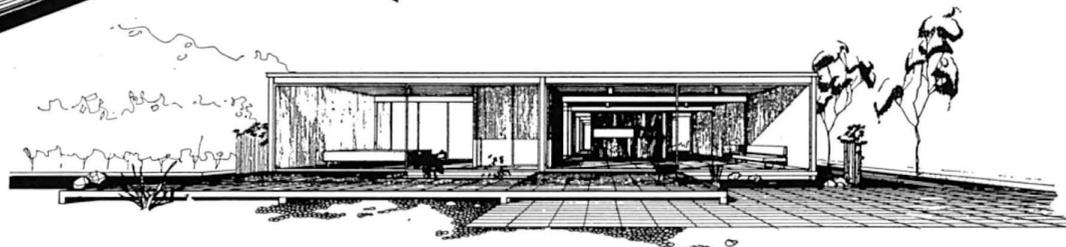
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cobaldi, using expressive registration, especially for the *Capriccio sopra "La Battaglia,"* but showing little sense of the style. Central work of the evening was *Cori di Didone*, composed by Luigi Nono on a text from *The Promised Land* by Giuseppe Ungaretti, for large chorus and percussion. In this, as in the Varese compositions and other works during the past two years, the Los Angeles Percussion Ensemble, William Kraft, director, has added a new dimension to the concerts. Nono, son-in-law of Schoenberg, had planned to visit this country and conduct his work himself; unfortunately his plans had to be cancelled. The music, building up in strangulated accumulations of piled seconds, starts with an effective shudder, which, for lack of anything more that can be done within the hyperlimitations of the style, does not increase by continuation. Indeed the entry of the percussion has the result of making the so-far effective sound a little commonplace. As in so much of this music, the rhythmic complexities are more notational and a bother to the musicians than realistic. Leonard Stein, pianist, who has devoted much study to music of this school, was the capable conductor.

The Gregg Smith Singers, besides taking part in the Nono composition, sang also, under Mr. Smith, choral works by Lassus, Brahms, and Ives, each a splendid example of its style. It is probably beating the drum a little too obviously for me to write that I found the Ives *Psalm 67* the most interesting sound and, debatably, the most interesting work of the evening.

To round off these several reviews, let me take brief note of Leonard Bernstein's project with the New York Philharmonic, an entire season built around the historic growth of American music. The project got off to a splendid start with an all-out performance of Ives's *Second Symphony*, soon followed by a grouping of works by Wallingford Riegger, Carl Ruggles, and John Becker. Here was the idiosyncratic American tradition. Even so unknown a work as Becker's *Short Symphony* sounded momentous implications. But then I learned how, to accommodate that patriotic American institution the Van-Cliburn-Rachmaninoff-Third-which-won-at-Moscow, the anticipated Ruggles *Sun-Treader*, one of the major and of course unknown masterpieces of our continent, was replaced by his *Men and Mountains*, a major and unknown masterpiece of smaller dimensions; and the Cliburn patriotic audience left few seats for the American music enthusiasts. The conflict of patriotisms put decisively second the work of American composers.

After that I lost touch for a while. I was traveling and missed the concert when Bernstein played *Arcana* by Varese—missed some others, too, I did not read of. Resuming, I twitched, twiddled and gave up three times during the visit of the incredibly dull Barbirolli. His so-called *Elizabethan Suite* of transcribed and misplayed virginal pieces sets the right head on this Bottom of musicians. During the next weeks the Samuel Barber Cello Concerto, *American Creed* in the worst manner of Roy Harris, the Walter Piston Concerto for Orchestra were flung to the mob with no serious effort to place them becomingly in the context of a program. Granted that the programming of symphonic music by our major orchestras takes jumble for a reasonable pattern. If Bernstein wishes to win his battle for American music and is not merely setting up a good excuse for not trying again, he should look to his programming. This first large venture for our national music cannot win by adding up a roster of American names. Here is a country in which the national composer is not so much neglected as without estimate. It is the estimate we must build up. And no conductor can do so, if his own taste in the matter establishes no arguable boundaries, recognizes no tradition, faintly patronizes his essential material by programming it wherever he can fit the stuff in.

I have never thought better of Aaron Copland than when he came before the Philharmonic audience and in defiance of what might be thought courtesy growled: "When I wrote this piece Lennie Bernstein was seven years old." Somehow, and as I believe by no conscious intent, Mr. Bernstein's plan to fight a major campaign for American music has been shoved aside by Lennie's evil genius of popularity, Bernstein the showman.



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ART

DORE ASHTON

Given the monstrous dead weight of official nineteenth-century statuary, it is not surprising that most of the sculptor-reformers of the twentieth century associated creative freedom with weightlessness. Or, that "objects" became anathema to them and were destined to be dissolved in light and movement. Dynamics—a term appearing in manifestos by the Neo-Plasticists, the Suprematists, the Futurists and several other "ists"—became the key interest. The notion of dynamics was taken over in an absolutely virtual sense. So much so that virtual movement became a value, chiefly associated with the work of Calder, but implicit in the work of the direct metal sculptors.

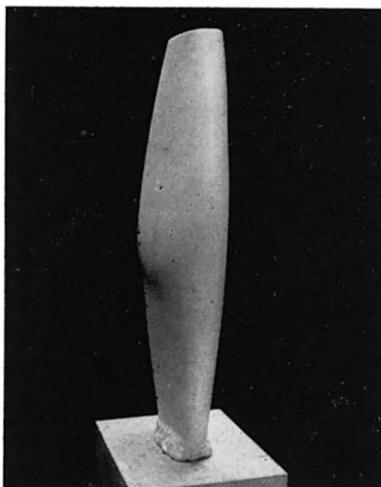
In their desire to transcend the object and in their literal interpretation of the concept of dynamics, the radical sculptors postulated an idealistic transcendentalism that flew far out into a zone of rampant abstractions. Theirs was to be a pure and universal expression. They were prepared to sacrifice the particular—indeed, they insisted on it—in order to determine the universal, or as Mondrian called it, the "neutral." The denial of the object was supposed to bring them to plateaux of high and noble abstraction.

They did succeed in eliminating the "objectness" of sculpture and with it, particularity. And their successes opened the way for forty years of repetitions, anonymous stylizations, banal industrialized productions, pseudo-modern designs. For, without the particular, without the unique entity, without the idiosyncratic mark of the hand, sculpture can be little more than furniture or architectural jewelry (which much sculpture today certainly is).

Fortunately we have had a few twentieth-century sculptors whose energy was not directed against anything and who were not interested in programmatic revolution, but rather, in personal evolution. These sculptors—Brancusi and Matisse above all—were concerned with interior dynamics rather than the virtual expressions of movement called for by the reformers.

For Brancusi, the problem was not one of dissolving the particular object but rather, of finding the object-essence. He spent his life cleaning off the barnacles on visible nature, scraping away at the surface of life until pure forms were revealed. From earliest history man has known that there is latent life in matter, and it was Brancusi's avowed intention to reveal it.

Brancusi was both a carver and a modeler who believed in "la taille directe." By working directly in marble for months at a time



James Rosati

Photograph Rudolph Burckhardt

(or in any of the materials he chose) he possessed his sculpture, became one with it, communed with it, gave it of his own life, and drew from it the life it contained unrevealed. Each sculpture, as he once told a visiting artist, was worked as if it were to be the last and summum of his life's work. The individual object, in short, was

carried to its highest degree of particularity, to the magical intersection where the particular and universal meet.

It is in this tradition, a humanist tradition, that James Rosati works. He has been patient. He has learned to seek the origins of his experience slowly, from piece to piece. His response to matter, to the object in space is positive, akin to that of the first sculptors in history: confronted with the solid object, they felt the urge to qualify, or humanize it. They carved, shaped, or made pictographs on it and explained themselves to themselves, and perhaps to the gods.

Rosati is openly committed to a continuation of the Brancusi tradition not only in philosophical terms, but formally as well. Several pieces in his exhibition at the Fine Arts Associates Gallery, are in fact closely linked to Brancusi prototypes. (For instance, "Each Other's Mine" which is related to Brancusi's "The Kiss.") Yet, there is originality in the piece. That is, Rosati has made his own search in the double-form, a motif running throughout history, feeling his way in the marble to an origin, to an equilibrium. One form becomes



James Rosati

Courtesy Fine Arts Associates

Photograph Rudolph Burckhardt

the mirror for the other, reflecting each other's subtle differences. With its gently incised surface, its slender dividing shadows, its emphatic terminal contours, the piece clearly expresses its origins in the artist's sensibility. It is an immediately moving object that has been revealed. In this way, originality is identified not in terms of inventions but in terms of revelation.

As Brancusi said, simplicity is not a conscious end but one arrives there, in spite of oneself, in approaching the real things. Rosati, who is forty-seven years old (about the same age as Brancusi when he completed "The Fish") has had the patience to attend his arrival "there" and he is nearing the goal more certainly than most American sculptors.

The earliest piece in the show, a 1954 "Multiple Torso" shows him far short of the goal. It is awkwardly contorted, with deep undercutting, confused overlapping planes, and a general sense of indecision lingering in its hollows.

Within two years however, Rosati had swiftly neared the terminus of the quest. He had carved "Undine," an absolutely simple fragment, waist to knee, of a feminine body. This slender sculpture with its beautifully controlled light moving slowly, like lovers' hands, over its surface, and its contours melting off into vaporous light, and its skin-smooth surface drawing light into itself in order to enhance its inner animus, is a work of concentration, a "real thing." Other figures (Hamadryad and Naiad) are endowed with the same compressed emotion, the same essential economy. They stand unique in light and air, proud in their "objectness." (Their classic poise and Cycladic purity remind me that Rodin once described the female figure as an amphora.)

In other pieces, Rosati is less interested in sensuous perfection, but studied other problems. He is interested, for instance, in groupings of forms; in the problem of contingency. There are several bronzes taken from wax models in which he sets up a rhythm of forms in processional sequence, depending on slight variations of

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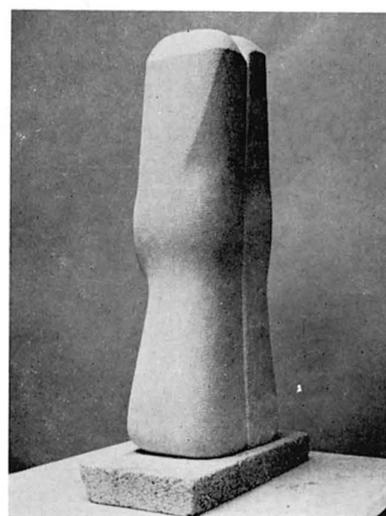
depth and narrow intervals between the figures. Narrowing chasms, keyhole views, closely held human limbs, all have a primordial reality: everyone has experienced the sensation of narrowness in more or less profound ways. Psychologically two contingent or almost contingent areas suggesting closure (as for instance an infinitely narrow pass between two enormous buildings) always evoke emotion. It is in this particular emotional area that Rosati's frieze-like compositions operate. In one of his most exciting pieces, for some reason not in the show, Rosati doubles the effect by forming the procession in the round, with the circular central void pressing the figures in a tense, vivid group caught in what seems a moment of dance ritual. Probing for origins, in myth and human experiences, Rosati rings very true in a period that has seen much sculptural flummery.

* * *

Jack Tworkov's new paintings at the Stable Gallery are more quiescent on the surface than his paintings use to be. At the same time, the mysterious activities that use to flit over his surfaces in shadowy profusion have retreated behind the picture plane to set up a strangely echoing rumor. Tworkov's art of suppression—or perhaps the word is sublimation—has arrived at a curious tension between what is quiet and meditative and what is threatening and disruptive. Everything that might roil the surface is now pushed back into captivity in a deftly suggested limbo.

The grid-like and cat's cradle forms that use to appear regularly are less obvious in the new paintings. But they are there nevertheless, just behind the final screen of paint, reading through at crucial points. These long horizontals, intersected here and there by minor verticals, not only serve to situate the forms in various, very close spaces, but seem to be rods supporting a metaphorical, obscuring scrim Tworkov throws over his paintings.

In the best canvases, Tworkov has left no traces of the scurrying behind the scenes before the opening curtain. The surface is suffused with an irreal, warm light that spreads behind a firmly structured



James Rosati

Photograph Rudolph Burckhardt

skin. It is a unified, nearly opaque surface which, like old master paintings, sets up its own terms for viewing. The observer is explicitly directed by the artist and there are minimal ambiguous byroads to wander in. The firmness of the imagery in these paintings is a triumph for Tworkov who just a few years ago could only abide the provisory effects his peculiar feathering strokes produced.

The nervous, blurred, off-register strokes which characterized the work in Tworkov's last show have been covered again and again here until Tworkov has achieved a depth of color, a color reality I might say, rarely seen in contemporary painting. His "Height" for instance, has a heavy golden area that has been painted with such skill that surface nuance almost disappears. Yet, under that final, golden haze there is life.

This painting, one of the boldest in the show, is composed of a large, rich, predominantly blue mass (the strokes pressing so closely together that only close scrutiny reveals the undertones and variations in color and stroke) that is pulled toward the golden void by a

diagonal bar. An extraordinary tension results. The piled-up forms in the blue mass seem immovable, yet, one feels the heavy pull of the transversal bar, and there is a breathless suspension of forces in the image.

Another painting, "Day's End" contrasts figure and void in much the same terms. Though the largest mass is run through with the

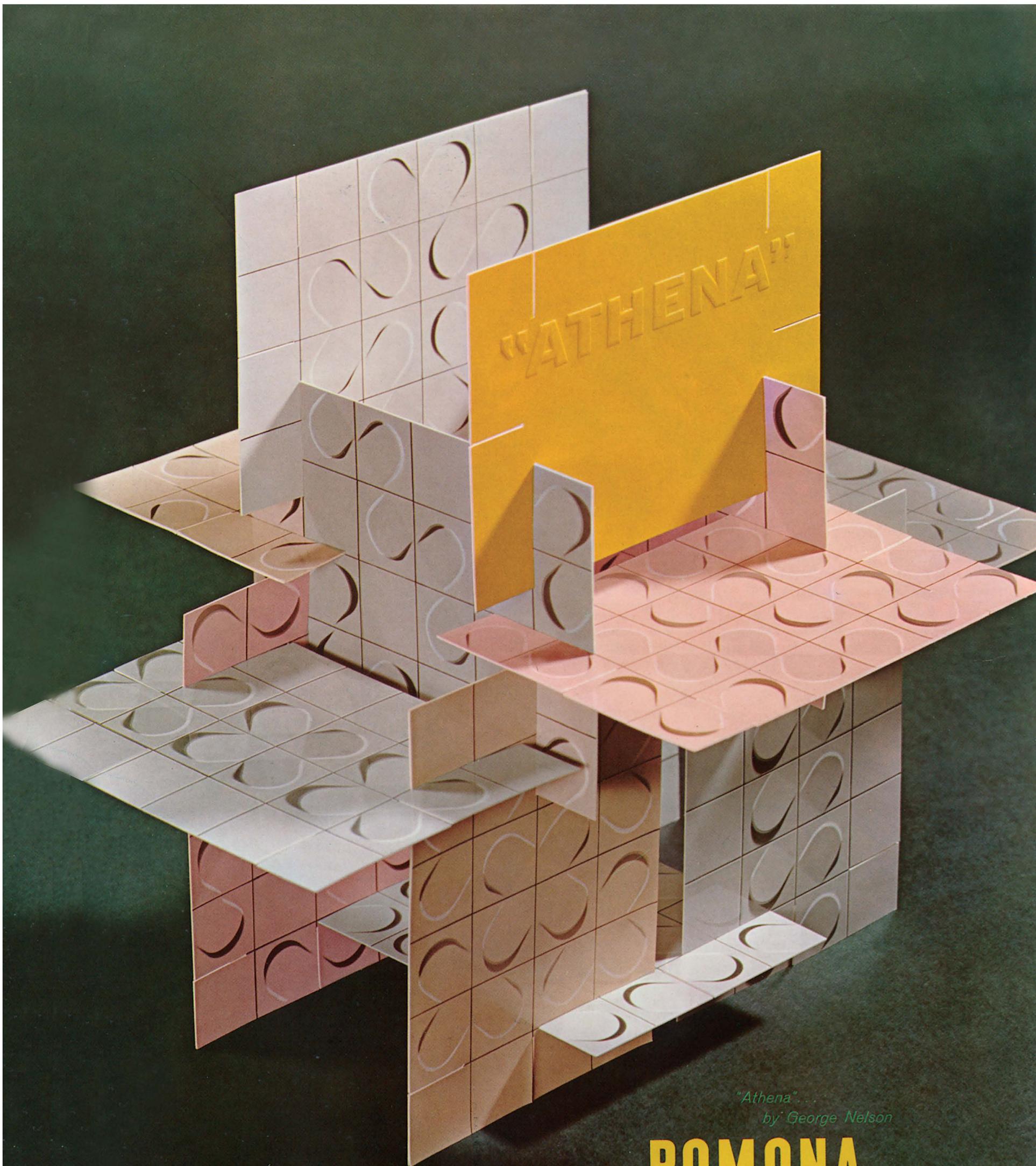
James Rosati

*"Undine"**Photograph Rudolph Burckhardt*

structural lines, its rich rose, ochre, sienna intonations move in concert. To their left, a warm gray void, built up over blue, and compressing many colors in its final luminous tone, pulls against them. Again, the supporting lines sometimes seem to drag the major mass toward the void. But actually, they hold everything in immutable, exquisite suspension. It is this drama of precarious balance of forces, of figure and void, that Tworkov has so effectively staged in his most recent paintings. The occasional graphic quality which formerly meant so much to him has given way to an urge to monumentality that has been fulfilled.

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notes

in passing

FROM A NOBEL PRIZE WINNERS INTERNATIONAL ROUND TABLE ON SCIENCE, TECHNOLOGY AND MAN, THE STATEMENT OF P. M. BLACKETT, OF GREAT BRITAIN

If we look at the future of science, it is useful to distinguish what I may call the three faces or the three aspects of science.

The first is science as a creative scientific research worker sees it and feels it. It is an activity of intense value and attractiveness in its own right, and necessarily, only a few people at any one time in the world can be right in the forefront of advancing fundamental knowledge, just as very few people can be the first to climb Mount Everest, the first to cross the Antarctic or the first to go under the Arctic ice. But this is an activity of the practising of pure science, whether experimental or theoretical, which taxes all the skill of mind and skill of hand and is invaluable as an experience.

The second aspect is science as a body of knowledge. This body of knowledge created up to date by centuries of patient work by thousands of scientists of all countries of the world must rank as one of the greatest achievements of the human mind and ability, comparable to the greatest achievements in art and literature. Now this body of scientific knowledge which has great beauty in itself can be appreciated by anyone of any nation who takes the trouble to learn its language.

The third aspect with which we are mostly concerned here, I think, is science as power over nature. Science is the force which has changed the world; the whole structure of society has been changed and in a relatively short time—in fact, in the last 200 years or so. Now in this process, the changing of the world by science, there are various distinct steps which it is extremely important to keep in mind.

Firstly, there is the fundamental discovery which is often part of the structure of pure science. Then this work has to be applied to some definite, practical objective. The pure scientific discovery is often made by someone with no interest in applications at all—very often the best pure scientists have no interest—but to be useful it has to be applied. Then we get the era of applied science leading on to development work, and, finally, to exploitation in the practical making of the goods of life; either making much cheaper the old goods of civilized life (clothes, houses, baths, foods and so on), making them available to a very much larger number of people than in the past, or by producing entirely new things such as motor-cars, aeroplanes, television, which had never existed before.

Now, that is the last stage in the process and we must keep these stages distinct—the fundamental science, the applied work and the final exploitation—because it is in this distinction I think that important consequences lie.

I think that if one does accept this distinction, we should make this point. What the governments of countries spend this immense amount of money on, the 1 per cent of the national income, is applied science for its material benefits for mankind. That is the object of the expenditure, and it is a vast activity nowadays. It is an enormously profitable investment for any country, and the high standards of life of the rich countries depend on this investment in science, the cheap part being the pure science and the most expensive part being the actual application to real human needs.

An astonishing achievement of this scientific revolution has been to increase by a factor of ten in 150 years the wealth of Western European countries. But, looking round the world today, we see that these great material benefits of science are very unevenly distributed over the world as a whole. Although the knowledge of science is widespread, the material benefits are extremely unevenly distributed, and I think it is this uneven distribution of the applications of science which today provides man's greatest challenge.

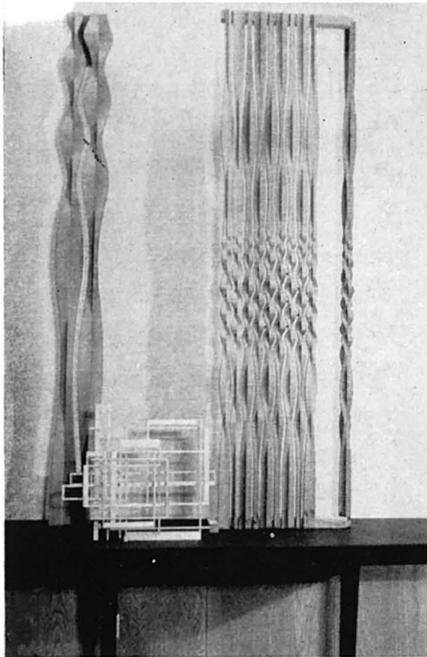
(Professor Gaston Berger of France, describing Professor Blackett as the "father" of "operational research", asked him to describe how this technique could make a scientific contribution to the world of tomorrow.)

