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MORE THAN TIME

Earle Brown phoned long distance from New York: Paul Price and John Cage were with him. They wished to ask if I knew the whereabouts of William Russell, a composer who shared Cage and Price's interests in organizing the repertory of Cage's percussion orchestra, formed in the San Francisco Bay area in the late 1930s. They had lost touch with Russell; I was unable to help them find him. That was how I first learned of the Time Records 2000 series, of which Earle Brown directs Artists and Repertoire, as he prints it on the record cover. Apart from that I know only that he is a composer. I have asked him to send me taped examples of his music.

There are now five records in the 2000 series; Time and Earle Brown can be proud of them. The recording is consistently superior and uncrowded. I suspect the records are selling; they should, and the interest in the composers whose music is represented on them is steadily growing. The Columbia record of music by Edgard Varese issued a couple of years ago proved to be a best-seller, sound-music of the 1920s, only now coming to recognition, plus his Electronic Poem composed for the Le Corbusier-Phillips building at the Brussels exposition.

The majority of trained ears, habituated to traditional music by a relatively uncritical youthful enthusiasm, have accepted quite rightly the full authority of the classics and drawn from them an only very gradually fading pleasure. Who has a Mozart quartet at hand in the record cabinet would choose by preference a Varese Electronic Poem!

Let me confess: if I must choose, let me have the Mozart quartet. But here's a queer thing about it: when I reach out to select a Mozart quartet, I most usually come out with a quartet by Haydn. Having pondered this fact for several years, I rationalize the half-consciously made decision this way. Each time Mozart takes me for a ride on one of his quartets I know that I am on the highway of great music. When I go along with Haydn I can never be quite sure where I am going. So that in my old, after more than two decades of knowing practically the complete works of Mozart even to Koechel number and key, except a few odd items not easy to locate, I watch my curiosity slipping steadily more and more towards the confused numberings and keys and titles I cannot remember of Haydn, leaving one might say the glade for the forest. The same is as true of my reading at the keyboard. Oh dear, oh dear, now somebody will be saying I don't like Mozart! It isn't that at all, my dear. I am trying to rationalize in my personal inner sanctum. Keep out of it and try to let me, well, not explain. Who can explain rationally why his taste, which cherishes its almost daily broad­enings and keys and titles I cannot remember of Haydn, leaving me on special terms with it to follow it where it is going. One way to keep up is by listening to these five representatives of time records. Like it or not, I discover that this kind of listening sharpens the ear, by a refinement of unusual values. After such a bout with the moderns I return to the classics with refreshed attention and, frankly, an improved ability to hear them.

The music recorded on these five records is not all new to this column. On the first there is a performance of Zyklus by Karlheinz Stockhausen, a composition for solo percussionist playing inside a larger of percussion sound equipment, that I wrote about last year. Zyklus is on 16 pages according to one of the many diagrammatic methods favored by the new sound composers. The sixteen pages, spiral bound, may be opened to begin at any page, the rule being that the performer, once he has begun, must continue in the same direction, forward or backward, until he has returned to his beginning. Standing at the center of the instruments he turns from one playing position to another, clockwise or counterclockwise, depending on the direction he has chosen. Stockhausen explains in his notes that the music mediates continuously "between the entirely unequivocal and the extremely ambiguous," moving from determinacy towards indeterminacy or vice versa, until the structure with the greatest indeterminateness returns almost indistin­guishably to its companion-piece, that with the most firmly fixed structure. One reads and believes; the course of the playing as one hears it would not suggest so dogmatically articu­lated an experience.

Though the recipe allows the player to determine his own starting-page, I have it on the authority of a traveler who heard Zyklus performed three times in Europe by Christoph Caskel, the artist of the record, that he played it each time in exactly the same sequence, and furthermore that the composer must like it this way because he was present at each performance. The recorded performance is therefore a virtuoso display, instead of being one example of the continuously fresh reading presume­d by the composer's instructions. That makes a difference. For all the beauty of the performance, I still do not find the music, as organized design, so interesting as the sounding of the instruments.

Though this first Time record there is also a smaller composition by Stockhausen called Refrain, of which the composer arrogantly states:

"Those who wish to understand what I have written for the three players in Refrain must read the score."

"Those who wish to understand how the players interpret my score must know the score and compare performances."

"Those who simply wish to hear (not understand) a piece of music need only listen."

"What is left to be explained?"

Well, everything. And if the players of Refrain persist like Christoph Caskel in performing over and over again a single reading of the score, the most willing scholar may feel himself in the end as frustrated, though following alternative two, as the innocent who simply listens. The score is exhibited within the record cover, a partial sphere of curved staves, like a circular slide-rule, around which a pivoted arm bearing clusters of tones presumably circles in either direction. The sound of Refrain is as easy to take as its progress in any direction is difficult to follow. The ear deserts it and returns.