I am glad that this question of "operational research" has been raised as I am intensely interested by this technique which was brought into being to assist the efficient prosecution of the war, and which has been aptly defined as the technique for providing executives with the numerical basis for practical decisions.

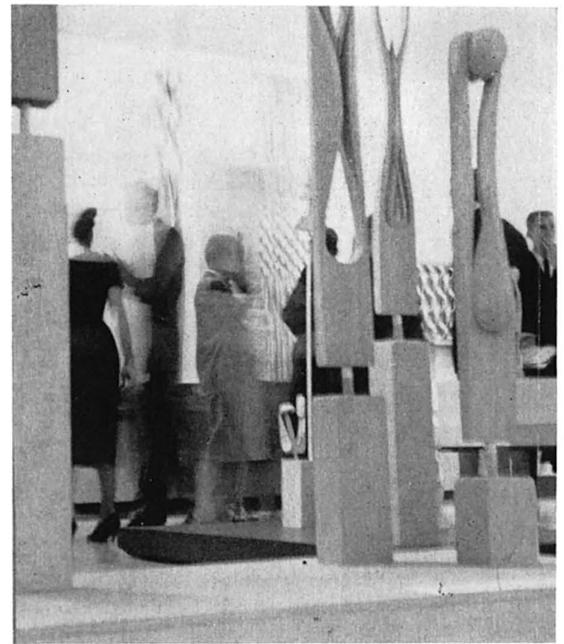
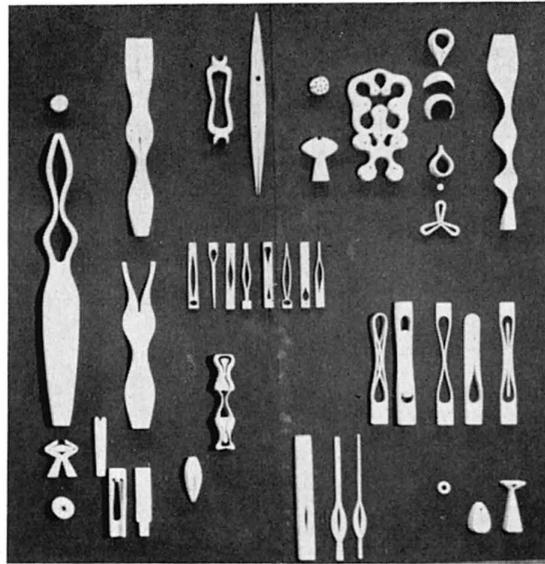
We all, as citizens of our various countries, are indirectly executives by controlling government actions in the long run, and so it is very apt at this point to know what is the numerical basis for the statements that, for instance, I have been making, and other people have been making, and what are the figures we ought to know if we are going to do something about it.

I think that the essential figures which one has to appreciate to understand the magnitude of the problem are quite simple. Something like one quarter of the world's population of 2,500 million or so live in what can be called rich countries. These people have an income per head of about \$1,000 a year. They comprise, of course, most of Europe, the United States, Canada, Australasia and so on. Then on the other extreme, there are between one half and three-quarters of the peoples of the world who are definitely excessively poor and who have an income per head of about a tenth as much as the rich countries: \$100 a year, compared with \$1,000 a year of the rich countries. Thus there are at least three people

(Continued on page 33)

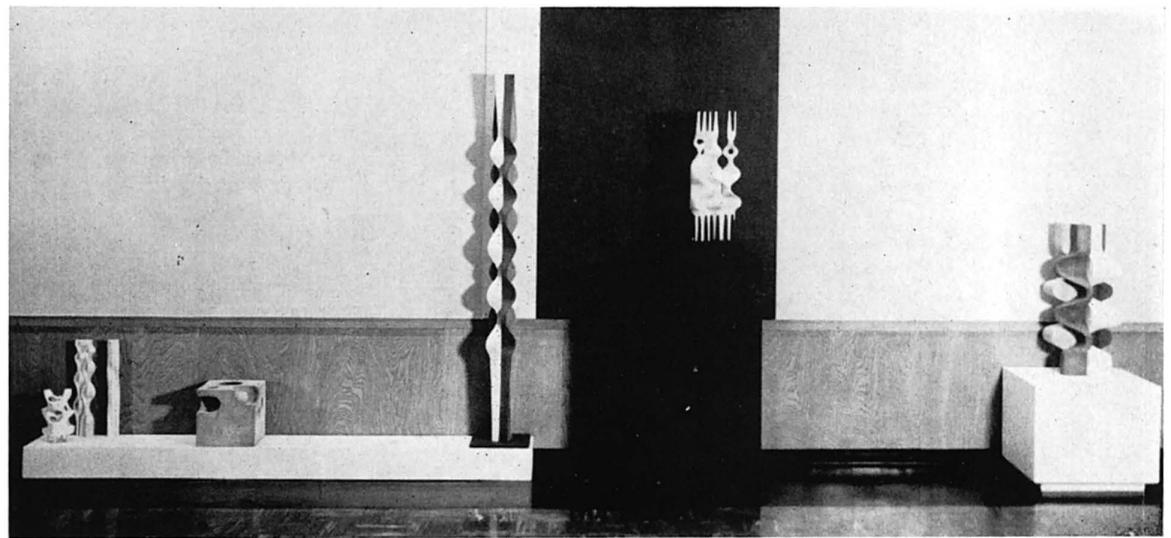
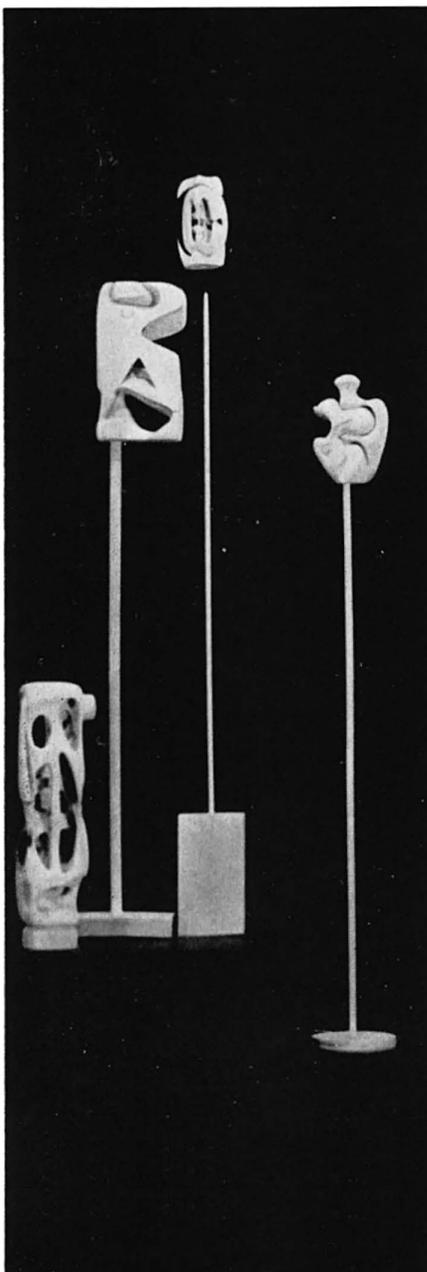


ARCHITECTURAL GRILLES



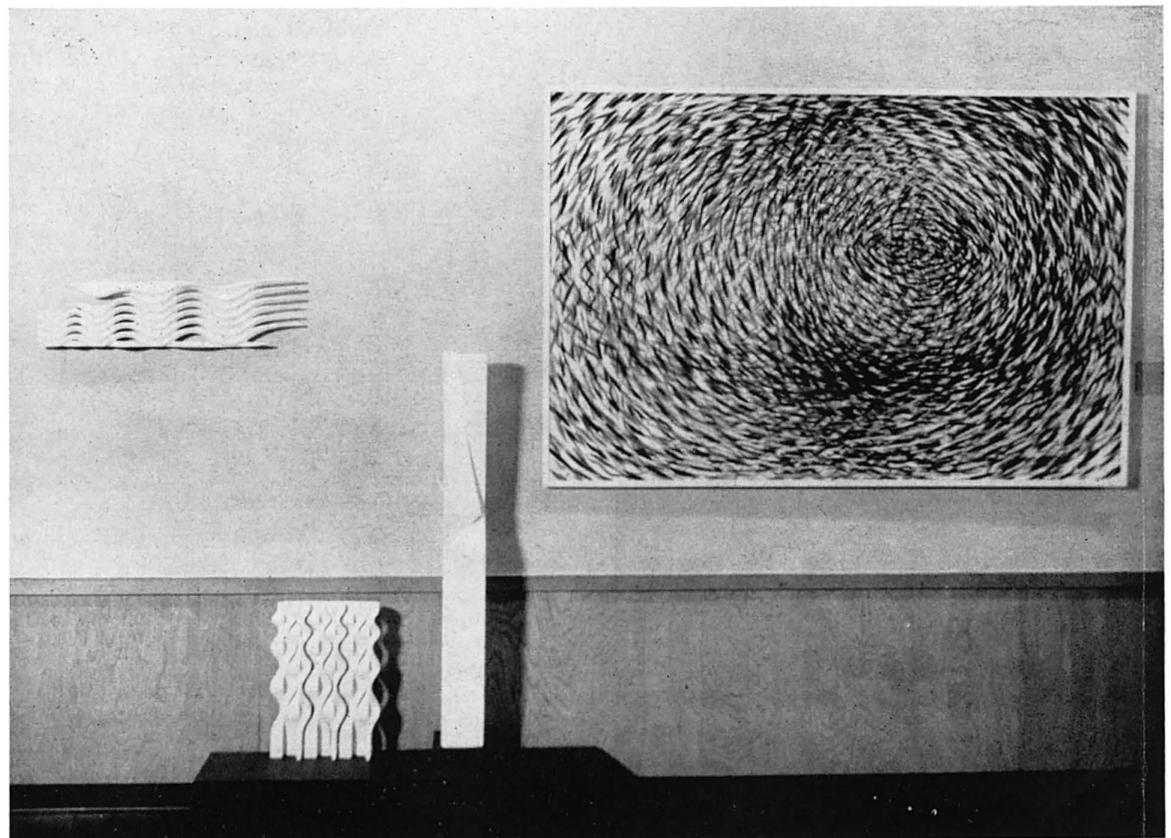
Experimental work in wood, plastics, concrete, film and other materials, from the exhibit at the Los Angeles County Art Institute

SCULPTURED REDWOOD FORMS



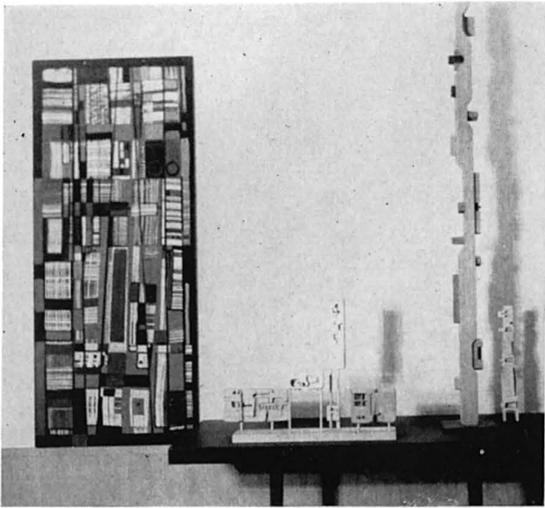
exploration in design

jan de swart



BLUE MURAL FOR VAN CAMP FISHERIES

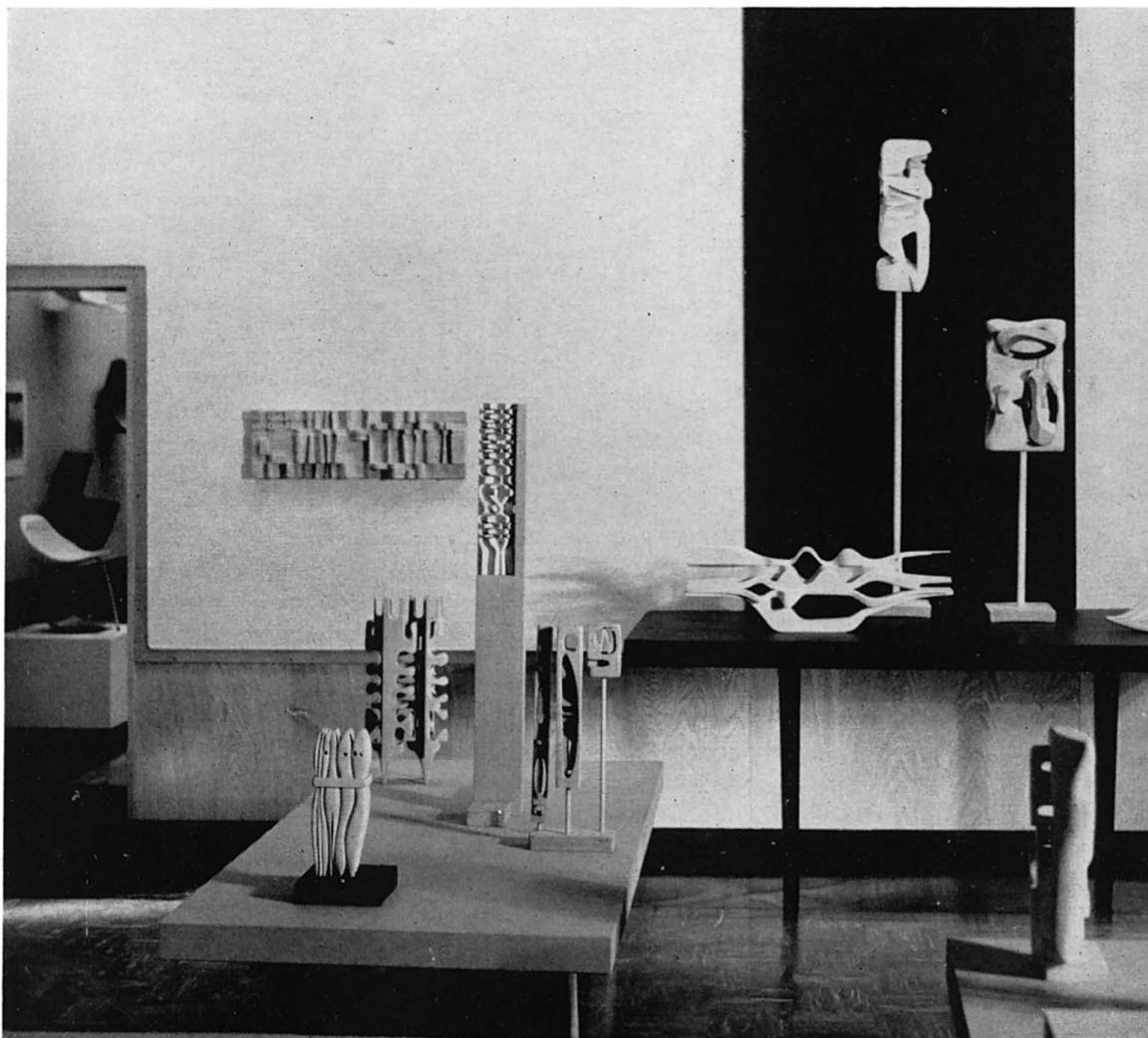
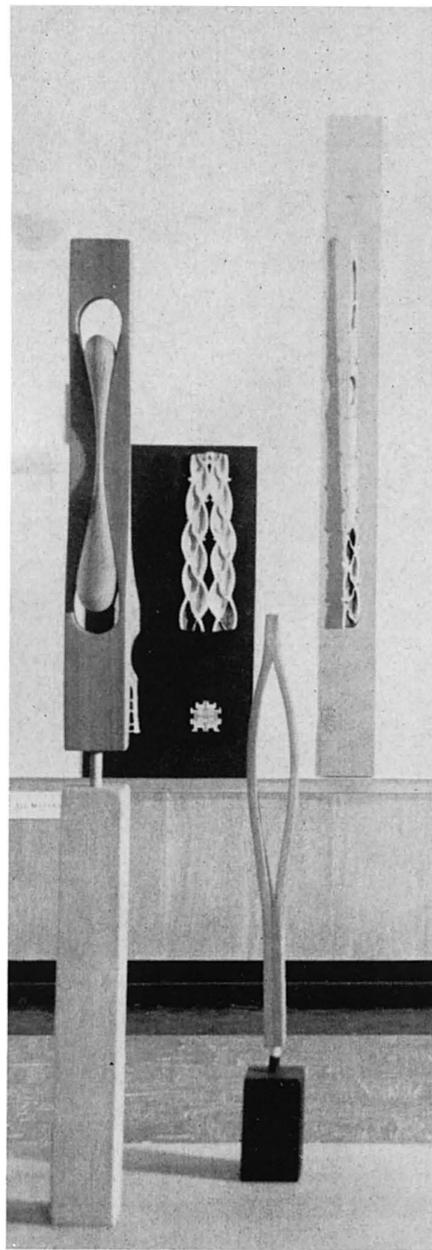
PHOTOGRAPHS BY E. BORN



EXAMPLE OF A TECHNIQUE FOR LARGE WALL DECORATIONS



JAN DE SWART



"I have chosen to exhibit these particular developments in my work because they best illustrate some of the principles that have become significant to me as I explored three separate but related areas:

STRUCTURE

MATERIALS AND TOOLS

THEIR APPLICATION TO OUR NEEDS

Structure is the common denominator of all materials. I believe that an understanding of its fundamentals gives secure values to applied design. It is rewarding to explore organic structures in their most elemental and microscopic forms, and having captured some of the underlying principles, to endeavor to bring them into disciplined function in design. Once the basic order is understood the possible variations for specific uses become visible. As an example: the plastic building panel is composed of interlocking structural cells. The same interlocking characteristic of the cells is used to create a concrete building block, the continuous airspace in a concrete floor, a construction toy, and an overall light source in a wall, to name only a few of the inventions derived from this one organic principle. These structural relationships bring about a harmony: an active harmony that has its salutary effect on man as he lives within this framework.

"In the plastic building panel the principle of an organic cell structure is used to create a highly disciplined, man-made cell design in which reorientation of the molecules under tension achieves maximum functional strength. The same principle, used in a freer, less formal way, underlies the concrete space forms for children. Here the maximal function is achieved by liquid pressures and the resultant forms have a natural flow.

"The wood studies also begin with an understanding of the structural fundamentals in nature. Having developed a method of cutting with a three-dimensional line, I am attempting to find the hidden relationships of form, which, by this spatial separation, this interiority, reveal themselves in all their surprising complexity.

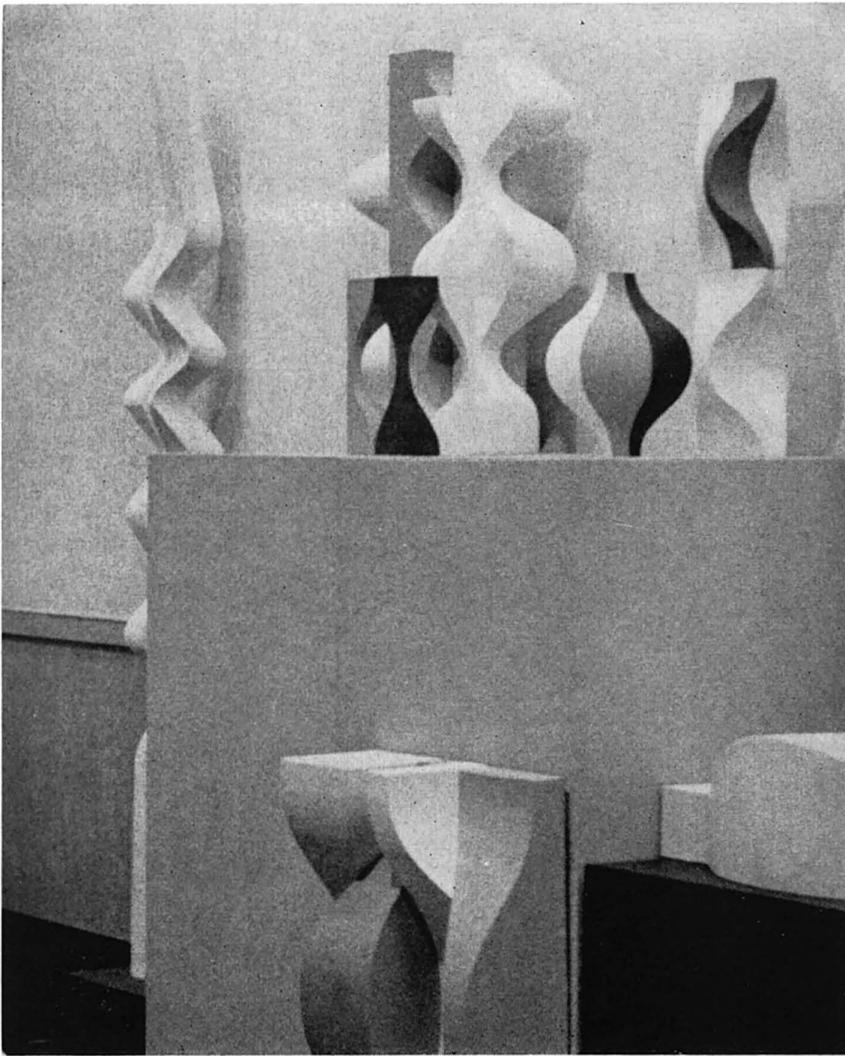
"A second area I feel compelled to explore is that of the tools and materials continuously being developed in today's laboratories. It is as necessary to be aware, for instance, of a new type of saw as it is to study the radiation of plastics. The gap between the development of new media and their eventual application needs to be bridged by designers devoting a large part of their time to free experimentation and inventive manipulation of these new tools and materials.