The third piece of the first record is Transition 2 for piano, percussion, and two magnetic tapes by an Argentinian living in Europe, Mauricio Kagel. The whole thing is done by two players, one at the keys of a piano, the other beating the strings with a variety of mallets. "Concerning the form of this work," the composer writes, "I set myself a problem which is not unlike a grammatical exercise: how can the past, present, and future be fused in one single declension?" This is done by a pair of recorded tapes, the first made before the performance of sections of the
piece, the second consisting of recordings of the live performance played back through speakers in the hall after certain time intervals. To vary the effect and prevent memory from interfering with the ongoing of the composite, the first tape can be subjected to a number of processings before it is heard through hall speakers during the performance. In the recording this processing of the original tape has been omitted, for reasons by no means clearly explained. The second tape varies the music only by the manner of its recurrences. "Translation and rotation of structures, notated on slides and revolving disks which can be shifted, and turned, represent the two basic movements of the piece."

I have condensed here three columns of explanation. So much for the machinery, the ingenious pre-composing process. The music is sweet, charming, unsinister, and no different for the ear, however it may be for the trained intelligence, than if it had been arrived at by some other process.

All of this technical ingenuity pays homage to the influence of John Cage, with only this difference, that Cage does not try to charm us by sweet sound, apart from his Sonatas for prepared piano, and that his complications of musical incident, however intricately reached, may be heard, reacted against or enjoyed quite simply. They are what they are being what they are, whereas these technical elaborations, purporting to be enjoyed for the elaboration's sake, do not convince as compositions, or as sound or music. They are nothing if not pleasant but give the effect of being pleasant only by the avoidance of being not quite pleasant if you get what I mean. I am never sure that one of these doctrinaire composers will not ultimately outface me by bringing in the theory of the absurd. Whereas each of the successive Cage positions steps forward as directly and reasonably, maugre the word logically, from the last, as if it had been by Beethoven or Schoenberg, though the reasons be different.

This first record is all sweetly voiced schematics. The second record offers music in a new voice, what I prefer to speak of as "non-orchestral percussion," because it both uses many means not common to the standard Western orchestral percussion and uses them to a distinct idiomatic purpose. The record is called, however, "Concert Percussion for Orchestra." The performances by the Manhattan Percussion Ensemble directed by Paul Price include several of the earliest experiments of this new repertoire: two Rítmicas by the late Cuban composer Amadeo Roldan; Three Dance Movements and Three Cuban Pieces by William Russell, an early attractive venture by Henry Cowell; Ostinato Pianissimo; Canticle no. 1 by Lou Harrison; Amores for prepared piano alternating with percussion by John Cage; and the gamelan-derived Double Music delightfully composed in alternating sections by Harrison and Cage. When the Double Music was composed, the ideas of these two leading composers of the percussion medium were still so closely in agreement that neither on the record nor in an excellent reading last autumn for the Monday Evening Concerts by a group led by William Kraft have I been able to tell earwise which composer is responsible for which sections. Nowadays they represent the two extreme positions of the development of American experimental music.

This is, along with earlier records issued by Paul Price and by Jack McKenzie of the University of Illinois, the true percussion literature of the American experimental tradition, a delectable body of true and usually happy music, not to be confused with the spate of cheaply gimmicked records spun out during the last five years by major recording companies for the stereo novelty trade.

I'd as soon enhance my pleasure by looking at reproduced paintings and statues through a stereopticon as improve my hearing of music by splitting the output between a pair of speakers, improperly focused—as they must necessarily be because of the disparity between the size of the room in which the music was recorded and the size of the room in which I listen, aside from other weighty considerations. Nor is the projection of music through multiple speakers in various parts of the room more creditable, because of the conflict of unplanned echoes and resonances. Just plain listening to the classics through a single speaker is still the best we can do, apart from live performance.

(Continued on page 7)
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ANONYMOUS (20th CENTURY) by Leonardo Ricci (George Braziller, $5.00)

Leonardo Ricci, young Italian architect, has won numerous awards including the São Paulo Bienal prize in 1951 for his design for the Market of Flowers in Fesca, Italy; the Premio Napoli for Architecture in 1955 and the Medaglia D'Oro Triennale di Milano in 1957. He is president of the National Institute of Town Planning for Tuscany and Umbria, a professor at the University of Florence. He also paints. Something in the supreme ego of architects, after recognition, also prompts them to write. As a group they have turned out some of the world’s most abominable prose, at least in our time.