"Even those materials which have been efficiently explored from a technical and scientific standpoint may offer further areas for exploration from an esthetic point of view, untouched areas of surprising scope and richness. This has been the case with optically clear plastics. I feel that an artist has the responsibility of clarifying the visible world: of giving meaning and motion to the static image. With the use of non-spherical plastic lenses it has become possible to compose visual images in such a way that they are translated into designs which move and change continuously.

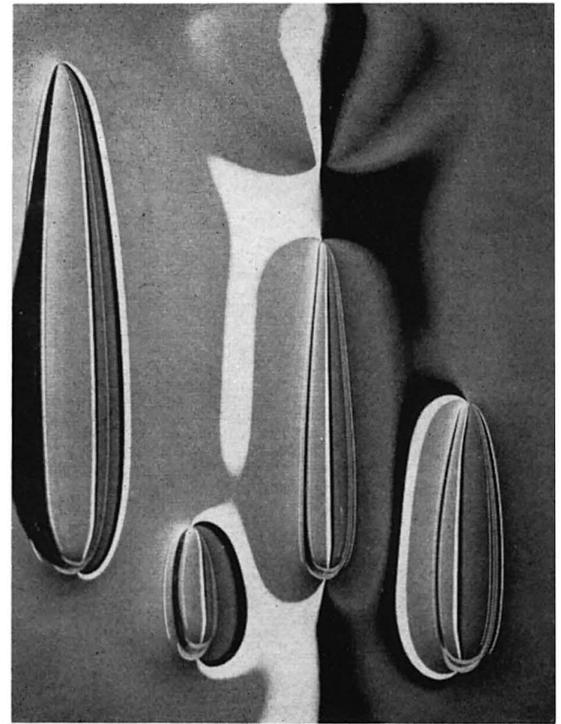
"I also feel it necessary to explore the real needs of our time, to look forward instead of backward, to anticipate the developments to which design must be related, and to be aware of man's spiritual hunger for beauty and meaning.

"Finally, having made these explorations, the designer arrives at the problem of bringing the structural principles he has discovered, the techniques he has invented, and the needs he has come to understand into a relationship that will result in the greatest possible harmony. My hope to arrive at such solutions is encouraged by the larger horizons that each discovery opens up, and by the growing conviction that there is a discoverable order and relatedness in all things."

Jan de Swart

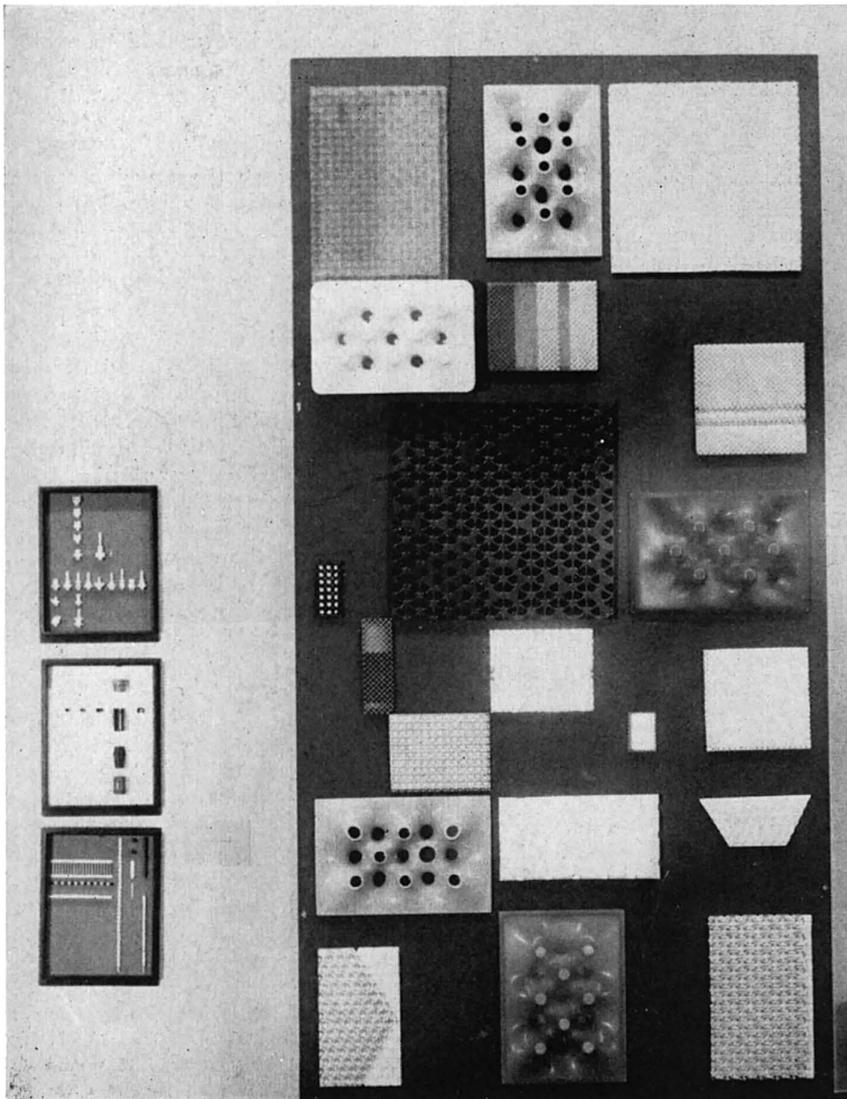


MODULAR CONCRETE FORMS FOR COLUMNS OR WALLS



PLASTIC LENSES FOR MOTION PICTURES

jan de swart



VARIOUS FORMULATIONS OF PLASTIC BUILDING PANEL; LEFT PLASTIC FASTENERS

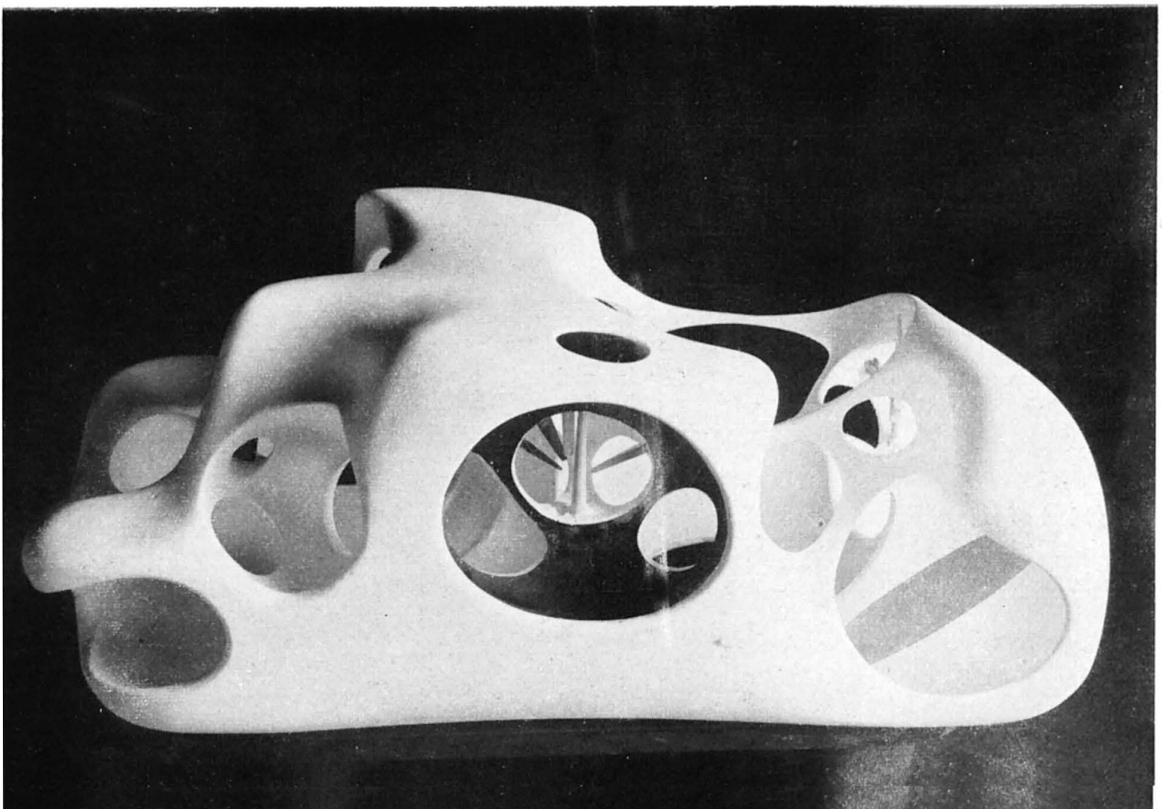
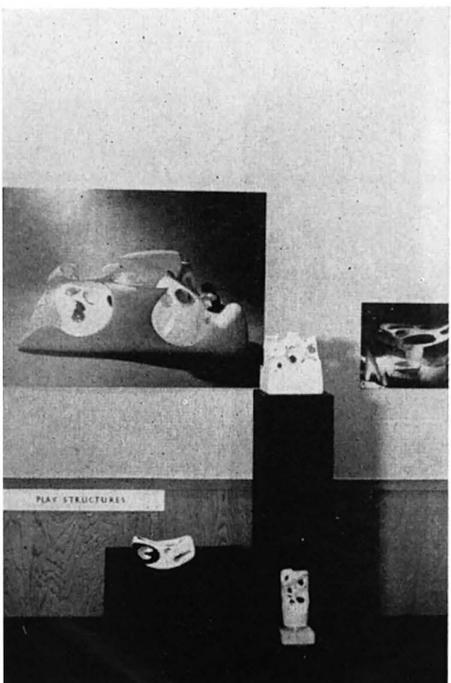
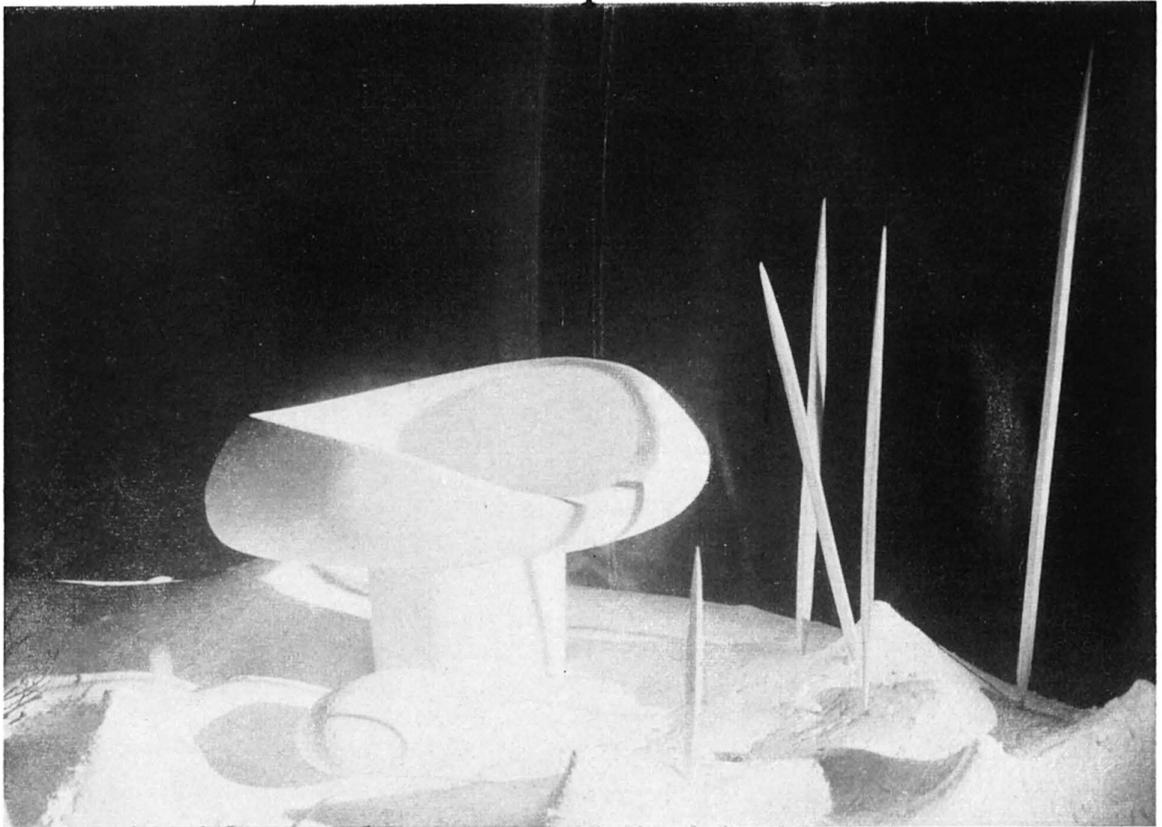
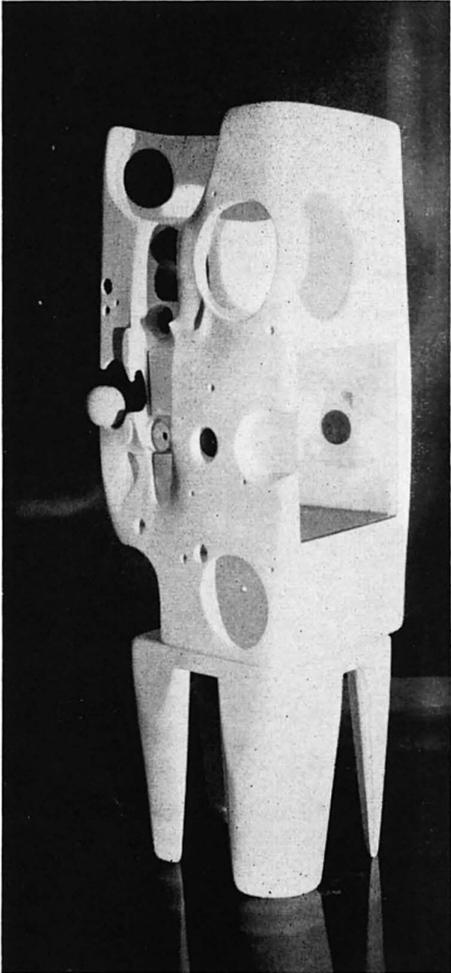
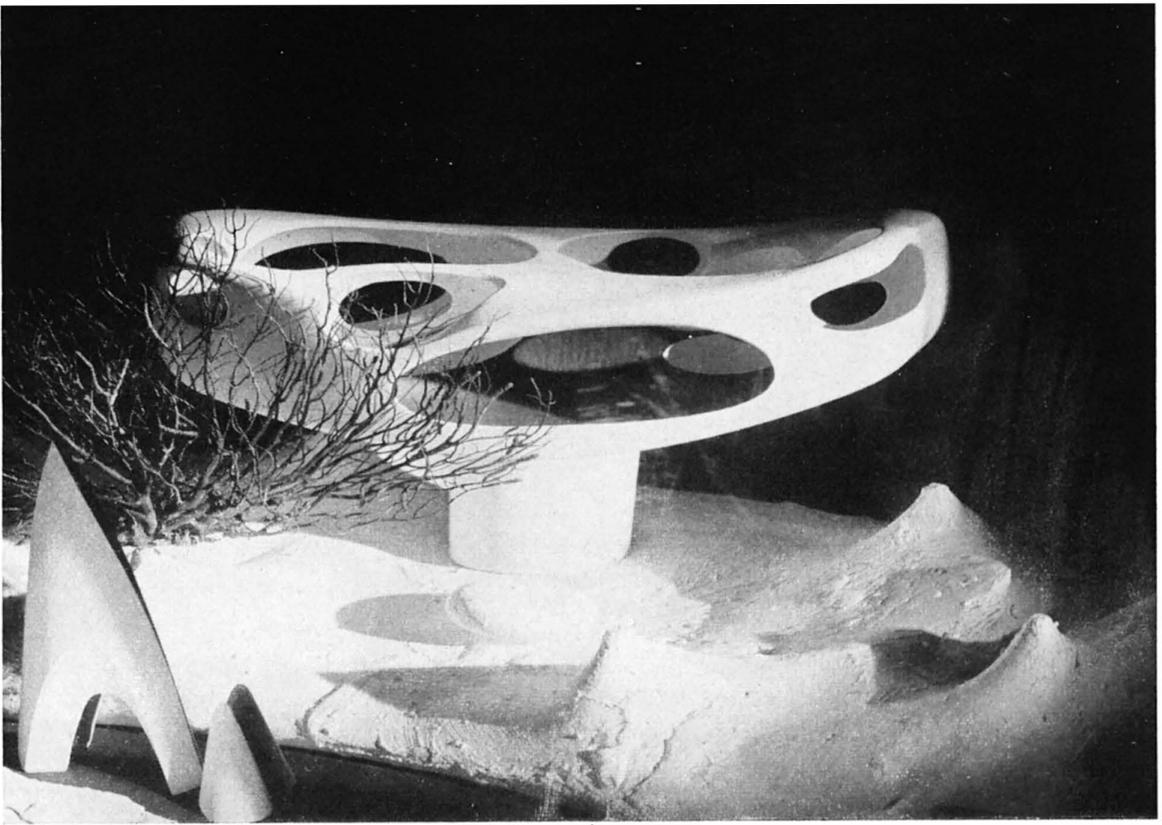
Jan de Swart approaches visual forms in terms of mid-twentieth century technology and scientific insights. Here are abstract sculptures with the elegant purity of a mathematical equation that could not have been created in any other time than our own. For one thing these abstract forms are the product of machine tools and processes of liquid pressure that were never before available to the artist. Then again, many of the forms derive from recent microscopic and cellular studies.

Not that the de Swart sculptures duplicate microscopic and cellular phenomena. They don't. These are man-made forms paraphrasing the structural principles found in nature. Let me quickly add it's not at all necessary to view these objects with a textbook in one hand, a microscope slide in the other. The forms are eminently satisfying as shapes, as entities sufficient unto themselves.

In the hollowed wood forms de Swart, working with a band saw, creates a three-dimensional linear sculpture in which interior spaces engage the spectator more than external silhouette. In other works the forms interlock and embrace each other in surprising ways made possible by the cutting methods. Jan de Swart's refusal to limit himself to a particular specialty has taken him in many directions. In addition to the pure abstract sculptures one sees the results of researches into such diverse fields as transparent concrete columns, architectural screens, structural wall panels, lenses for a new approach to cinematic animation, concrete play structures, and rivets and grommets of his invention now used by the millions in the manufacture of electronic products.

One does not have to be an engineer or an architect to be responsive to de Swart's works. He brings to these technical problems the eye of an artist. Indeed, it is the esthetic element that gives to his achievements that inexplicable, yet nonetheless perceptible, sense of rightness, the innate felicity of a form that stems from the artist in a man. An example would be his project for a transparent concrete tower. As an uninhibited explorer who refuses to accept dogma, he has developed a curving block form that combines in varied patterns, at the same time providing exceptional structural strength; or another example, the modular building panel. Rather than flat surfaces, the panels are punched in recessed formations; the formations being based on organic cellular structures that give the panels unusual tensile strength. To construction techniques, the panels add a pleasing surface richness, both inside and outside a building. **JULES LANGSNER**

CAST CONCRETE PLAY STRUCTURES



the scientific sixties

A SEMINAR ON THE EFFECTS OF CHANGING SOCIAL, ECONOMIC AND SCIENTIFIC VALUES UPON ARCHITECTURE

PARTICIPANTS:

ROBERT E. ALEXANDER, F.A.I.A.

A. QUINCY JONES, A.I.A.

ROBERT DOCKSON, PH.D., CONSULTING ECONOMIST

WENDELL BELL, PH.D., ASSOCIATE PROFESSOR OF SOCIOLOGY AND ANTHROPOLOGY

ERNST H. PLESSET, PH.D., PHYSICIST AND NUCLEAR SCIENTIST

One of the ways we measure values is to look at the individual's style of life. How do people spend their time, money and energy? What kinds of possessions do they have and what kinds of activities do they engage in? What is the dominant change that has occurred during the past decade in American history? What appears to be the trend for the next decade?

Dr. Bell: By looking at four different patterns, or styles of life, we can see how basic values have changed and will change during the next decade. The dominant change in American society has occurred in a new emphasis on Familism. During the early stages of industrialization and urbanization there was a breakdown in the traditional forms of family living. In the traditional agrarian society, the large family was a unit of economic production as well as consumption, and a unit of economic distribution.

Since World War II there has been an increase in the birth rate, an increase in family size, a decrease in the age of marriage and so on. Today we talk about family living as play, as an end in itself. We spend time, money and energy in family living because of the enjoyment we get out of it, not because it is necessary for economic reasons.

Also on the increase is the "quest for community." Like Familism, it is something that is part of the fabric of life in a rural society. Today there is a rebirth of this community participation. Modern man attempts to become part of a group, part of a local community and an active participant in it.

We also see a de-emphasis on the traditional goals of career and upward social mobility. I'm not saying that everyone has decreased in his desire to get ahead, but that one of the dominant trends in American society is a de-emphasis of career as the *raison d'être*.

Important trend during the next ten years is in the elaboration of the modes of consumption. There will be increased spending for things we now consider frou-frou, things that a few years ago only upper classes could spend for.

If we think of these basic values and the life styles in which they are reflected—Familism, career, consumership and quest for community—as configurations of possessions, activities and desires of individuals, there may be many implications for those who are involved in the process of providing the possessions and the physical environment in which the activities take place, and satisfying those desires.

Implications of science are far-reaching and will affect our lives deeply during the next ten years. What is happening in the area of pure science?

Dr. Plesset: It is traditional to talk about pure science first. What people think of in terms of science is what I would call applied science and technology. In my experience, what happens in pure science does not affect us for a very long time, and we're only dimly aware of it.

The kind of things scientists are looking for is an underlying simplification. It is satisfying to think you can simplify things. Very often as science progresses, it is possible to codify in a way which makes

it seem simpler. And even if there's a great overburden of fancy formalism in mathematics, it shouldn't confuse one about the underlying simplicity.

Possibly, many of the particles we know about, or perhaps all of them, the electrons, protons, positrons, neutrons, mesons, hyperons, v-particles, anti-protons, anti-neutrons, etc., are really different facets of one ultimate particle. To a physicist the business about the ultimate particle characteristics and what you might call the glue of matter are probably the most exciting things around.

To a biologist, it is interesting to know that we may learn how to synthesize proteins in the next ten or fifteen years. This is exciting because this is in a sense one of the ultimate stuffs of life. With this we may learn a little understanding of cell metabolism, an area equally exciting to a biologist.

The role of applied science in the development of products will continue to increase during the next decade at an accelerated pace. How will this realm of increased technology affect housing patterns and population movements?

Dr. Plesset: In materials handling—like metals, semi-conductors, insulators, plastics—we are now out of the art stage but this is fairly recent. One can specify the characteristics of metal and of plastics you would like to have. And within certain limits you can achieve it. This trend will accelerate.

Materials will show up that will withstand much, much higher temperatures. This might mean more efficient automobiles, perhaps an efficient turbine for the car. Perhaps, also, during the next decade we'll see direct conversion of heat to electricity in a practical way, and the reverse, electricity to refrigeration.

In talking about applied science it is important to discuss our national defense posture. I don't expect the Russians to become affable in the next ten years. They may talk that way, but I don't believe it. I suspect if we're sensible we'll maintain a very strong defense posture and continue to improve it.

We talk about push buttons. These push buttons in modern weapons are a lot more than just gold. They are more valuable, more expensive and more complicated than a synthetic diamond. Not only are these munitions complicated in terms of having many things in them, but they are technically and scientifically very complex, and this pattern will continue.

When technology grows it sets new patterns. Not infrequently cities are created, both in defense and peacetime industries. If DuPont builds a new nylon plant in some arid or semi-arid region, a city has to be created there. It's a little more striking and perhaps we hear more about it when they set up a test range at Canaveral and a city grows up in a couple of years. Or when they go at it very systematically and set up a Los Alamos Scientific Laboratory off a mesa nowhere near anything. A city grows up and all the sociological and economic patterns go with it. Los Angeles is not a bad example

The framework for this seminar was established by Henry E. North, Jr., national vice president of the Producers' Council, Inc., and president of Arcadia Metal Products:

"We are bombarded by the press and through every medium of idea-exchange with statistics and predictions of things to come, continued economic growth, sociological trends and scientific advances.

"To approach the immediate period ahead, the ten years which we have called 'The scientific sixties,' we need to know and understand the motivating forces behind these headlines.

"Our distinguished panel will discuss these forces from four different angles. It is the task of our moderator to bring these to bear upon architecture."

of this. Certain parts of New England show this and there are more coming.

In the creation of these cities through technology we might expect to find people who are a little more oriented to trying new housing patterns. I would think there is an opportunity there to try new things.

We have sound analytical tools which enable us to estimate the expected growth of our economy. What do these technical tools show us about the future? What degree of growth can be expected and what does this growth mean to various segments to the economy?

Dr. Dockson: The best measure we have of total business activity is gross national product, the total value of all goods and services produced within the economy in a given period. In 1959 our aggregate output will approximate \$466 billion, a 7 per cent increase over 1958. By 1965, we will be able to produce a gross national product of \$600 billion and by 1970 it will be around \$725 billion. During the sixties we may expect about one million additional households each year. This rate of growth is equal to that of the entire postwar period and 20 per cent higher than for the past eight years.

The increase in the housing supply will affect the expansion of capital goods industries. Economic growth can be achieved only through increases in capital stock.

On the whole, the basic position of the capital goods industry is strong. Most attractive among expanding capital goods industries is the power industry.

By 1970 we will use twice as much power per worker and five times as much electricity in the average home. Petroleum products will rise at rather rapid rates because of the increase in travel by car, plane and train.

During the coming decade it can be expected that the type of household will differ considerably from that characteristic of postwar years. Young people will play a more important role in the total demand for housing. Most of these will be in the 20-29 age group and they will have relatively large families. It is likely that they will prefer suburban homes to those located in the city proper.

Another important group of consumers will be those who are 65 years and over. By 1970 the number of people in this age group will increase by at least five million. Pension plans, social security programs and higher incomes enable a number of these persons to have separate living quarters.

I am confident that we, acting as free men, will come up with answers that will enable us to raise our living standards to at least the levels that have been suggested. If this is accomplished the economic environment in which we will be living will be healthy and filled with opportunity to grow and prosper.

The practice of architecture becomes increasingly important in this scientific

world. How can we keep pace as far as people are concerned in this production of physical things?

Mr. Jones: Scientists, economists, industrialists and others are capable of satisfying our basic human needs and providing nearly everything we want. But the production of physical things is not enough. The powers of thinking and doing are greater today than ever before and these abilities are accelerating. But it is also important that we keep pace in the area of our environment and its affect upon our emotions.

Increasingly, we hear of the importance of a good environment. A group of doctors recently, in a discussion of human medical problems, agreed that, in the case of almost all disorders whether they be mental or otherwise, one of the important therapies is good environment.

We are noticing a different attitude when we talk with church groups, for instance. The stress used to be more on the kind of building, but today we hear good discussions on the planning of the spaces within the building and importance of these spaces as an environmental factor upon the emotional effect.

The practice of architecture becomes increasingly important in this scientific world because architecture is a field based on the compatible integration of science and aesthetics.

Unfortunately, methods of building construction have not kept pace with our other knowledge and are actually antiquated. Whether you like to think of it this way or not, the house as executed today is a "consumer product." And it is the only consumer product, so to speak, that is hand-made. The hammer and saw are still the main tools.

The challenge to the architect is one in which he must improve his technical knowledges, but he must not forget the importance to man of his surroundings. The resulting emotional effect is of utmost importance not only in the place where we live, but also where we work, worship and learn.

The job will have to be done as a team with scientist, social scientist, economist, inventor and manufacturer.

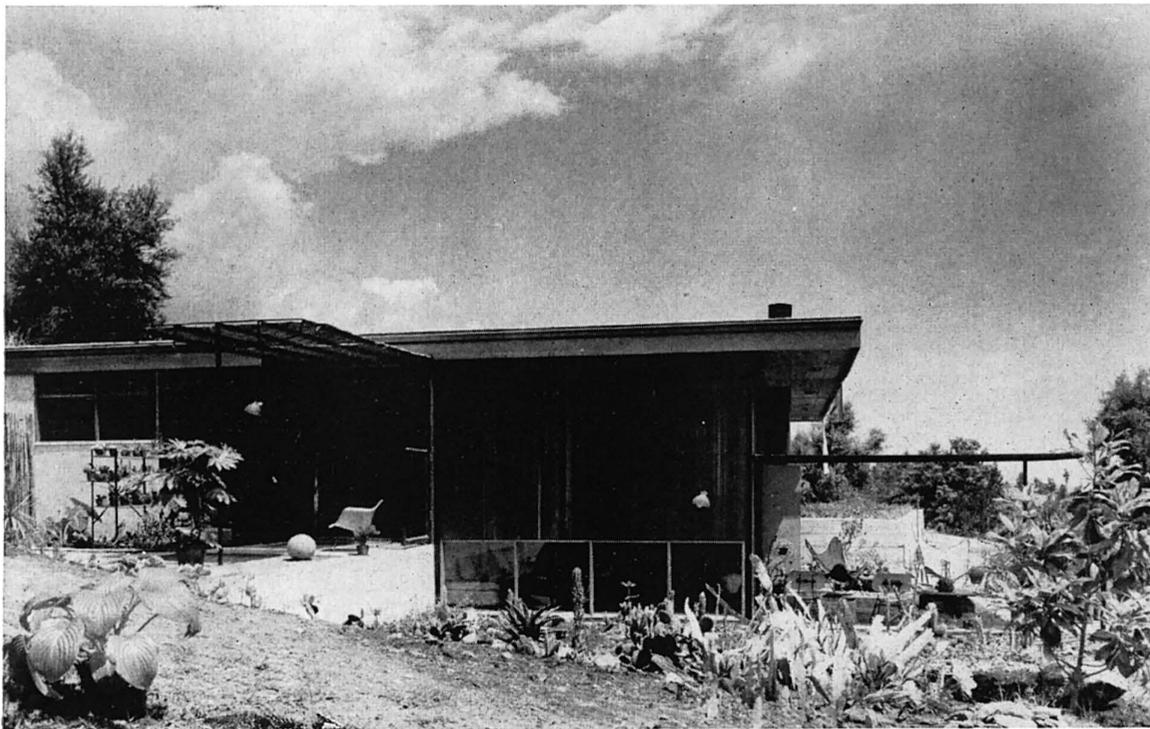
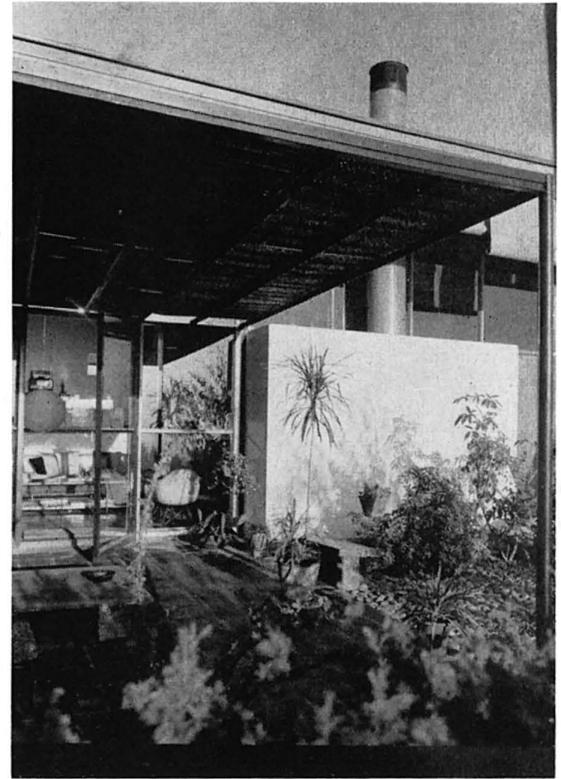
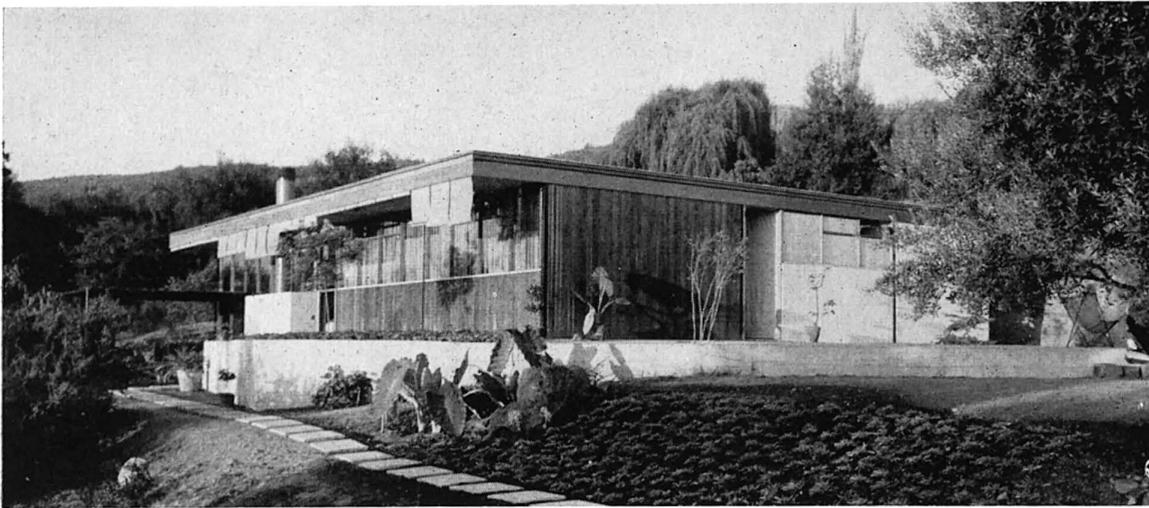
This challenge is one we should face with a feeling of enthusiasm because the successful solution of the problems will provide compensation far beyond the satisfaction of the work we are now doing.

Our construction methods are not up to our scientific and technological knowledge. We have a long way to go in the shaping of architecture to our living patterns and there are many facets involved in the problem.

Architects today are trying to figure out uses of new materials in a logical way. Some have worked with steel. I don't say it is the answer, partly because we are having to adapt a material for this kind of use. I know of no steel fabricator or producer who is consciously thinking of the home in producing steel, yet this is one of the big areas of development in the construction industry.

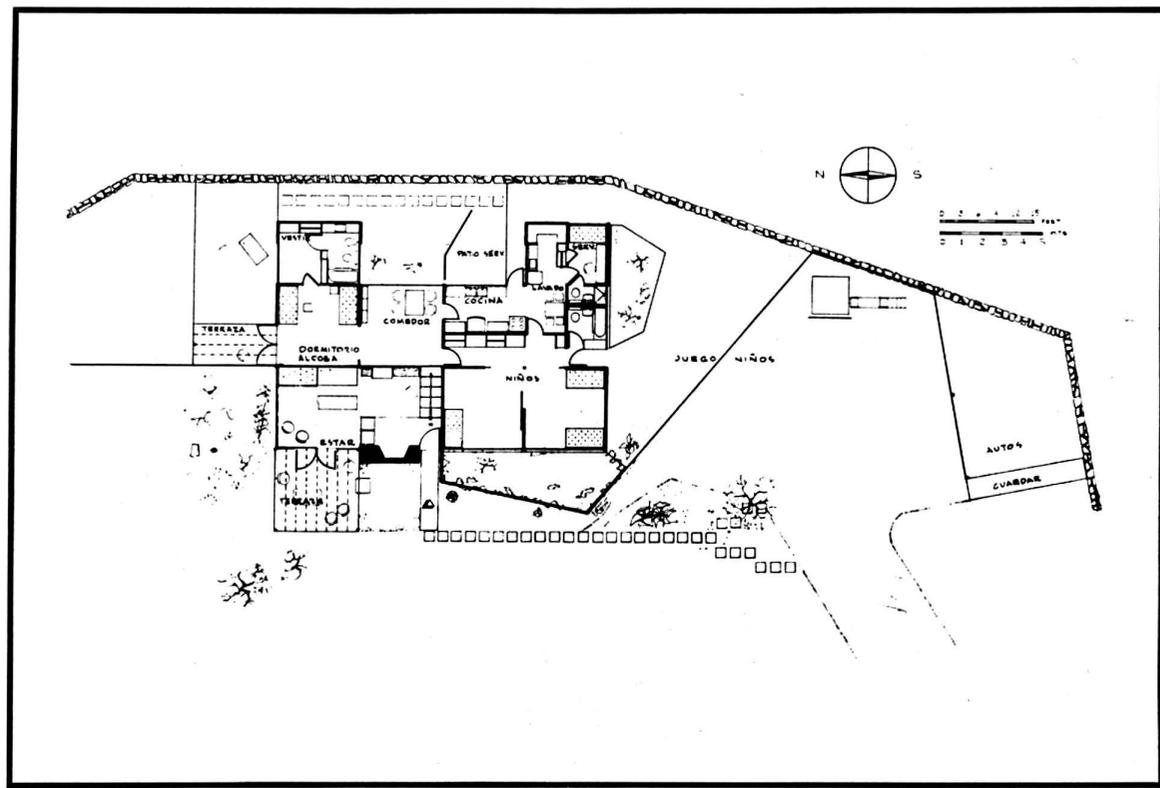
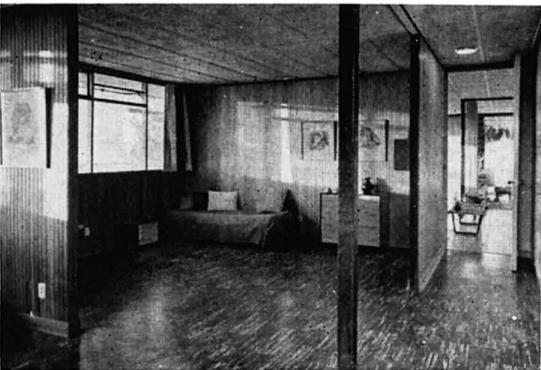
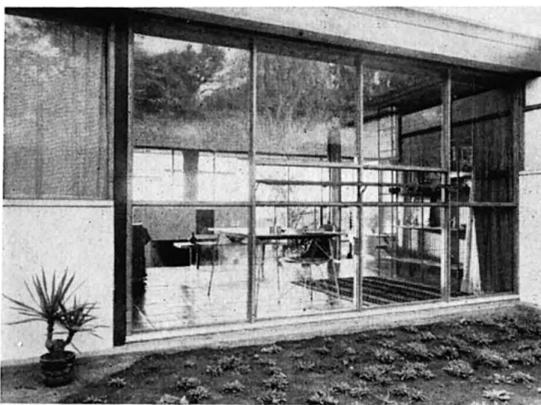
(Continued on page 32)

CONTEMPORARY HOUSE IN CHILE BY HORACIO ACEVEDO, ARCHITECT



The house is built on a sloping three-acre site. The principal view, which is toward the west, overlooks the city of Santiago. The plan, for a couple with three children and a maid, has been carried out with the appropriate rural informality. Parents, children and help can carry on their activities independently from each other and, at the same time, take the best advantage of the space and function of each area.

The structure consists of steel sections capable of withstanding horizontal and vertical stresses. The pillars are square sections 80 x 80 mm. which is the same dimension as the thickness of the walls. These are directly attached to any of the four sides of the pillars. The ceiling is formed by a three-dimension steel net which like a panel does not require beams and is held up directly by the pillars. These must be placed at a maximum distance of five meters according to the type or sections used. Panel materials are placed over and under this net. The above to be waterproofed and the lower for the ceiling. The walls have no structural function, and, within the system, can be wood, precast concrete, hollow brick panels, or whatever is thought to best serve the purpose. Whatever choice is made, the wall or panel is directly held above or below in a standard way which will permit easy changes, and the removal of the wall is a very simple operation.