Mr. Ricci’s offering is a strange, exciting, and sometimes compelling little book. Its strangeness lies in a total disregard for style. The author finds it difficult to read the books of today because “They are either conceived in style, or in their endeavor to break away with style, they are engulfed by it.” This reviewer, at least, found difficulty in getting with Mr. Ricci’s book, because more than writing, it is thinking-out-loud, lacking in discipline and cohesiveness. To record a series of acts of existence, nervous narratives, salient and loaded with adrenalin, however poetically charged, does not necessarily make a good book, nor does it translate into form.

However amorphous, the book has content, even with its many starts and no stops; and a large theme: probing of the condition of mankind; the artist and architect examining the human situation to find his own raison d’être. It is also a book of great optimism and a hope for the future when men can live together in harmony. Mr. Ricci’s notes on totalitarianism, a criticism and an analysis of town planning are worth the effort.

RENAISSANCE ARCHITECTURE by Bates Lowry; MEDIEVAL ARCHITECTURE by Howard Saalman; GREEK ARCHITECTURE by Robert L. Scranton; EARLY CHRISTIAN and BYZANTINE ARCHITECTURE by William MacDonald (George Braziller, each volume $4.95).

These admirable compendiums, each with concise texts by first-rate authors, and each illustrated with over one hundred photographs and plans are a welcome addition to the library—and very modestly priced.

We single out Mr. Lowry’s volume, largely because of its interest to 20th century readers. The parallels in “Design” and “Structure” and the tremendous architectural activity are to be noted.

Mr. Lowry shows how the Renaissance style was developed by Brunelleschi and Alberti in the 15th century. The geometrically precise buildings of the former, with their roots in the art of painting in perspective; “... the perspective of visual image whose total form was dictated by concern of how it would appear to the eye of the human observer,” Brunelleschi’s amazing engineering and structural inventions on one hand and Alberti’s development of a system of proportions whereby he could produce visual effects by mathematical and linear means. The differences and similarities of Brunelleschi and Alberti are discussed: Alberti minimizing organic function and Brunelleschi utilizing all the parts of the arch to lead the eye. Continuing the groundwork of these two men are Francesco di Giorgio, Guiliano and Bramante and many others, culminating in the work of Palladio.

THE GRAPHIC ARTIST AND HIS DESIGN PROBLEMS by J. Muller-Brockmann (Hastings House, $14.00).

J. Muller-Brockmann is a good teacher and an outstanding graphiker. His book is intended as a guide for aspiring young graphic artists, yet should not be overlooked as a reference book for the old hand. His survey includes a look into the significance of all the essential design elements used in advertising today, as applied to television, exhibitions, publicity films—all the media. His searchings into the demands placed upon the graphic artists at this time (whether technological or of cultural significance) are developed articulately and illustrated by his own well chosen examples. The importance of illustration and the transition to objective graphic art is discussed; there are commonsense notes on typography and the functional role of this medium demonstrated with rules on type-selection and proper leading. Lettering is seen as a vehicle for ideas, with sans-serif as “the expression of our age.”

Photography, objective and experimental, is considered in juxtaposition to drawing in advertising where subjectivity impression is needed. Color is used to develop symbolic values or design features, when methodically and sparingly utilized. The need for a writing course in the training of graphic artists is seen as a prerequisite.

On the question of ethics in advertising, the author is firm in his belief that the form be appropriate to the message, citing the horrible example of the furniture industry foisting off pseudocontemporary furniture by hiding its defects with trick photography and sneaky copy to make the spurious article seem like the genuine.

Such practices in grand delusion, of course, are not limited to the furniture industry by any means, and the problem is one which may be tackled by all graphic artists.

A training system for the graphic designer is outlined showing the method used at the Zurich School of Applied Arts. A thorough book. Recommended.

BOOKS RECEIVED:
AMERICAN ART OF OUR CENTURY by Lloyd Goodrich and John I. H. Baur (Frederick A. Praeger, Inc., $15.00)
INTERNATIONAL POSTER ANNUAL 1962 edited by Arthur Niggli (Hastings House, $12.50)
NEW BUILDINGS IN THE COMMONWEALTH edited by J. M. Richards (Frederick A. Praeger, Inc., $14.50)
ARCHITECT, Creating Man’s Environment, by Robert W. McLaughlin (The Macmillan Co., $3.50)
Stereo benefits the equipment manufacturer by offering two for the price of two instead of one for the price of one. It has been interesting to watch the better record critics, who at first stoutly resisted the unnecessary innovation, slowly subside and fall into line under pressure by the industry, which can break a record critic, if he persists in independence, by denying him new issues. All the records here reviewed come in stereo, though I listen to them monaurally. For music of this sort stereo is of course not objectionable, may indeed have distinct advantages, since some of these compositions are intended to be heard, in public performance, through multiple speakers.