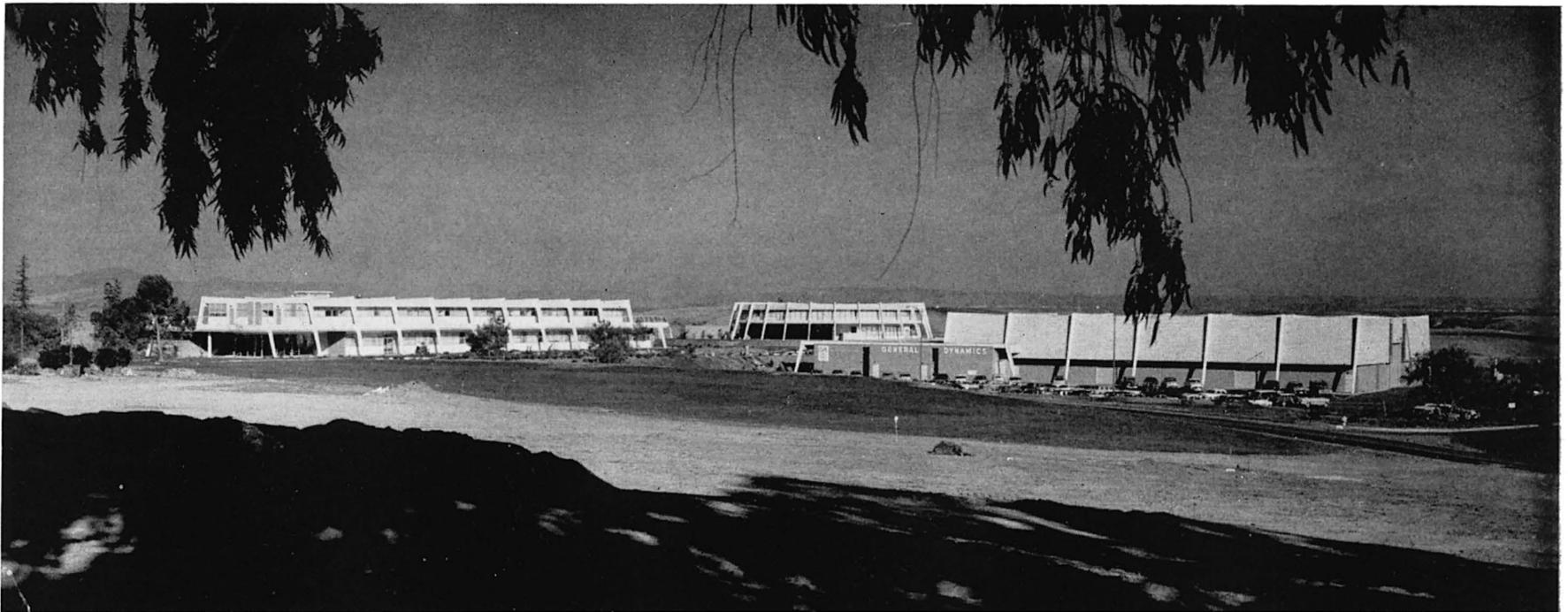




THE JOHN JAY HOPKINS LABORATORY FOR THE
GENERAL ATOMIC DIVISION OF GENERAL DYNAMICS
CORPORATION

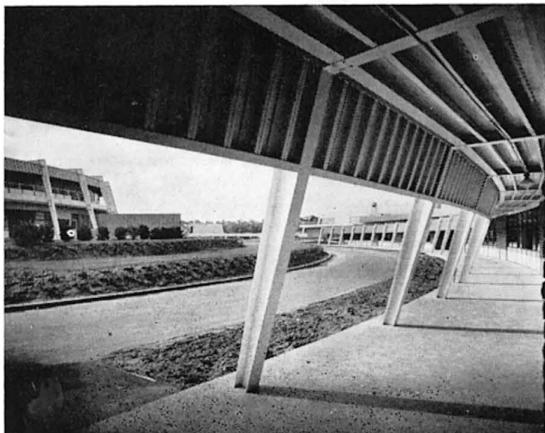
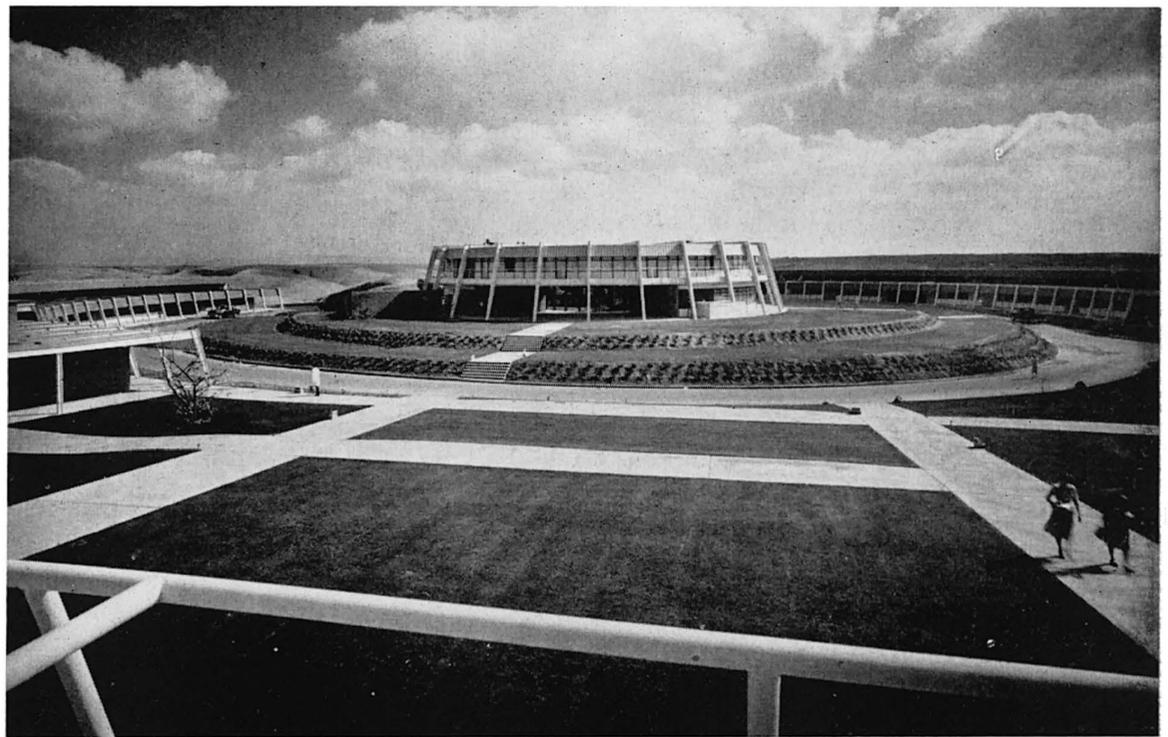
RESEARCH CENTER BY PEREIRA AND LUCKMAN, ARCHITECTS



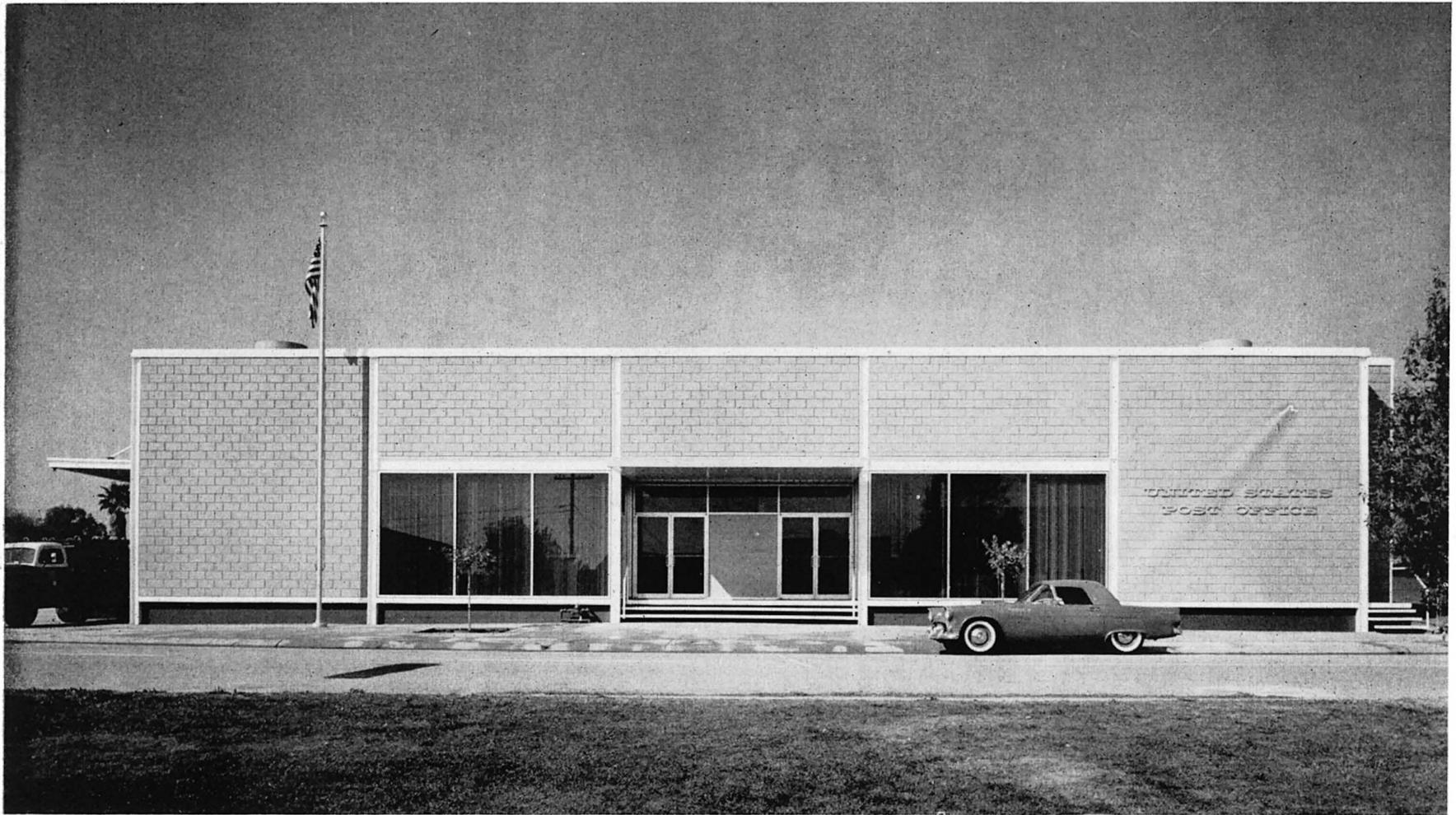


Here the problem was one of unpredictability—for the future needs of the facility depend directly on the future peace time uses of atomic energy which is still an undeterminable factor. It was to provide for expansion in any direction and in almost any dimension that the architects developed the concentric plan, with a hub around which radiate separate rings of activity. The core building contains the library and cafeteria, with auditorium, reading and conference rooms and kitchen; other units include the administration-engineering building, an experimental building and two laboratory buildings. Architectural continuity is provided by the utilization of custom-designed tapered bents of structural steel plate and girder frame. Roofs and upper portions of sidewalls and canopies are of steel corrugated decking; below the decking is colored and textured concrete black and steel window wall. Exposing the frame as an architectural element achieved a degree of sun control and a striking appearance by the use of simple repetitive detail.

Another problem familiar to an era of enormous technological facilities is that of maintaining some measure of human scale. At General Atomic the architects kept the buildings low and the planning horizontal, depending on the property of the circle to keep intervening distances at a mathematical minimum. The result is a large, scientifically integrated complex that has not lost touch with the human beings for whom it was designed.



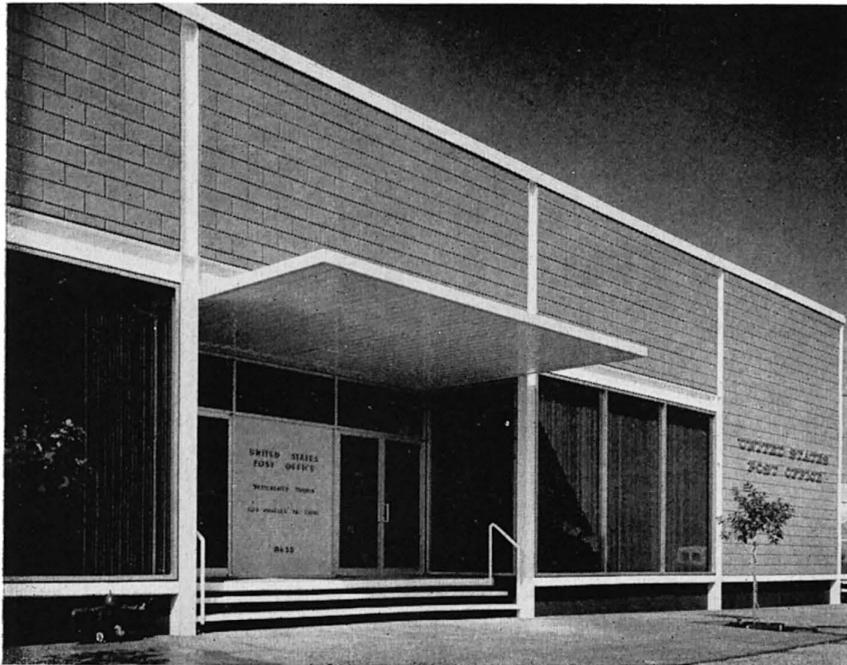
PHOTOGRAPHS BY JULIUS SHULMAN



BRANCH POST OFFICE BY CRAIG ELLWOOD



J. E. LOMAX, ASSOCIATE
 NORMAN N. ROSEN, CONSULTING ARCHITECT
 ROBERT MARKS, STRUCTURAL ENGINEER
 CHOTINER & GUMBINER, GENERAL CONTRACTORS
 OWNER: MARLOW-BURNS DEVELOPMENT COMPANY

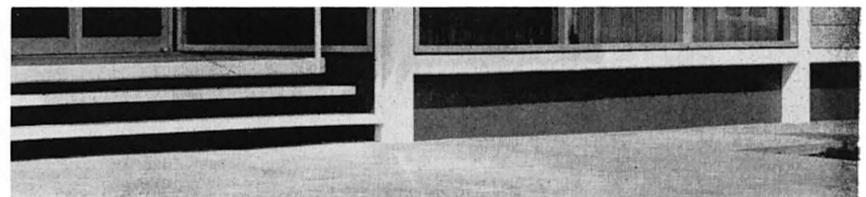
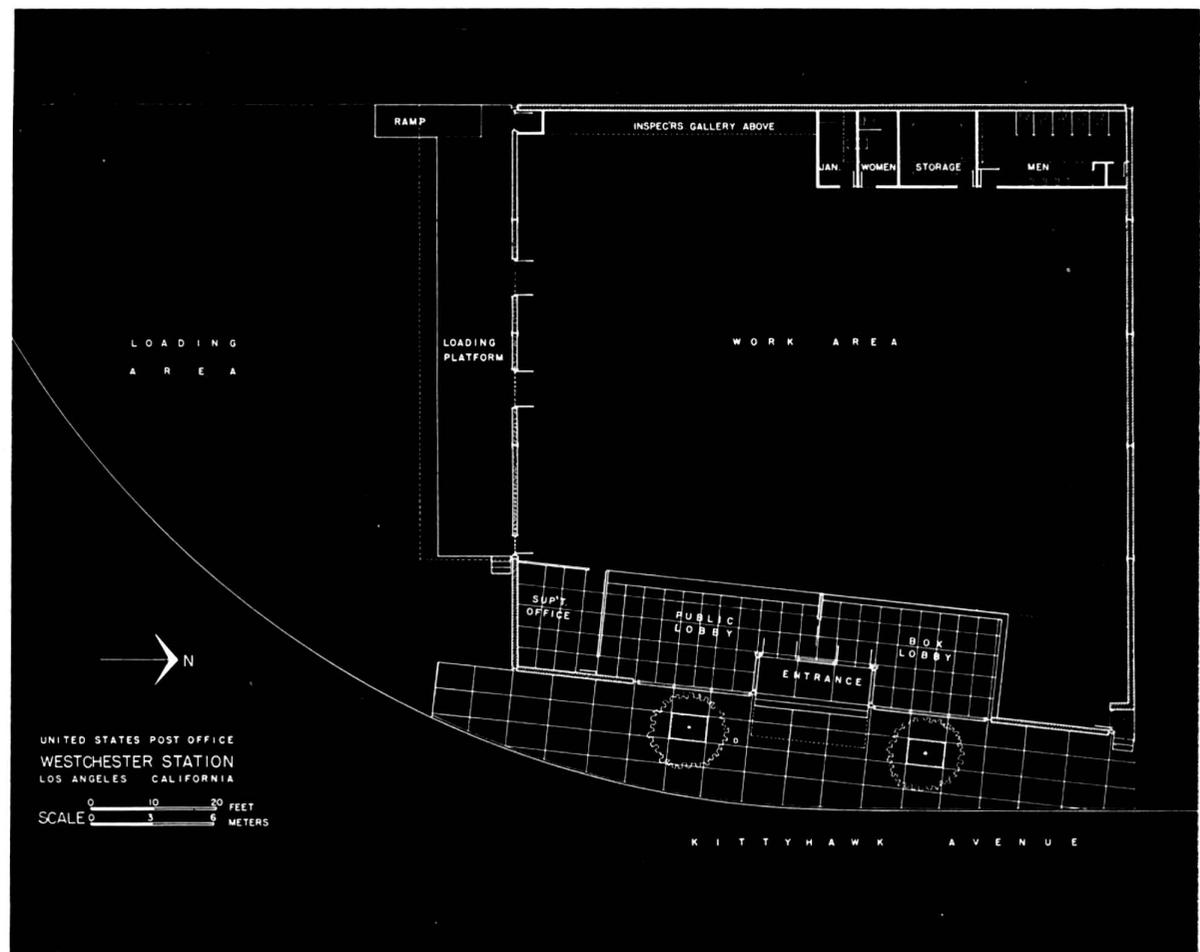


Since the Postal Department provides a basis for design, few bidders are willing to pay architectural fees, and plans are usually developed (or controlled) by the builders. Thus almost all branch stations in California (and probably everywhere else) are patterned after the antiquated, unimaginative standard designs.

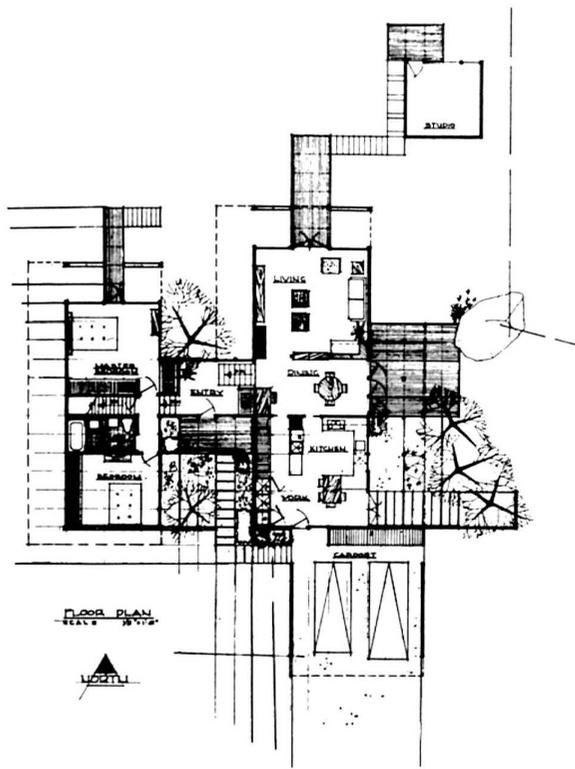
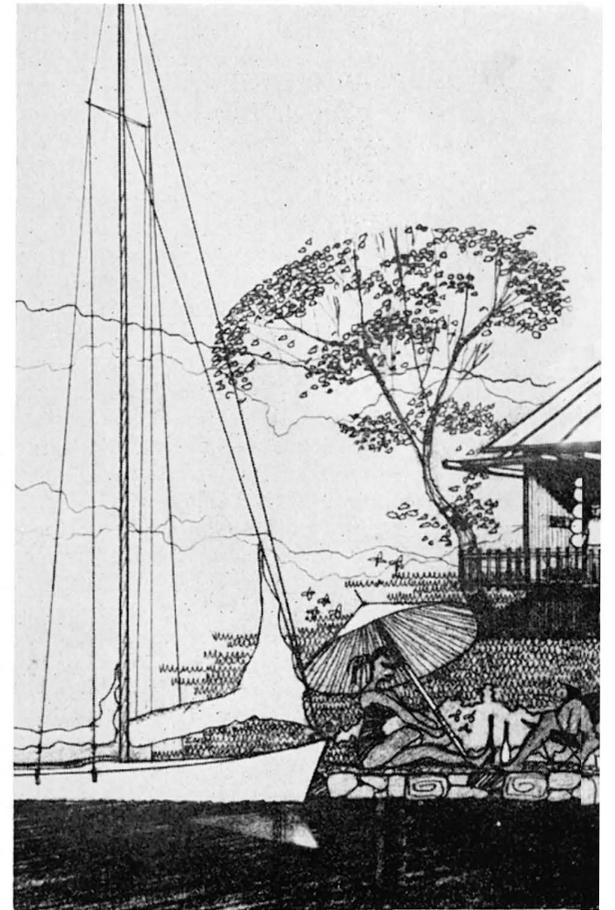
In accordance with standard practice, this job was bid competitively. It thus seems obvious that this building—design fees considered—cost no more than "stock" branch buildings. It also proves that good design can be applied to branch post offices without economic penalties. In branch office design and construction it has long been standard practice to "chop" openings in walls and to neglect the design in favor of arbitrary utilitarian requirements. Since form is seldom considered, these arbitrary factors are generally accepted without question. In consideration of the designers' concern for form, however, the officers of the Los Angeles Regional Real Estate Office of the Postal Department were willing to make minor concessions and to accept alternate proposals relative to entrance location, lobby division, screen and counter line, fenestration, etc. Also the Department wanted the facade line to follow the asymmetrical curve of the streetside property line (in order to gain interior footage), while the designers desired to "square-off" the structure. A compromise diagonal straight line between property corners was agreed upon and the finished building visually "reads" as rectilinear. The carriers entrance at the northeast corner of the building was added after final plans were under way and this problem was solved with an offset entry which allowed symmetry to be maintained in the five modular facade bays.

Although Washington is firm about interior work area colors: medium green dado to 5 feet, light green above, local officers agreed to bright accents of citron and pumpkin in the entrance and lobby areas. Exterior concrete block panels are painted Delft Blue and the exposed steel frame is white.

The structure is of light-weight concrete block panels in an exposed steel frame. Tapered steel girders clear-span 100 feet. The building is approximately 100'x100'—10,000 square feet. The design is dramatized with an elevated floor slab (to allow for truck dock) which projects beyond the concrete foundation wall to visually "lift" the building above ground level. This building has been selected to be included among those U.S. structures to be featured at the coming Moscow Fair.