The third record includes three more European composers, Luigi Nono, son-in-law of the late Arnold Schoenberg, Bruno Maderna, and Luciano Berio. Polifonico-Monodia-Ritmica by Nono, performed by the English Chamber Orchestra directed by Maderna, is for winds, piano, and percussion, one of the many adaptations after Anton Webern which serve to demonstrate how imperfectly that painted composer's impeccably exact designs are today read and understood by his European admirers. The movements include such devices as the polyphonic use of melodic cells, the idea of "Klangfarbenmelodie" (an expressive shifting of instrumental timbres in place of melody), and the strict working out of rhythmic formulas. The whole is no more than traditional music uncomfortably compressed in a different idiom, as far in effect from Webern as from Mozart, a continuation of the long European tradition of Kapellmeistermusik.

I have never been convinced that Bruno Maderna, though a solid conductor of scores traditional and contemporary, is to be rated more highly as a composer than a good many other well trained intelligent musicians who insist on composing. He can raise old-fashioned excitement in his work for two pianos and percussion, but when it comes to serious intentions, as in his electronic studies or the Serenata No. 2 on this record, I remain unconvinced. Since he is an influential figure, it is well to know what he is doing.

Some of these composers cannot accept that their ideas have been better worked out before them by men more gifted. Luciano Berio, however, is a genuine composer, who does not put together compositions but thinks inside them as he works. Two years ago he presented a concert for the Monday Evenings, which I wrote of at the time. During his visit I recorded for broadcast with his attractive wife, Cathy Berberian, a program in which she read the opening passage or theme of James Joyce's Sirens chapter from Ulysses (reputed to be variations in fuga per canonem) of which Berio composed by electronic means his composition Thema: Homage to Joyce. She read also, first in the original and then voicing the oddly inserted punctuation, a real trick if you can do it, three poems by e e cummings later set as music by Luciano Berio, on a commission from the Berkshire Festival, as his composition Circles, the first work on the fourth Time record.

I like it better than his Differences for flute, clarinet, harp, viola, cello, and multi-channel tape which completes the third record. Writing for Cathy Berberian must give joy to a composer since there seems to be nothing she cannot do with her voice, from warm contralto song to nonsense noises produced with invariable agility and grace. And she is able always to return from the farthest excursions exactly to the required pitch.

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Now follow me closely. Working with transparencies on which are notated an immense variety of musical figures, differing numbers of them for different instruments, Cage has composed a music by random procedures (originally called "music by chance": I believe the best term for all types of these productions would be "Chancy Music", avoiding the philosophical and mathematical problems raised by "chance" and "random") called

Concert for Piano and Orchestra. Any combination of parts or any single part may be performed separately. The vocal part of the Concert is the Aria. Cage has also composed by "chancy" methods his Fontana Mix on tape, a montage of noises. Fontana Mix may be performed separately, preferably through multiple outlets in a hall, or it may be combined with the Concert, as in the background of his album of spoken stories Indeterminacy. Aria may be performed with either or both. However this is done, the performance should be always different. But since Cathy Berberian as soloist usually performs the Aria accompanied by Fontana Mix on tape, the probability is that she performs it always in the same way, so that the performance, like Christoph Caskel's of Zyklus, must be called virtuoso."

And it is. The voice is superb, the control nearly absolute, the range covers eleven vocal styles from coloratura to imitation barking dog—at which my little dog sat up sharply, looked around and then leapt for safety into a lap—in five different languages, including her ancestral Armenian. Here the immediacy of the occasion takes precedence over the theory behind the music, and the performance, in which the audience is welcome to join by any means it pleases, compels to joy, to laughter, to amusement, to making the whole business seem a bit ridiculous, to comedy in short—and comedy is one of the great gifts of the human race.

Frammento by Bussotti may be thought to have the same intention. The range of vocal styles is less but the variety of languages more; the accompanist abuses the piano in more ways than was thought of by Henry Cowell but to less evident purpose. "Frammento," we are told, "is for voice and orchestra rather, as on this recording, voice and piano. The principle of the entire cycle is its non-economy... In context it functions as an isolated fragment. The piano adaptation was written by the composer himself, who thereby thought to establish the piano arrangement as an autonomous compositional genre..."

I leave it at that. When it was performed at the Berio Monday

*(Continued on page 28)*
Unexpectedly, the installation of sculpture in the Guggenheim Museum turns out to have a breathtaking effect. Director Thomas M. Messer has used the spiral ramp inventively, allowing certain sculptures to stand free in the alcoves, others to stand close to the curving walls, and still others—the mobiles and wrought-iron of Calder and Chillida—to float in the asymmetrical spaces provided by Frank Lloyd Wright.