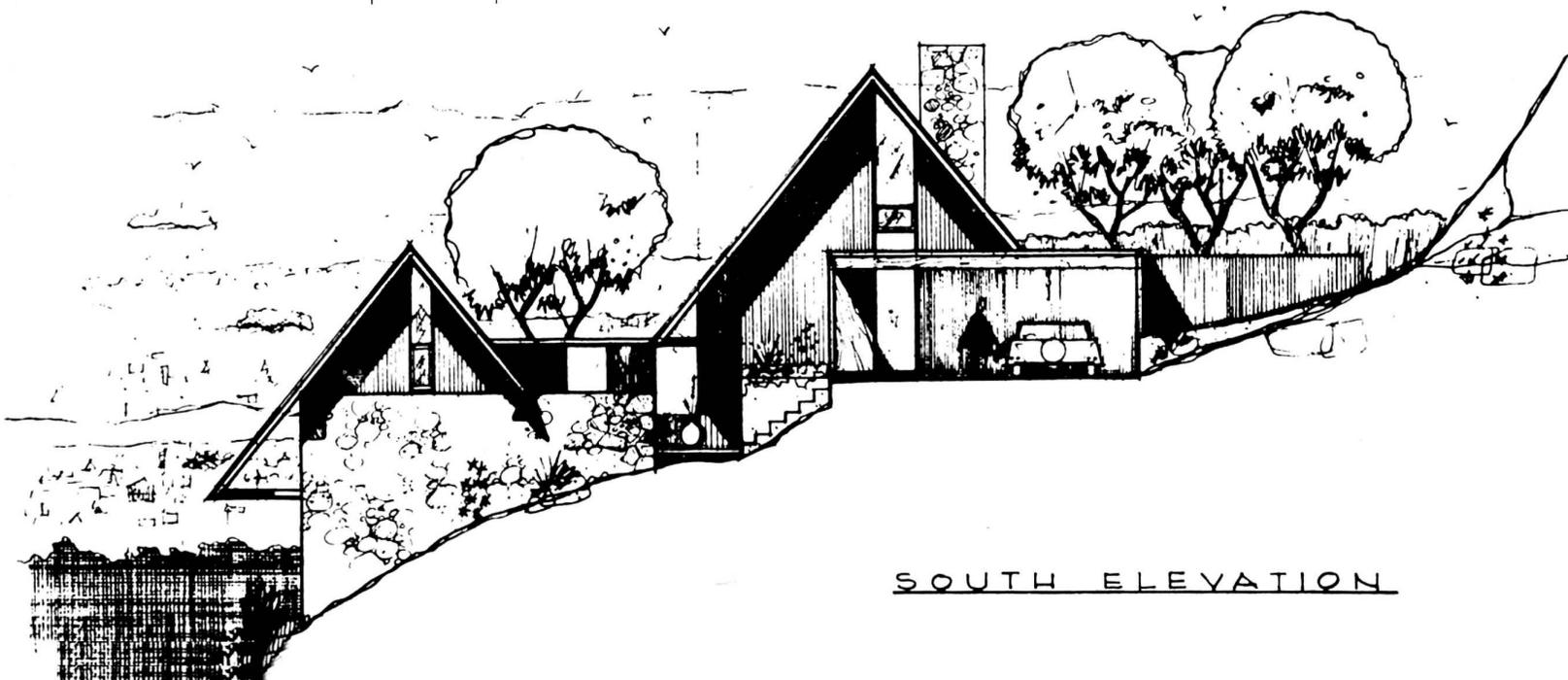
PHOTOGRAPHS BY MARVIN RAND



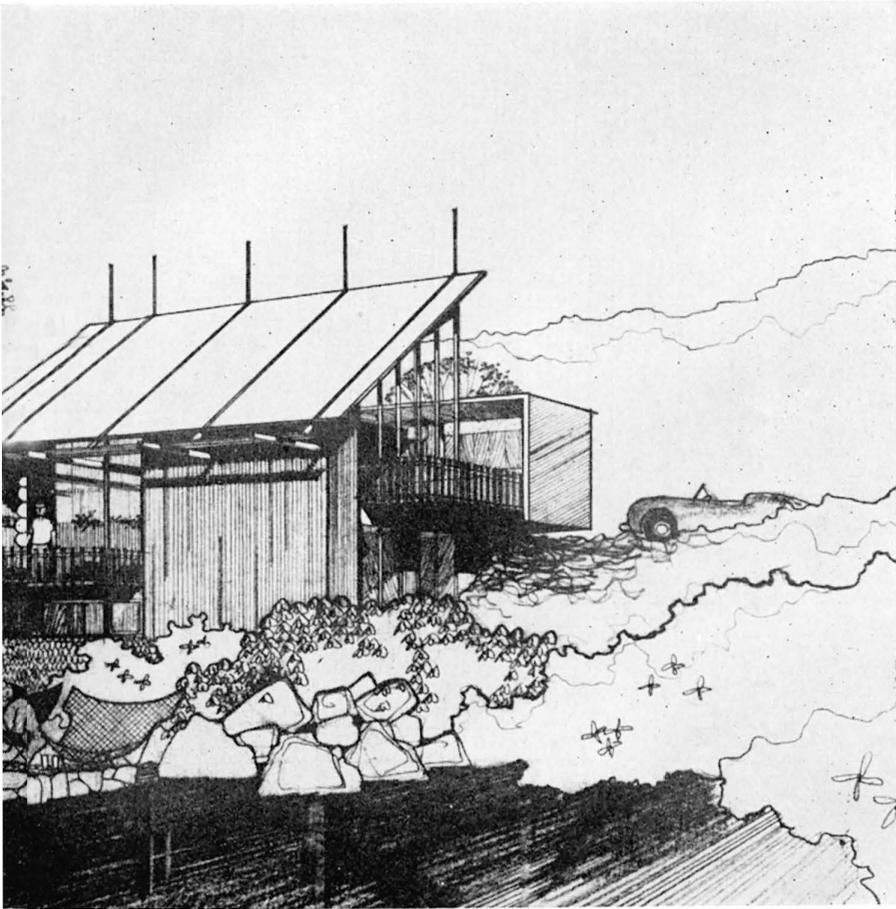
HOUSE No. 2

An extremely steep and rocky promontory overlooking the Cascades and Columbia River, and severe weather conditions were the influencing factors in the design of this house for a young couple with one small child. The site was too steep for a larger rectangular house, so the idea was conceived to build two small houses (one for sleeping and one for living) and connect them with a circulation bridge which became the entry. Severe winds and heat from the west prompted the low protection of the overhanging roof, closing the house up completely to the west and opening it into cool courtyards to the east and north. The winter winds and snows also blow up the river from the west.

The house was to be very informal with one large work space to house the daily work activities of kitchen, utilities, cleaning and family dining. Two bedrooms and bath were the immediate requirement with an eventual two bedrooms and bath in the lower level under the bedroom section. Materials will all be native to the area—2 x 4 laminated roof folded diaphragms with shingles and insulation—cedar siding and black basalt stone work. In order to get flat areas for outdoor living, extensive use of spaced decks was employed.



SOUTH ELEVATION



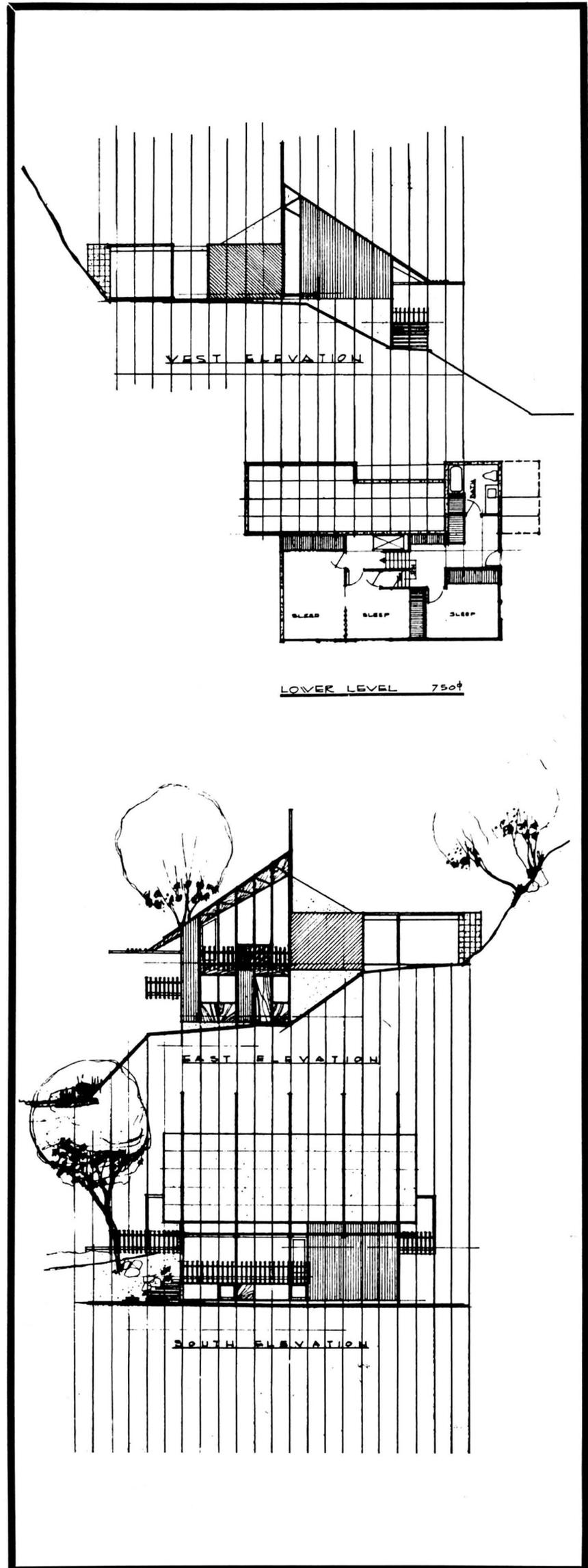
TWO SMALL HOUSES BY DONALD BLAIR, ARCHITECT

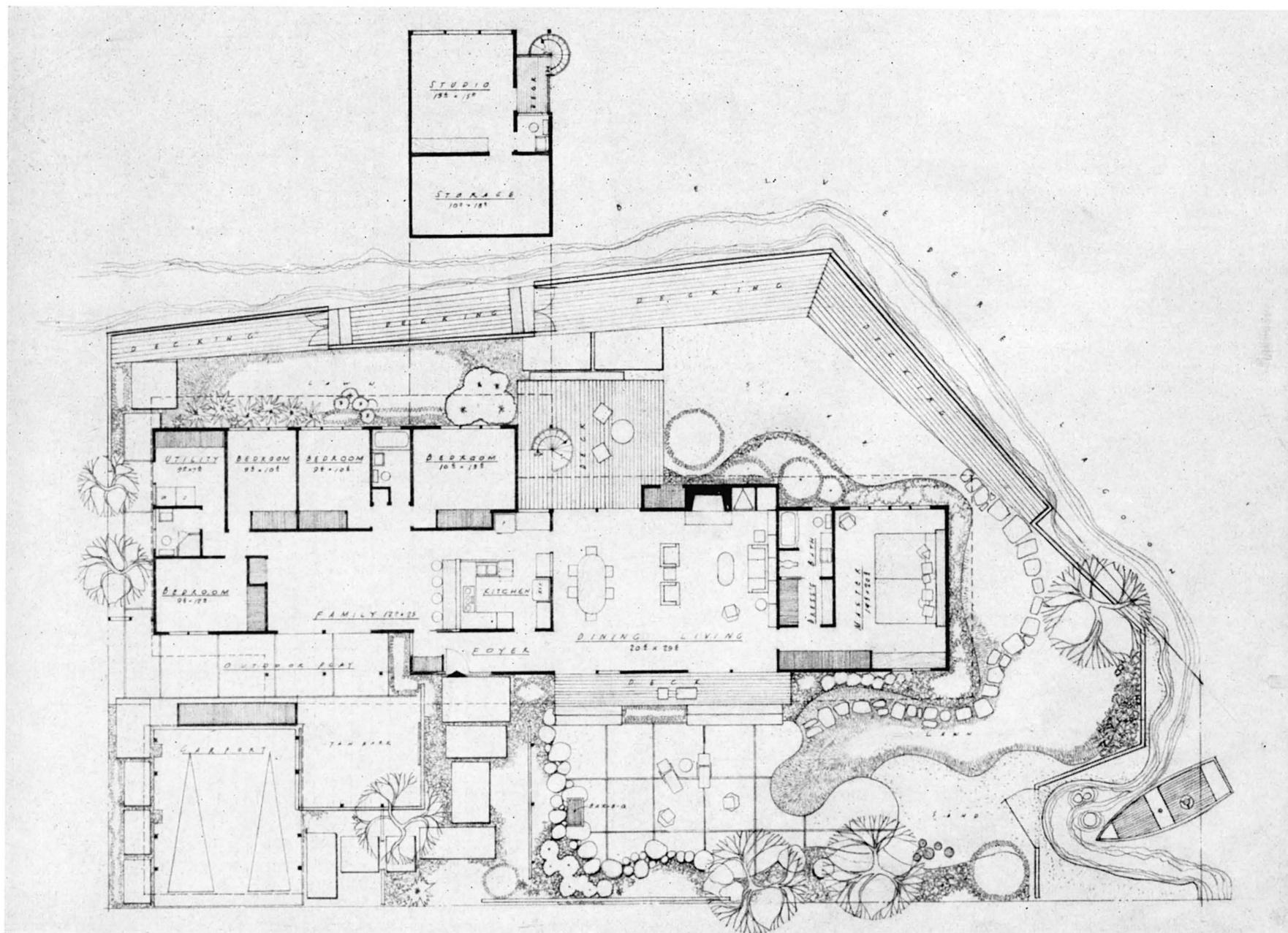
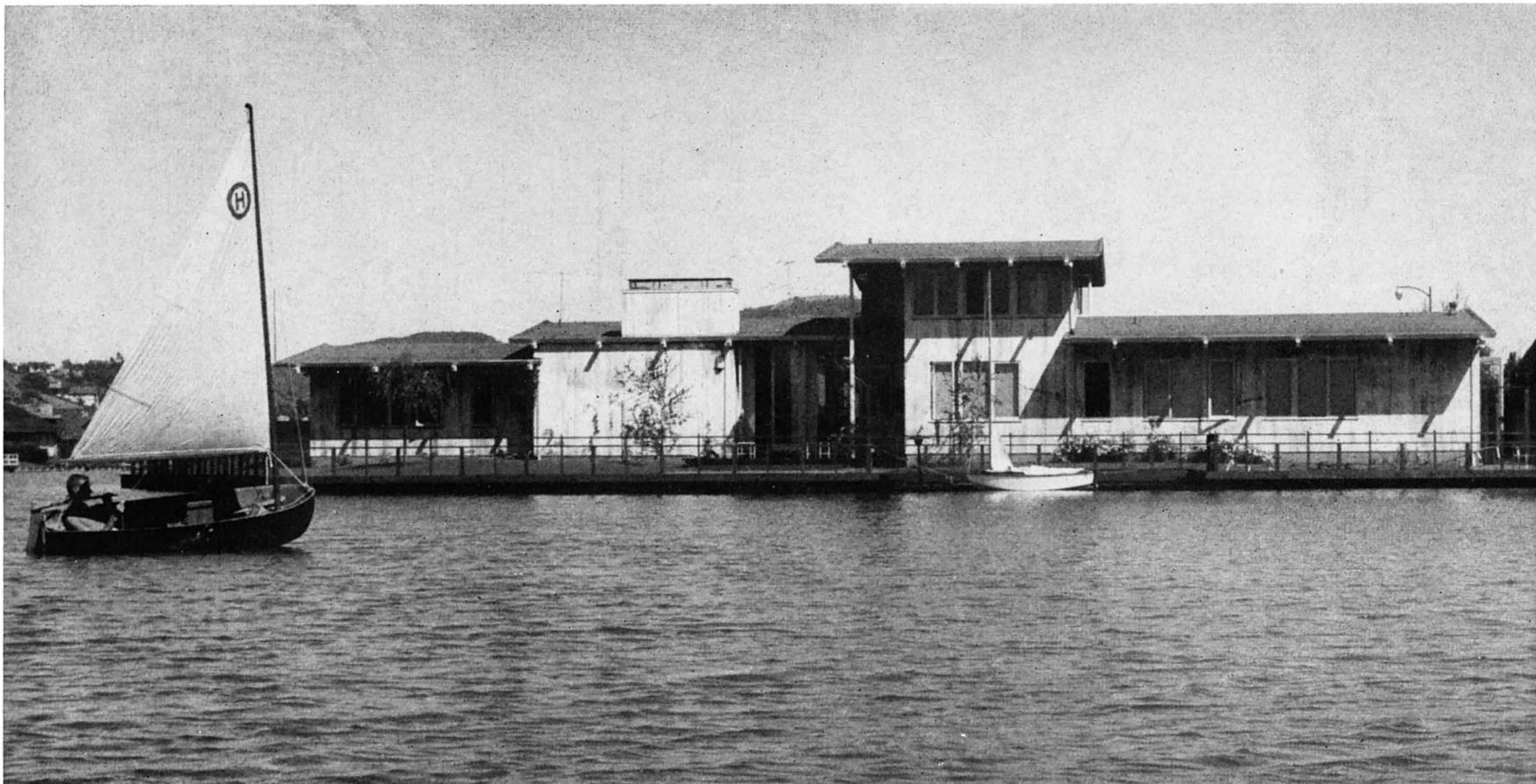
HOUSE No. 1

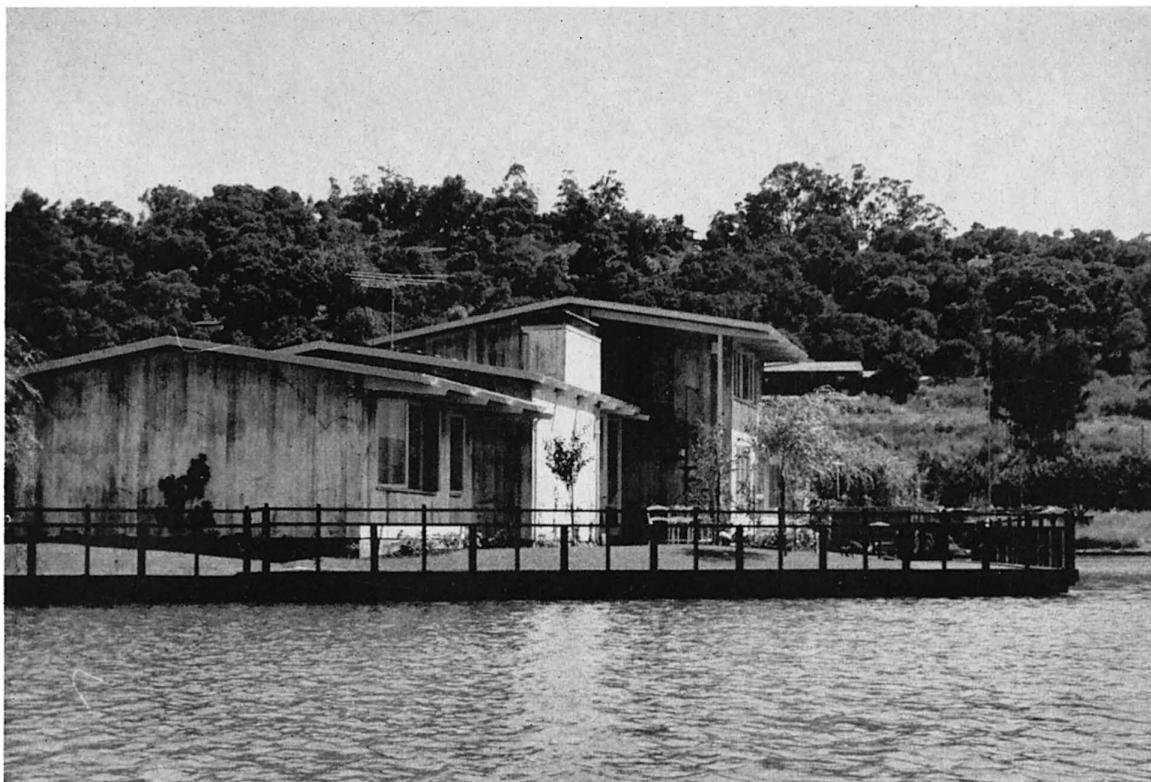
Situated on a rather steep site along the bank of a small resort near Portland, Oregon, the house is for a young family of five, offering as much use of the natural conditions of the site as possible.

The character of the house was inspired by the mast and boom, and sail-like forms of the boats and rigging that will surround the waterfronts near the house. The four levels of space attempt to integrate the house and site and to allow for some zoning for privacy between the various activities. The lake front is to the south, and use of the shade trellis offers some protection during the summer months.

Exterior materials will be bleached cedar siding, painted trim, and the roof surfaces will be white cement asbestos board. A 3'0" modular unit is employed throughout.







**HOUSE ON A LAGOON
BY CAMPBELL AND WONG**



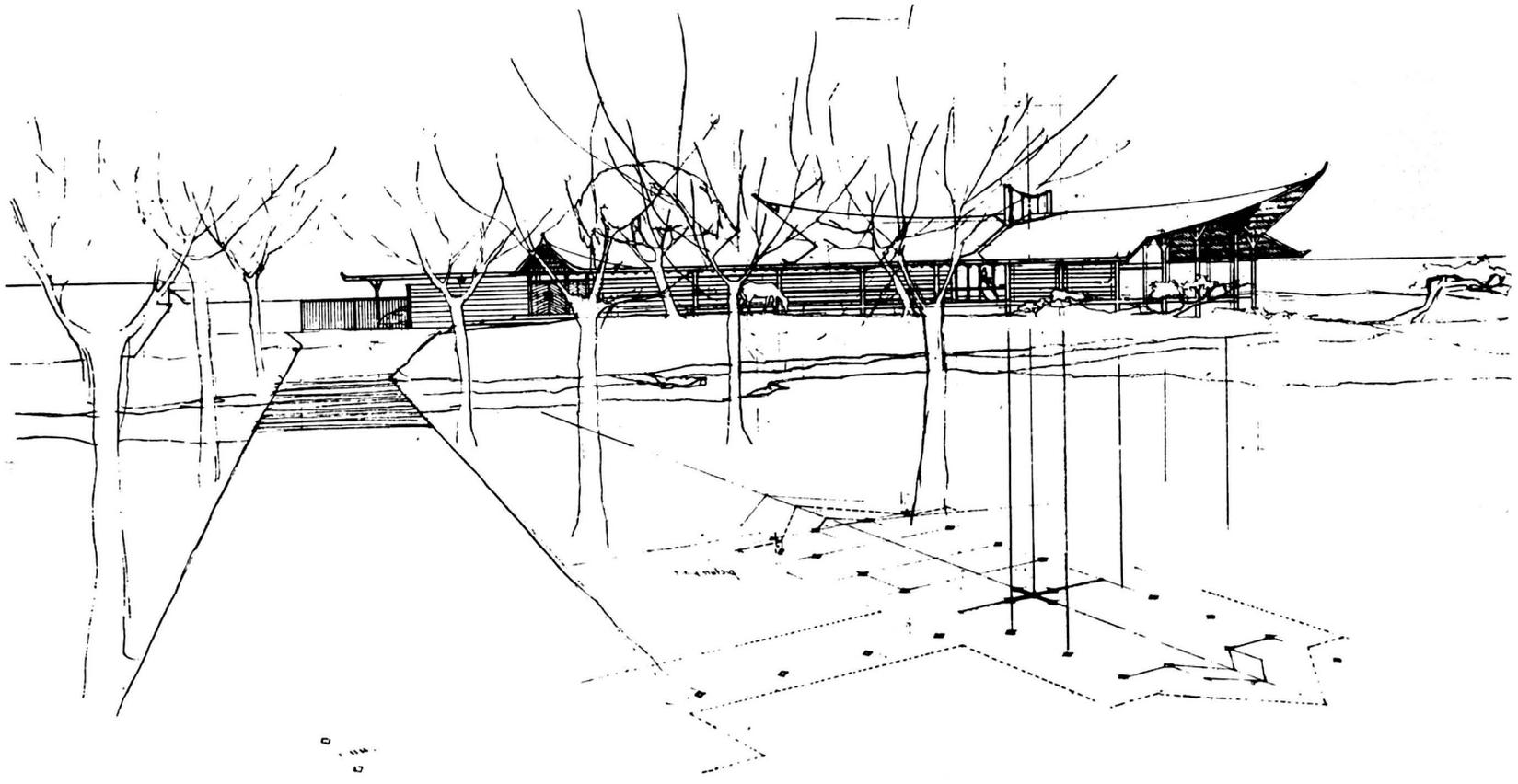
A house on the Belvedere Lagoon: the small lot is bounded on two sides by water and on two others by adjoining houses. The front is only the width of the street.

The house was built for a couple with three children and a full time maid. The resulting plan is a house divided, but related. The east end contains living room, dining and master bedroom. The west end is the children's area, bedrooms, maid's room, two baths, laundry, kitchen, play room and related outdoor play area, all this near the carport for convenience.

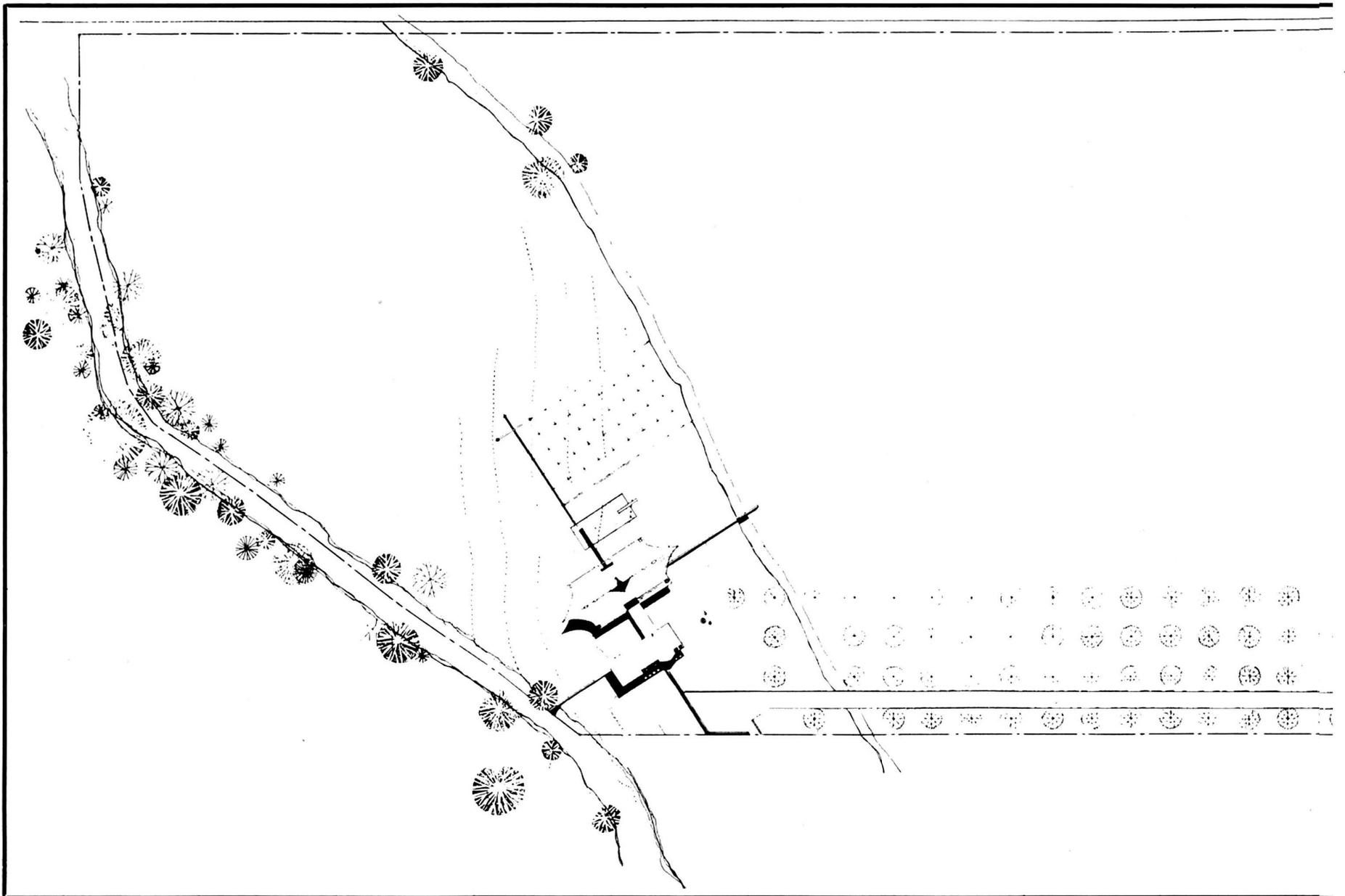
Upstairs is a studio for the owner who is primarily a writer, but also paints. It is entirely separate, and reached only by the outside spiral stairway. The site plan keys the house to a north view and a south garden. The exterior is white-washed or limed redwood, which has weathered very interestingly, with a white trim.

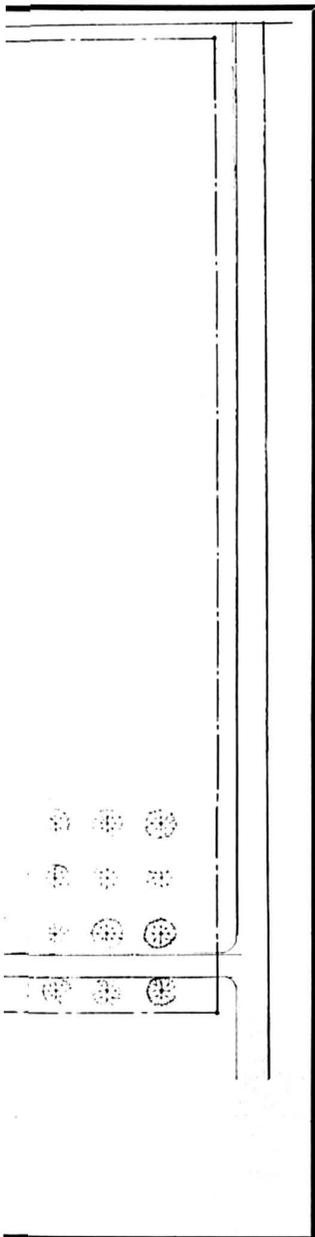
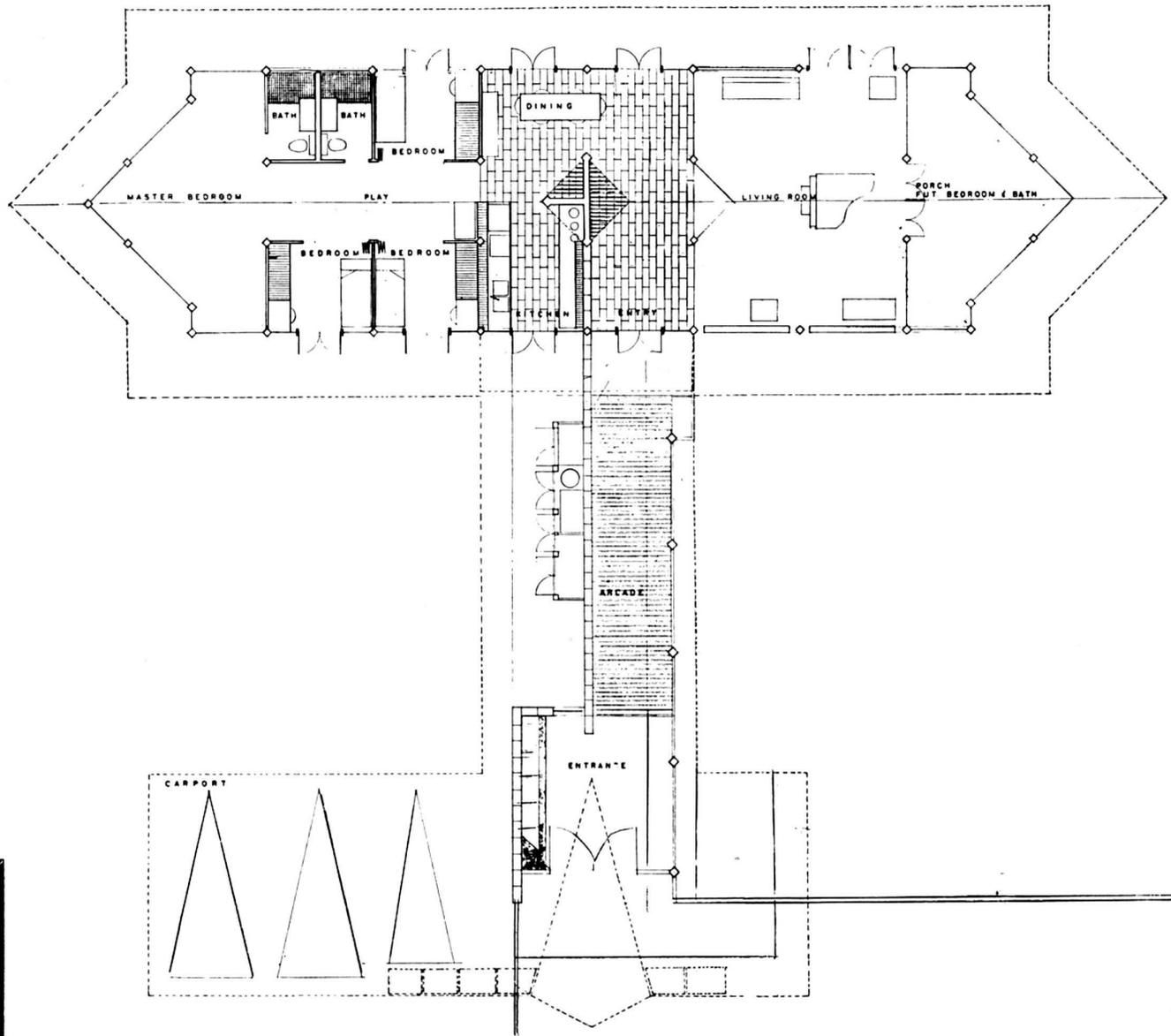


PHOTOGRAPHS BY RONDAL PARTRIDGE



A MODERN FARMHOUSE BY WALTER THOMAS BROOKS, ARCHITECT





The site is situated on the outskirts of a city in an agricultural area. It is generally flat, with rolling hills in the immediate vicinity merging in the distance with the Sierra Nevada mountains. The essential problem involved in the expression of the building was to find a form that would have significance on the 10-acre flat expanse.

In order to carry this idea through, the roof shelter itself was allowed to follow a gentle arc with the wood shingles working to the change in slope. The axis of the house is directly towards the Sierras. The structure itself takes form in the way of 8"-square resawn posts at regular spacings to form a pavilion over the farm fields. Even the arcaded entrance walk is treated as a floating bridge to the house itself. A screened veranda extends from the living room to the south. The farm truck and equipment are housed in a motor court beyond the entrance which is reached by a long side road through what will eventually be an orchard. The concrete core which rises through the center of the "pavilion" provides a barbecue, kitchen hood and fireplace with a clustering of flues. The exterior wall materials are cedar siding and glass—the extended masonry walls are native adobe. The building attempts to fit the land as does the traditional American barn—rustic and native in its use of materials.

THE SCIENTIFIC SIXTIES*(Continued from page 19)*

Research and development appear to have an objective which is directed largely to the defense posture. Is there a substantial by-product that will be useful to peaceful citizens?

Dr. Plesset: What is often called "Research and Development" is what I call "Product Development" and this consists of someone getting an idea of something which he thinks other people will be interested in buying and then setting out to make it. This is in the realm of technology and not necessarily research. What I would call applied research, and this is being done to an increasing amount by industrial companies, is toward really applying new facets of science which have been discovered to basically new trends of products and not just new gadgets. This is accelerating. It's fashionable and I sometimes think it even pays.

Mr. Alexander: We architects must rely upon the manufacturers for our research laboratory, yet the manufacturer's research arm often lacks imagination.

Mr. Jones: Unfortunately, most manufacturers underestimate the public. The public is alert to new ideas and if you show logic in the use of a new material—if you show a better living experience—you have a good chance of success. Many companies fail not because of the new material itself but because they are afraid to show it as a new material. Often, they try to make something new and interesting look like an old, familiar material because they think it will then receive better acceptance from the public.

When the aluminum industry, for instance, started to develop siding and roofing materials, it began on the basis that the new material should look like wood siding or like shingles that the public was already familiar with. The manufacturer should try to provide an experience beyond anything the public has known before. The public will recognize this. It isn't merely a matter of wanting houses to look like wood.

Marketing research is used increasingly in economic studies. What are the problems in applying research to the study of how to house people? Are marketing-analysts surveys on the expressed preferences of the housewife about the layout of the home, etc., reaching the core of the problem?

Dr. Dockson: One of the things that has bothered me as teacher of marketing research is the lack of marketing research by architects. I wonder why more effort hasn't been made to find what the housewife would like in the way of layout in the home, etc.

Mr. Jones: This brings up the question of how these surveys are often made. I recall a builder in Los Angeles who started to worry about the time that "Cinderella" houses were getting popular. This builder had been producing a simple, clean, honest house. He called in a market analyst to discuss the future "trend" with him. He put the question to the analyst, "I want to have some research done on whether I should build a conventional house or a contemporary house." The market analyst answered, "Well, which answer do you want? I can get you either answer you want, but I cannot get you the correct answer."

Dr. Dockson: He wasn't an honest researcher.

Mr. Jones: To me, he sounds quite honest. But the problem really is, how do you ask a person whether he likes a contemporary house or a period house or this or that kind of a house? This is an experience. As soon as you say "contemporary" everyone has a different picture of a contemporary house. How do you analyze this?

Dr. Bell: This is exactly the kind of question that sociologists are trying to answer and we have some very interesting and positive results. If you want to know the answer to that question, it means that you have to analyze the situation and adapt the questions to the framework of the respondent. You have to adapt it to the things in the respondent's mind, the symbols he is dealing with, the things he responds to when you use these words. There are many other facets to this art

of asking questions but it is now relatively well-codified and I think relatively accurate.

To get results in this example, for instance, we can infer the kind of living arrangement, let's say, that would suit his wishes by finding out a few simple things about him. If the study is properly conceived and properly executed the social scientist might be able to explicate a person's desires more completely than the person himself could.

Mr. Jones: The design of the home today is affected by these market analysts, but it is too bad that they make studies on our present and past experiences of how to house people. Our patterns of life change. Our land uses are such today that we cannot continue to house people in the same way. This means that we should start to make market analyses on a new concept, and not on whether you're going to have an 80' x 100' or a 70' x 100' lot and use up your land so you have to get 50 miles away from your work and then build another freeway.

We have to start the analyses not with the house itself or with the immediate problem of how we did solve it—but, how we are going to solve it. This is the most important thing for us to recognize in this area.

Mr. Alexander: The question surrounding this consumer-appeal of the "Cinderella" house a few years ago is an interesting subject. I met a layman recently who had an explanation which I thought was particularly apt. This house represented to a number of people who were able to buy homes for the first time in their lives the kind of house that represented to them what an ideal of home should be. For the first time they were getting their "dream" home.

Mr. Jones: This is true. Just as there's always cream that comes to the top of the milk, there were people who were not thinking so much of the function of the house as this romantic idea of the house. These people had not been satisfied and they bought the "Cinderella" type of house. The dream of a house in their minds was one with cut-barge boards and shutters and so on.

We are learning how to measure more accurately people's attitudes and values and how to predict more accurately their behavior. How will these changes in social science affect us during the next decade?

Dr. Bell: As we create knowledge about what makes people behave the way they do, we create the knowledge which, with proper resources, can also be used to manipulate them and to control them. To the extent to which this is true, and I think it is going to be exceedingly true in the sixties, the question is raised as to the extent to which there will be any free choices at all. When propaganda becomes so effective as to limit choices for individuals and as to limit alternatives for them, social need becomes determined and is no longer the determinant. I think this is going to be the major ethical problem of the sixties.

Leisure time is an increased factor in our culture today. How do our changing values affect the way we approach the use of this time?

Dr. Dockson: Over the next decade, many people will decide to purchase a second house in the same way that today they purchase a second car. These second homes are likely to be prefabricated cabins or cottages in a resort area that will permit more families to "get away from it all" during weekends and vacations.

Mr. Alexander: I would speculate that increasing leisure time, a great deal of which appears to be spent out-of-doors, would give people a greater appreciation of out-of-dooriness and that this would be reflected in their greater acceptance and even demand for the relationship that we architects are interested in, the relationship between inside and outside.

Mr. Jones: Do you think that going to the mountains and buying these fishing rods and so on is partially because there's more money in circulation today and that perhaps leisure time itself isn't as much a factor as it is that the money is there to buy the things?

Dr. Dockson: I think this is very important. You find people today who move 50 miles away from the big city and travel the freeways every day—yes, they move out there, but they do it for their families and they still work more than X-hours a week. And many take a second job in order to afford this type of living.

Mr. Jones: Peculiarly enough, too, the people who are moving out are not really trying to get that far away from things. They are not looking for a big piece of land. They're just looking for pleasant outdoor living and they don't have time to maintain the big lot. They really want a small patio area where they can have the barbecue.

Dr. Dockson: Yes, many people talk about this increasing leisure time but it seems to be that more and more people are going to be taking two jobs, in cases where the work week may be shortened to less than 40 hours a week. I don't agree with Dr. Bell that people don't want money.

Dr. Bell: When we talk about the reduced work week, it will be reduced for certain segments of the population, but not in other segments. There is probably an increased work week for certain professional groups, especially.

There will also be an increased work week for people who provide certain kinds of services, and for those who don't have any regular hours. But for the mass of the working classes, the work week is reducing. People are using the extra time, according to studies we have seen, in family life and in leisure time pursuits doing things with the family such as building, working on their house, traveling and so on.

Dr. Dockson: Housing needs can be related to the desirability of raising housing standards in relationship to incomes. Truly adequate housing in terms of both numbers and quality remains an unrealized goal.

With more discretionary income at its disposal in the next decade, the American family will demand bigger, better-designed, more carefully-built and better-furnished homes than those completed since the close of World War II.

Mr. Alexander: This comes close to the question, then, of where we are going to spend our money, this \$2,000 to \$2,500 additional that the average family will have by 1970. There has been a change in values, as Dr. Bell has related, in the way we perceive a house in itself. During the time that the cultural values were attached to monetary success and striving for status and prestige, there was also a heavy emphasis on "house proudness." Attitudes have changed toward the home itself and in what aspects of the house the money will be spent. A good example comes to mind of an Andover, Mass., resident who couldn't say enough bad words about the house proudness he had had during most of his life when he lived in his native state as compared with the attitudes he has for the house he found and loved in Rancho Santa Fe, where he lives now.

Work is still something which limits the ways in which we spend our time, money and energy. What changes in values associated with work will have an increasing influence on the way we live?

Dr. Bell: Sociological studies indicate that some of the values associated with work in the American society have changed during the past few years. Monetary success as a goal seems to be much less important than it used to be. Striving for social status and prestige are also less important today. Seeking adventure in one's work, new experiences and so on, again seems to be much less important than it was thirty or forty years ago. Finally, striving to exercise leadership seems less important.

The trend is clear that values are shifting from these to other things. These emergent values seems to be an opportunity to use special skills and aptitudes, the striving for security and the opportunity in one's work to exercise creativity and originality. These work values seem to be much more important than the once dominant goddess of success, status and prestige, adventure and power.

If we achieve the potentials suggested by professional predictors, we must face difficult problems which are coming in for their share of controversy during the sixties. What effect will the increasing role

of the government as a factor in economy have upon the way we live our lives?

Dr. Dockson: On the whole, the position of the capital goods industry is strong. Some of the problems which face us, however, include the following:

1. Continued growth in the debts of our economy. Today the debts of governments, businesses and consumers have reached an aggregate level of \$1 trillion. By 1970 this figure will be \$2 trillion.
2. Government consumption of our total output. Today, all levels of government consume 22 per cent of this total output. What will be the government share in 1970?
3. Stabilization policies of the federal government. Will the gradual erosion of the dollar continue?
4. Consumer incomes will increase. Will it be accomplished within a framework of industrial peace or will the economy be torn by strikes and other labor unrest?
5. New demands for government intervention into the private sector of the economy? Will this be extended?