The museum’s entire sculpture collection, spaced thoughtfully as in the current exhibition, emerges as a varied, non-historical group with a large number of superb pieces. (Notably the eight marble and wood sculptures by Brancusi, the Modigliani, several Calder mobiles, and works by Gabo, Arp, Giacometti, Duchamp-Villon, Paolozzi, Noguchi, Maillol.) Because of the curving ramp and walls, Messer and his staff were obliged to figure out the suitable angle for exhibiting each sculpture, and build stands accordingly. The result is a brilliant ensemble which allows the spectator to view each sculpture in optimal light and from the most effective vantage point. Wright’s eccentricities enforce invention and originality in installation.

1. Isamu Noguchi: LUNAR; 1959-1960, anodized aluminum, 70½" high
2. Eduardo Chillida: FROM WITHIN; March 1953; forged iron, 38½" high
3. Constantin Brancusi: MUSE; 1912, marble
4. Dimitri Hadzi: HELMET V; 1961, bronze, 75" high
The starting-point of this discussion is that all is not well with the world. This conclusion is reached in the diverse but equally probing discussions of seminar and coffee bar; it is the frequent burden of academic lectures and soap-box harangue; it is the verdict both of the yellow press and of responsible journalism; it is the moral drawn in the popular magazines and the more esoteric journals. The kaleidoscope of fact and opinion whirls, and the resultant picture of the world is depressingly chaotic. Whatever one's standpoint, whatever one's sources of information, whatever one's frame of reference, one's image of civilization in the 20th century reveals disruption in all spheres: political, social, economic, racial, linguistic, cultural, religious.

The cold war has become a permanent institution and we seem committed to an indefinite future of hostility and tension. The barriers between man and man, the iron and bamboo curtains, the ideological cleavages, and the fundamental conflicts of economic interests seem to have become entrenched features of our lives.

The monolithic cohesion of the empire has gone, to be replaced by the unstable atomism of emerging nationalism. How many tongues do the people of the world speak? How many frontier posts are there, how many customs barriers, how many currencies, how many systems of weights and measures? Every national flag that flies, every passport, visa, carnet, triptych, tariff, import quota, export license, currency control, every change in the rule of the road bespeaks another aspect of the inherent tribalism of world structure.

Let us not be beguiled into thinking that tribalism is altogether a good thing. Let us not be seduced by the myth of the noble savage, nor by Engels' eulogy of the social unity of the tribe. Such unity was achieved at the cost of inter-tribal antagonisms leading to mutual destruction; and if the glory of Athens was the result of such tribalism, so even more directly was the disaster of the Peloponnesian wars....

It is because of the narrowing down of the area of unity that our world now presents a picture of disintegration. It appears to be breaking up into ever smaller fragments, ever more isolated particles. Are we in the process of reducing to the ultimate unit, man alone and afraid?

As individuals we each have our own unique purposes derived from the code-script of our genes, perhaps the only basis of permanence in the world. The world which we perceive is perceived in terms of this unique purpose and also in terms of our own unique background of experience. It has been argued that as all perception depends thus upon unique experience and purpose no two men perceive the universe in the same way. We are thus all unique individuals with our own private vision. Yet, as Smuts tells us: "Pure individualism is a misleading abstraction; the individual become conscious of himself only in society."

Society as a co-operating organism poses the question of communication—or in Kelley's phrase, communion—between individuals. Communion is defined as "the appreciation so far as possible of the position, point of view, and attitude of others," and is regarded as essential to any sharing of purpose. To achieve communion channels of communication must be established. Communion on a broad basis demands universal media of communication.

If anyone has realized the potentials of universal channels of communication it is, alas, the man of commerce; and mass media of advertising, particularly in the press and television, rely more and more upon the reiterated communication of ideas. Mass communication of this sort, unfortunately, is a corruption of our aims for it brings about not communion but conformity. It brings about not appreciation of the other man's point of view which is our definition of communion, but acceptance without understanding through coercion, which is conformity, a corruption of social purpose. This would appear to be confirmed by man's instinctive protestations of individuality in the face of the most ruthlessly enforced conformism. It is in fact this vigorous reaction against conformity which has given rise to the extreme manifestations of disintegration which we have been examining. It is thus no coincidence that the consolidation of the world into great power blocks has paralleled the phenomenon of a rising nationalism resulting in ever smaller sovereign states. Similarly, diversification in architecture may be seen as a direct reaction to the anonymity of architecture imposed by economic forces and industrial process.

An effective way to the establishment of general intentions in a society which does not naturally generate common purposes, and an effective way to enhance our understanding of such established general intentions is to improve our channels of communication. All channels must be improved, but as artists and architects we should perhaps pay particular attention to vision. It is a truism that sight is the sense through which architecture is chiefly comprehended. In fact vision is the most important sense, as action depends upon perception, and through visual perception we are
ADMINISTRATION AND RESEARCH LABORATORY BUILDING

BY DANIEL MANN, JOHNSON AND MENDEHALL, ARCHITECTS AND ENGINEERS

In this building which was to house both the administrative offices and the research and engineering laboratories of the Nortronics Division of Northrop Corporation, the architects designed the major portion of the structure as simple open office area, uncomplicated by stairways and plumbing. The complex and costly part of the installation is all confined in a very small area of the poured-in-place concrete core. Additional stairways are then provided on the outside of the wings where they do not interfere with the basic structure of the wings. The core is essentially a five-story, square structure with cantilevered slabs on each side. The walls of the core being largely solid serve as the principal shear walls for the entire building. To avoid unnecessary penetration of these poured-in-place walls, mechanical equipment is placed on each floor on the cantilevered section of the core so that it may feed directly into each floor of the building and have unimpeded access to the outside air. By adopting this technique, the costly portions of this structure are all concentrated into a relatively small space and an overwhelmingly large part of the building becomes a very simple structure.

Structurally, the building is divided into three distinct sections. The central core structure utilizes reinforced concrete beams and bearing walls and one-way concrete slab. The engineering space consists of two wings, 80,000 sq. ft. in area, one on either side of the central core. The satellite lobby building is a reinforced concrete flat slab with stiffening ribs over the four column lines. The columns are cantilevered from the ground and are the only supports for the slab.

In the erection of the structure Nortronics required certain features and architectural details that would give both distinction and excellent working conditions. The satellite lobby has a luminous ceiling, both inside and outside, and extensive sculpture detail. A half-acre, exposed aggregate plaza extends out from the main building which features curtain walls of tinted glass with colored aluminum frames. The entire structure is completely multi-zone air conditioned. The auditorium for meetings and films is provided with a projection booth and a fully equipped sound system.
These houses were designed to give the optimum of privacy for a group of high-standard, middle-income, urban-living individuals. It is the designer's belief that there are two good solutions only for city living. One is the high-rise apartment buildings, to be built in a park; the other is low, court houses without exterior windows. These eight houses were designed in accordance with the second solution.

There are eight houses in two rows. Each house has 1,500 sq. ft. of living space plus 480 sq. ft. of exterior space. They are designed in a manner of a small village with each house having a common entrance court from the south end.
sq. ft. of a completely enclosed atrium. For reasons of function, cost, use of land and architectural simplicity, the basic structure became four 15'-wide rectangular rings built around a rectangular court or atrium, 24' x 40'-8". Each ring was then divided into two dwelling units by building a masonry wall across the middle of the rectangular ring and through the court. This provides the flexibility of combining two units to be one large unit. Two complete rings together form two rows of four dwelling units each.
The site of this Catholic church, for a growing community twenty miles south of San Francisco, is a large basin enclosed by a stream and dense trees on the north and west sides, and by high hills to the south. To the west the site opens onto a residential development, providing direct access. The size of the site and the terrain promise retention of the natural beauty of the surroundings despite future growth of the surrounding community.

The architects were asked to design a church seating 1000 persons, master planned as part of a proposed parochial center, including rectory, convent, school and recreation center. The church and rectory are to compose the initial phase of construction.

From all aspects the circular form expresses, in spirit and in substance, the powerful liturgical focus of the altar. At the same time this church “in the round” brings the maximum number of people into union with the sanctuary. The modeled skeletal structure of reinforced concrete gives dynamic and direct external expression, while the suspended “canopy” of plywood shells provides a great internal domed space for worship. This sheltering canopy, with warm wood surfaces, is rimmed by a nearly continuous and unobstructed view into a quiet sunken garden. This garden is visibly contained within the church proper by the extended radiating structural arms of concrete. The canopy opens up again to this concrete structure in the central lantern, pierced by the single ascending shaft of the cross.
CONSTRUCTION, MATERIALS, EQUIPMENT

Structural frame: Exposed arch ribbed dome, precast reinforced concrete.
Roof: Plywood hipped folded plate shells.
Roofing: Neoprene, textured and colored.
Ceiling and soffit: Douglas fir Texture 1-11 plywood, stained.
Floors: Concrete slab on grade, exposed pebble finish; brick pavers in sanctuary.
Exterior Walls: Plate glass.
Screens: Natural finish fir battens over acoustical blanket.

Pews: Natural finish oak plywood on tubular steel supports.
Main Altar: Marble top and mosaic sides on concrete base.
Heating: 4 separate gas-fired unit heaters in concrete pits on the church periphery supply warm air.
Electrical: Primary direct illumination by incandescent cone-shaped fixtures, 3 per shell; indirect lighting of lantern by recessed fluorescent fixtures; special lighting of sanctuary by a "wheel-like" chandelier serving also as baldachinum for the high altar.
HOUSE BY WENDELL H. LOVETT, ARCHITECT

This small house for a single person is located in a beautifully wooded area in the Northwest. The steep site suggested placement of the house near the road with the principal outlook from interior spaces directed westerly into a wooded ravine. Budget limitations dictated a simple structure and compact plan solution. A degree of elegance and refinement of detail had to be achieved with simple means.