Dr. Plesset: This may seem irrelevant but a lot of prophets of doom have talked about the exhaustion of the planet. Certainly, in the long term, things like iron and oil and coal may become exhausted. How soon this will be I don't know. Everybody who has ever predicted this has been underestimating. My own feeling is that the only safe assumption is to assume that for every desirable mineral you want you assume the earth is a hollow ball and it's filled up with that material. This fills the earth a few times, but I don't think it should disturb us. Our geological heritage is likely to dwindle, certainly, and this will put more emphasis on uranium. I expect that reactors will become practical which they really aren't today. However, one can see that even uranium will get exhausted sometime if we go on at a kind of prodigal rate consuming energy, as the consumption of energy seems to be equated with civilization and its complexity. I don't know what we'll do then, though I'm sure we'll do something and we'll be comfortable about it. It may be that we will look to the sea for raw materials, or to things like solar energy. Conceivably, we may use fusion energy but I'm not very optimistic about it in the very near future.

NOTES IN PASSING

(Continued from page 13)

with the low income for every one with the high income.

This is the famous gap between the "have" and the "have not" countries. Moreover, the rich countries are getting richer at an average rate of about 2 per cent, per year, averaging over booms and slumps. And it is this rate of increase since 1800 or so which has led to the very high standard of life in Western Europe.

Each year the Western countries, the rich countries, get richer by 2 per cent, so in five years they get richer by 10 per cent, 10 per cent of \$1,000 is \$100, so in five years a rich country will add to its wealth \$100, which is as much as anybody in the poorer countries has to live on. No wonder that the rich countries are getting richer very much faster than the poor countries are getting less poor.

Now, this widening gap is statistically true for a large part of the peoples of the world. Why is it true? Why isn't something done about it? This comes down to the question of the cost of development work and manufacture. Many of the poor countries know how to make things, but they cannot do so because they lack the skill in enough of their people, or the capital to put into the machines and the factories to make the goods. It is the extreme expense of starting off an industrialization process which is holding up the application of known science throughout the world.

It is very important to realize that science, although it has achieved these marvellous things, is not a magic wand to wave over a poor country and make it into a rich one. Science text-books are cheap; it is reasonably cheap to train scientists; but it is extremely expensive to embody the science in the factories, the steel works, the transport systems, the power station, the mines and the chemical plants. They all cost an enormous amount of capital, and the poor countries are very hard put to find capital. And that simple economic reason is why science is so very unevenly applied over the world today.

I agree that the most important thing for mankind is not to blow itself up. But I am curiously an optimist about this matter. Some of my friends I call rational pessimists, and I call myself an irrational

optimist. But I am an optimist. And assuming that we won't blow ourselves up, what is the next main problem?

I think the next main problem is to do something about the widening gap between the rich and the poor parts of the world, the rich countries which have successfully used science and obtained all the benefits, and the poor ones which have not. Now, if we don't do something about this widening gap, in a few decades, if the standard of life in the West goes up at the present rate, we may end up with a large part of the world poverty-stricken, as for centuries past, while the advanced countries of the West are enjoying (if "enjoying" is the right term) what has been called a "five-day week-end."

So great is the productive possibility of mankind that that is not an impossibility. Let me say quite definitely that all the evidence is that Western Europe has been the source of science for accidental social reasons and not because of any innate superiority whatever, and there is no reason why all the other nations of the world shall not be as good scientists and engineers as ourselves.

Professor Blackett was asked if he thought that aid for science in other countries should be given through the United Nations or by existing national programmes of technical assistance.

I think all methods have to be used. I think that as much aid as possible should be fed through the United Nations but, of course, there will be bilateral arrangements going on, and every sort of aid is needed. The total amount of aid is about one to two per cent of the national income of the West. That is only a fraction of what we are spending on armaments. If that was canalized into the underdeveloped countries, not as a charity but as a long period investment without political strings, it would enormously help them to get over the extremely difficult problem of the first years of industrialization.

CURRENTLY AVAILABLE PRODUCT LITERATURE AND INFORMATION

Editor's Note: This is a classified review of currently available manufacturers' literature and product information. To obtain a copy of any piece of literature or information regarding any product, list the number which precedes it on the coupon which appears below, giving your name, address, and occupation. Return the coupon to Arts & Architecture and your requests will be filled as rapidly as possible. Items preceded by a check (✓) indicate products which have been merit specified for the Case Study Houses 18, 19, 20, 21.

New This Month

(344a) General Concrete Products, Inc. has a new compact file folder illustrating fifteen screen or venter block of concrete; gives the advantages of residential and commercial, exterior and interior uses; tells measures and design fashions of special interest to architects, contractors and interior decorators. For this informative work-sheet folder write to: General Concrete Products, Inc., 15025 Oxnard Street, Van Nuys, California (STate 5-1126).

APPLIANCES

✓(316a) Automatic Dishwashers: Waste King Super Dishwasher-Dryers with complete flexibility in the selection front panels. Any color, any metal finish, any wood panel may be used to match other kitchen colors or cabinets. Seven major benefits and ten exclusive features including humidity-free drying which keeps all hot, steamy air inside the tub. Complete information and specifications available on request. Waste King Corporation, 3300 East 50th Street, Los Angeles 58, California, LUdlow 3-6161.

✓(250a) Built-in appliances: Oven unit, surface-cooking unit, dishwasher, food waste disposer, water heater, 25" washer, refrigerator and freezer are featured built-in appliances merit specified for Case Study House No. 17. Recent introductions are three budget priced appliances, an economy dryer, a 12½ cubic-foot freeze chest and a 30" range. For complete details write Westinghouse Appliance Sales, a division of Westinghouse

Electric Supply Company, Dept. AA, 4601 South Boyle Avenue, Los Angeles 58, California.

ARCHITECTURAL POTTERY

✓(303a) Architectural Pottery: Information, brochures, scale drawings of more than 50 models of large-scale planting pottery, sand urns, garden lights, and sculpture for indoor and outdoor use. Received numerous Good Design Awards. In permanent display at Museum of Modern Art. Winner of 1956 Trail Blazer Award by National Home Fashions League. Has been specified by leading architects for commercial and residential projects. Groupings of models create indoor gardens. Pottery in patios creates movable planted areas. Totem sculptures available to any desired height. Able to do some custom work. Architectural Pottery, P. O. Box 24664 Village Station, Los Angeles 24, California.

CABINETS

(329a) Cabinet Work: Complete store and office interiors; factory finished and installed by skilled artisans. Architects' and designers' details faithfully executed. Expert consultation available on request. House Store Equipment Company, 8712 Mettler Street, Los Angeles 3, California. PLessant 1-1156.

DECORATIVE ACCESSORIES

(426) Contemporary Clocks and Accessories. Attractive folder Chronopak contemporary clocks, crisp, simple, unusual models; modern fireplace acces-

sories; lastex wire lamps, and bubble lamps, George Nelson, designer. Brochure available. One of the finest sources of information, worth study and file space.—Howard Miller Clock Company, Zeeland, Michigan.

(300a) Home Furnishings: A series of brochures illustrating its new line of contemporary home furnishings and decorative accessories is now available from Raymor. Clocks, wall decor, Scandinavian and domestic furniture, lighting, occasional furniture and many artware and decorative accents are among the units newly cataloged. All literature is available to the trade upon written request on professional letterhead. Inquiries should be addressed to Raymor, 225 Fifth Avenue, New York 10, New York.

(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.

(295a) Manufacturers of architectural woodwork, specializing in all types of fixtures for stores, offices, churches and banks. Large and complete shop facilities offer a complete range of work from small specialty shops to complete departments in large stores. Experienced staff to discuss technical or structural problems, and to render information. Laurel Line Products, 1864 West Washington Boulevard, Los Angeles 7, California.

(294a) Architectural Interior Metal Work: Specializing in the design and fabrication of decorative metal work, murals, contemporary lighting fixtures and planning, room dividers, and decorative fixtures of all types for stores, office buildings, restaurants, cocktail lounges, hotels and homes. Sculptured metals, tropical hardwoods, mosaics, glass and plastics are used in the fabrication of these designs. Send for information and sample decorative plastic kit, Strickley & Company, 711 South Grandview Street, Los Angeles 57, California.

DOORS AND WINDOWS

✓(327a) Sliding Doors & Windows: The product line of Bellevue Metal Products consists of steel and aluminum sliding doors and a steel sliding window used for both residential and commercial purposes. Designed and engineered for easier installation and trouble-free service. Units feature live wool pile weatherstrip for snug anti-rattle fit; bottom rollers with height adjusters at front and back; cast bronze or aluminum hardware and custom designed lock. Doors can always be locked securely and have safety bolt to prevent accidental lockout. Catalog and price list available on request by writing to Bellevue Metal Products, 1314 East First Street, Los Angeles, California.

(284a) Solar Control Jalousies: Adjustable louvers eliminate direct sunlight and skylare at windows and skylights; some completely darken for audio-visual. Choice of controls: manual, switch-activated electric, completely automatic. In most air-condi-

tioned institutional, commercial and industrial buildings, Lemlar Solar Control Jalousies are actually cost-free. Service includes design counsel and engineering. Write for specifics: Lemlar Corp., P. O. Box 352, Gardena, California; telephone FAcully 1-1461.

(274a) Sliding Wardrobe Doors: Dormetco, Manufacturers of Steel Sliding Wardrobe Doors, announces a new type steel sliding wardrobe door, hung on nylon rollers, silent operation, will not warp. (Merit specified for Case Study House No. 17.) Available in 32 stock sizes, they come Bonderized and Prime coated. Cost no more than any good wood door. Dormetco, 10555 Virginia Avenue, Culver City, California. Phone: VERmont 9-4542.

(113h) Plywoods and Doors: Handsome catalog of great variety woods used in manufacture of Malarkey Plywood and Doors. Richly colored photographs illustrate various finishes, uses of plywood. Specifications and finishing suggestions for doors and plywoods included. Complete listing, explanations different grades. Catalog presented by Malarkey Plywoods, M. & M. Wood Working Company, 2031 North Columbia Boulevard, Portland, Oregon.

(217a) Aluminum Sliding Glass Doors: Complete literature and information now available on Ador's new model all aluminum doors at competitive prices. Data on unusual design flexibility, rigidly secured corners with heavy gauge fittings for slim lines, extreme strength. Description of complete four-way weather sealing, corrosion-resistant finish, centering rollers for continuous alignment, elimination of rattles. Charles Munson, Dept. AA, Ador Sales, Inc., 1631 Beverly Boulevard, Los Angeles 26, California.

✓(202a) Sliding Doors and Windows: New 12-page catalog-brochure profusely illustrated with contemporary installation photos, issued by Steelbilt, Inc., pioneer producer of steel frames for sliding glass doorwalls and windows. The brochure includes isometric renderings of construction details on both Top Roller-Hung and Bottom Roller types; 3" scale installation details; various exclusive Steelbilt engineering features; basic models; stock models and sizes for both sliding glass doorwalls and horizontal sliding windows. This handsomely designed brochure is available by writing to Steelbilt, Inc., Gardena, California.

✓(244a) Sliding Doors & Windows: The full product line of Arcadia Metal Products entails a standard aluminum door used for residential purposes, heavy duty aluminum door for commercial work and finer homes, standard steel door for commercial and residential buildings and the standard aluminum window designed for architecturally planned commercial buildings and residences. For a 16-page informative catalog write to: Arcadia Metal Products, Dept. AA, 801 S. Acacia Avenue, Fullerton, California.

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(236a) Arislide Aluminum Sliding Windows: Reduce installation costs, eliminate frames with new nail-in anchor fins. The windows may be nailed directly into studs. All sides are weatherstripped. Nylon bottom rollers insure smooth operation. Unique sliding unit is removable. Write for brochure: Michel & Pfeffer Iron Works, Inc., Dept. AA, 212 Shaw Road, South San Francisco, California.

✓(273a) Jalousie Sash: Information and brochure available on a louver-type window which features new advantages of design and smooth operation. Positive locking, engineered for secure fitting, these smart new louver windows are available in either clear or obscure glass, mounted in stainless steel fittings and hardware with minimum of working parts, all of which are enclosed in the stainless steel channel. (Merit specified for Case Study Houses #17 and #20.) Louvre Leader, Inc., 1045 Richmond Street, Los Angeles 45, California. Phone: CApitol 2-8146.

(290a) Indoor Movable Shutters: Illustrated brochure shows many features and installations of Paul Heinley Indoor Movable Shutters—with details on newest shutter treatment, Shoji Shutters. Specifications include construction details, methods for installing and information for ordering or requesting bids. Paul Heinley, 2225 Michigan Avenue, Santa Monica, California.

(256a) Folding Doors: New catalog is available on vinyl-covered custom and standard doors. Emphasizes their almost universal applicability. Folding doors eliminate wasteful door-swing area, reduce building costs. Mechanically or electrically operated. Modern-fold Door, Inc., 3836 East Foothill Boulevard, Pasadena 8, California.

(209a) "Arislide Steel Sliding Doors": Illustrated 8-page catalog gives detailed specifications on sliding doors for all residential, commercial constructions; frames, sliding units of formed steel, corners continuously welded, exposed surfaces ground, stainless steel capped track, fully weatherstripped, roller bearing rollers adjustable without removing door from frame, bronze handles, foot bolt; lever latch hardware, cylinder locks also available. Various sizes: special types. For free copy, write N. K. Juvet, Dept. AA, Steel Windows Division, Michel & Pfeffer Iron Works, Inc., 212 Shaw Rd., S. San Francisco, Calif.

FURNITURE

✓(437) Furniture: Information best lines contemporary furniture, accessories, fabrics; chairs, tables in string and strap upholstery; wood or metal chair frames—Knoll Associates, Inc., 575 Madison Ave., New York 22, N. Y.

(338a) Brown - Saltman / California, Brochures illustrating all elements and groupings of VARIATIONS modular furniture for living-room, dining room, bedroom. Please send 15¢ to: Brown-Saltman, 2570 Tweedy Boulevard, South Gate, California.

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✓(342a) Contemporary Furniture. Residential and office. Designed by Roger Kennedy, Gerald McCabe and Simon Steiner. Collection includes tables, desks, bedroom furniture, seating, high fidelity cabinets. Contract department. SM Furniture Company, Incorporated, 1812 Colorado Avenue, Santa Monica, California.

(297a) Furniture: Brochure of photographs of John Stuart chairs, sofas and tables, designed by Danish architects of international renown. These pieces demonstrate the best in current concepts of good design. Included are approximate retail prices, dimensions and woods. Send 25¢ to John Stuart, Inc., Dept. AA, Fourth Avenue at 32nd Street, New York 16, New York.

● Contemporary Furniture; Catalog available on a leading line of fine furniture featuring designs by MacDougall and Stewart, Paul Tuttle, Henry Webber, George Simon, George Kasparian. Wholesale showrooms: Carroll Sagar & Associates, 8833 Beverly Boulevard, Los Angeles 48; Bacon & Perry, 170 Decorative Center, Dallas, Texas; Kenneth Donathin, 4020 North 34th Street, Phoenix, Ariz.; Contract Interiors, 333 West Colfax, Denver, Colo. Sales representative: Casa Goldtree Liebes & Cia., San Salvador, El Salvador, C. A. Experienced contract department at Kasparians, 7772 Santa Monica Boulevard, Los Angeles 46, California. For further information write on your letterhead directly to the above address.

(138a) Contemporary Furniture: Open showroom to the trade, featuring such lines as Herman Miller, Knoll, Dux, House of Italian Handicrafts and John Stuart. Representatives for Howard Miller, Glenn of California, Kasparians, Pacific Furniture, String Design (manufacturers of shelves and tables), Swedish Modern, Woolf, Lam Workshops and Vista. Also, complete line of excellent contemporary fabrics, including Angelo Testa, Schiffer, Elenhank Designers, California Woven Fabrics, Robert Sailors Fabrics, Theodore Merowitz, Florida Workshops and other lines of decorative and upholstery fabrics. These lines will be of particular interest to architects, decorators and designers. Inquiries welcomed. Carroll Sagar & Associates, 8833 Beverly Boulevard, Los Angeles 48, California.

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ROOFING

✓ (333a) Plywood Roof Systems: Berkeley Plywood Company Panelized Roofs are described in a brochure available to Architects, Engineers and General Contractors. The roof systems are engineered, fabricated and installed by Berkeley Plywood Company, who has pioneered development in plywood roof, wall and floor diaphragms and many other plywood building components. Write to Berkeley Plywood Company, 1401 Middle Harbor Rd., Oakland 20, Calif., or 4085 Sheila St., Los Angeles 23, Calif.

✓ (341a) T Steel Roof Decking has met with enthusiastic approval due to its contemporary architectural effects, as well as economical and structural advantages. This deck spans up to 32 feet, forms a diaphragm to transmit seismic and wind loads while acting as an economical means for electrical and acoustical treatment of ceilings. For further information: T Steel Corporation, P. O. Box 487, Kirkland, Washington.

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.

(337a) Contemporary Serving Accessories: A running catalog on a comprehensive collection of dinnerware and serving components which can be combined in unlimited ways. Excellent for designers in working with clients. A continuing creative program within a nucleus of basic vessels in porcelain, ironstone, rockingham, earthenware, etc. Design directed by La Gardo Tackett, Imported by Schmid International, Distributed by Richards Morgenthau, 225 Fifth Avenue, New York, New York.

(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.

STRUCTURAL MATERIALS

✓ (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.

(207a) Unusual Masonry Products: Complete brochure with illustrations and specifications on distinctive line of concrete masonry products. These include: Flagcrete—a solid concrete veneer stone with an irregular lip and small projections on one face—reverse face smooth; Romancrete—solid concrete veneer resembling Roman brick but more pebbled surface on the exposed face; Slumpstone Veneer—four-inch wide concrete veneer stone, softly irregular surface of uneven, rounded projections—all well suited for interior or exterior architectural veneer on buildings, houses, fire places, effectively used in contemporary design. Many other products and variations now offered. These products may be ordered in many interesting new colors. Brochure available by writing to Department AA, General Concrete Products, 15025 Oxnard Street, Van Nuys, California.

(306a) Acrylite: New catalog available on Acrylite, an important new material for interior and exterior design. Acrylic sheets in which a variety of designs and textures have been embedded provide new design technique for separate living, dining kitchen, and other areas in a way that room dividers and panels become a central decorative feature in the room. May be coordinated with drapery and upholstery designs, as well as colors. Wasco Acrylite is sold as a panel or by the square foot, with varying thickness, size and design embedments. Send for complete information, Wasco Products, Inc., 93P Fawcett St., Cambridge 38, Mass

(113a) Structural Building Materials: Free literature available from the California Redwood Association includes "Redwood Goes to School," a 16-page brochure showing how architects provide better school design today; Architect's File containing special selection of data sheets with information most in demand by architects; Redwood News, quarterly publication showing latest designs; individual data sheets on Yard Grades, Interior Specifications, Exterior and Interior Finishes. Write Service Library, California Redwood Association, 576 Sacramento St., San Francisco 11, Calif.

(318a) Concrete Structural Wall Units: Design information and construction data available concerning Carduco, the most unusual building material made. Carduco is structural; approved by building codes; practically impervious to water without surface treatment. It is manufactured

in patterned design components as well as textured and plain. Integral color is supplied to specifications. Where required Carduco can be furnished with a five-hour fire rating and built-in insulation with a K factor of 2; U factor of 0.31. Write Carduco, P. O. Box H. Stanton (Orange County), California.

(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.

(219a) Permalite-Alexite Concrete Aggregate: Information on extremely lightweight insulating concrete for floor slabs and floor fills. For your copy, write to Permalite Perlite Div., Dept. AA Great Lake Carbon Corporation, 612 So. Flower Street, Los Angeles 17, Calif.

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. Write to: The Mosaic Tile Company, 829 North Highland, Hollywood 38, 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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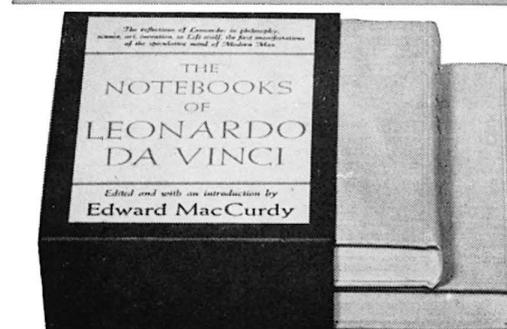
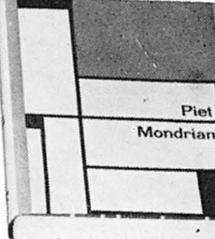
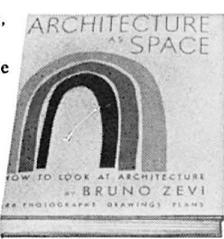
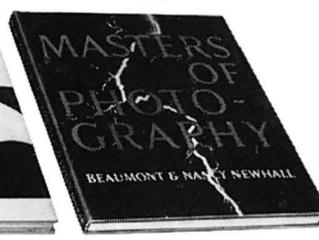
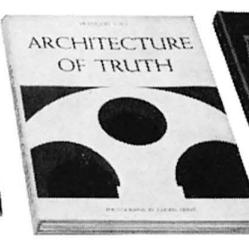
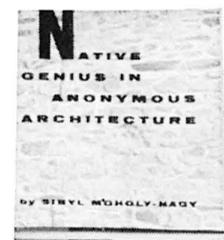
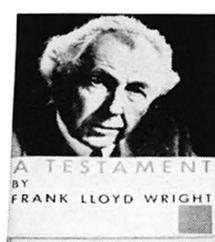
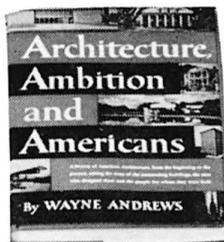
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