The structure is of Douglas Fir posts and beams 8' on centers. The beams, 4" x 12", cantilever approximately six feet beyond the concrete foundation walls. The posts are composed of two 2" x 4"s with a 2" x 3" between them. The cement-asbestos insulating wall panels are held in place by the 2" x 4"s of the built-up posts. The remaining exterior walls are of glass or scored Douglas Fir exterior plywood stained a dark brown. The roof decking is 2" x 6" tongue-and-groove Douglas Fir stained a warm gray. Interior walls are white or dark blue painted plasterboard. Cabinets of mahogany plywood are finished with natural stain-wax. A steel “Firehood” fireplace designed by the architect is finished in a textured brown porcelain. A wood screen of 1" x 2" fir strips is suspended from the east exterior of the house in order to provide additional privacy.
A NEW GOVERNOR'S MANSION

WORLEY K. WONG, F.A.I.A.
ALLEN DON FONG, A.I.A.
HARRY W. NAMITZ, A.I.A.
TERRY TONG, A.I.A.
OF THE FIRM CAMPBELL & WONG & ASSOCIATES
We show here the first award in the architectural competition for the new Governor's mansion in Sacramento, California. The award was made by a jury consisting of Pietro Belluschi, dean of the school of architecture and planning, Massachusetts Institute of Technology, who served as chairman; Frank W. Kent, director of the Crocker Art Gallery, Stephen C. Pepper, professor of philosophy, emeritus, University of California; and Lutah Maria Riggs, architect. William W. Wurster, dean of the college of environmental design, University of California, and Daniel J. Nacht, architect, served as the professional advisers.

The winning design was chosen from a group of ten designs selected by the jury in December 1961 from among the 197 entries submitted in the first stage of the competition. For its own guidance, the jury had set certain criteria of excellence which it summarized as follows:

A sense of appropriateness and dignity expressed without pompousness;

avoidance of the bizarre; serenity without dullness; an understanding of good architectural composition and of the role of space as an element of architectural excellence; a sensible recognition of the special climatic conditions of Sacramento without exhibitionism; a clear understanding of structural discipline which yields both economy and clarity;

A concern for proportions and for scale which must be domestic without relinquishing order and dignity which are necessary in a building striving to become the visible symbol of government; intelligence in interpreting the various roles of the political head of state, and the need for privacy for himself and his family; a respect for the California tradition without the slavish copying of its more obvious externals; the quality of movement in space as it visually unfolds upon the visitor; finally, and essentially, the orderly imaginative, yet economical relationship of all parts and functions which were the mandatory requirements of the program.

(Continued on page 28)
UNITED STATES SCIENCE EXHIBIT—CENTURY XXI EXPOSITION

DESIGNED BY FREDERICK USHER AND JOHN FOLLIS ASSOCIATES

Woven into the history of exhibitions is the thread of purpose, varying from mere public showings of a region or country's wares with little more than the function of display, to the recent past when exhibitions started to focus on instruction and serve as communicators of information new to the general public. The Seattle World's Fair, which opens on April 21, 1962, expects to accomplish some of the general objective of increasing the public awareness in the general area of science. The models and demonstrations will include a new dimension not explored extensively in such an undertaking to date, that of providing self-participation without benefit of supervision, especially for children interested in the world of science.

The lack of bulk in the exhibition is a particularly significant factor not to be overlooked. Not too many years ago, the success of an exhibit was equated in part with its size. Today, through various developments of miniaturization and sophistication of presentation, concepts are demonstrated in much the same way that machinery was displayed previously. Working models show processes and demonstrate principles.

In the United States Science Pavilion, the visitors will see the work of the country's leading designers whose challenge was to show clearly to the laymen, in terms of science, the explanations of principles which underlie everyday decisions made by industry and government today.

(Continued on page 28)
CALIFORNIA DESIGN 8

The California Design Exhibition will be shown at the Pasadena Art Museum from March 25 through May 6.

In a modern democratic and competitive society time and skill are at a premium, and it sometimes seems that we are on the verge of a mechanization in which the mere beauty of the things we use will no longer enter at all into their design. Fortunately, we are rescued from that unhappy fate by the many men and women who do care about good design and have dedicated their lives to the creation of functional objects that are also distinctive in appearance. To these people, among them the exhibitors in CALIFORNIA DESIGN 8, we owe whatever beautiful usefulness we encounter in our contemporary surroundings.

California is peculiarly sympathetic to the ingenuity and daring essential to the formulation of new design concepts. The open landscape and warm climate encourage the craftsman and designer to think on a large scale, for the embellishment of gardens, patios and outdoor walls, with huge concrete planters and ceramic pots, for example, and wall panels of clay, glass, metal and enamel, metal fountains and large Fiberglas play equipment. The youthful outlook of Californians frees them from restrictive tradition and stimulates the search for new forms to express contemporary ways of life, and one can find in this exhibition a private helicopter, a kitchen unit containing stove, sink, refrigerator and storage compactly enclosed in a finished walnut cabinet for apartment living, a complete Fiberglas platform for skin divers, and an electric car for shopping trips. Engineering industries are abundant in California, and many designs take advantage of technological improvements these industries have made in the use of materials such as aluminum, plastics, and concrete. Contact with the Orient has brought designers an understanding of proportion and craftsmanship, especially in ceramics and furniture, that is noticeable in many current designs.
1. BLACK LEATHER AND WALNUT BENCH WITH LEATHER BOLSTERS DESIGNED BY FERNAROJ; METAL, LEATHER AND WALNUT CHAIR BY PAUL TUTTLE; GLAZED MAT BLACK URNS BY JOHN FOLLIS FOR ARCHITECTURAL POTTERY; CERAMIC WALL PLAQUE OF STONEWARE PLUGS WITH GLAZED ENOS IN VARYING COLORS, BY DAVID CRESSEY; WHITE PORTUGUESE RUG, JN HEAVIEST GAUGE WOOLEN YARNS, DESIGNED BY DECORATIVE CARPETS, INC.; FABRIC BEHIND THE SOFA IS A PATTERNED WEAVE IN MAGENTA, YELLOW AND ORANGE BY MARIA KIPP; FABRIC TO THE RIGHT IS AN ORANGE PATTERN WEAVE BY WEB TEXTILES.

2. DOUGLAS NORTL’s “KINETIC CONSTRUCTION” WEATHER VANE, 10" HIGH.

3. HOOKED RUG BY JOHN MARKO, STAVED WOODEN SCOOP BOWL BY RICHARD ARPÉE; TWO SHELL CHARLES EAMES CHAIRS DESIGNED FOR HERMAN MILLER, INC., OF FIBERGLAS REINFORCED PLASTIC.

4. PROPELLER LIGHT, HANGING LIGHT OR SHADE DESIGNED BY DOUGLAS DEEDS; LIGHT FOLDS FOR EASE OF SHIPMENT, MAGMA PLASTICS, MANUFACTURER.

5. ”FAMILY ON WHALE,” STONEWARE SCULPTURE BY BERTIL VALLIN, DESIGNER-CRAFTSMAN.

6. GRAY JAPANESE LANTERN FIXTURE, EXPERIMENTAL USE OF FIBERGLAS AND POLYESTER RESIN; DESIGNED BY DINO WILLIAMS, THOMAS INDUSTRIES, MANUFACTURER.

7. WOOD PIECE READING FROM TOP TO BOTTOM AND LEFT TO RIGHT: SMALL TEAK BOWL BY JERRY GLASER; TEAK SALAD BOWL BY JERRY GLASER; BRAZILIAN ROSEWOOD SALAD SERVERS BY NORWOOD TEAGUE; TRIANGULAR BOWL OF MYRTLE WOOD BY ROBERT HARDY; HONDURAS MAHOGANY BOAT-SHAPED DISH BY NORWOOD TEAGUE; WALNUT BOWL BY ROBERT G. TROUT; ROUND BOWL OF COCOBOLO WOOD BY JERRY GLASER; COVERED BOWL BY ROBERT G. TROUT; BOAT-SHAPED CONTAINER, UNKNOWN WOOD BY NORWOOD TEAGUE; WALNUT BOX ON LEGS BY ROBERT G. TROUT; DOMINO SET TEAK AND METAL INLAY, BY DINO WILLIAMS; LIGNUM VITAE BOWL FROM NICARAGUA; EDGE OF PLATTER, JENISERO TEAK FROM GUATEMALA; WALNUT BOX ON LEGS BY ROBERT G. TROUT; PLATE, LIGNUM VITAE; TEAK AND METAL INLAY, BY DINO WILLIAMS; CERAMIC WALL PLAQUE OF STONEWARE PLUGS WITH GLAZED ENOS IN VARYING COLORS, BY DAVID CRESSEY; WHITE PORTUGUESE RUG, JN HEAVIEST GAUGE WOOLEN YARNS, DESIGNED BY DECORATIVE CARPETS, INC.; FABRIC BEHIND THE SOFA IS A PATTERNED WEAVE IN MAGENTA, YELLOW AND ORANGE BY MARIA KIPP; FABRIC TO THE RIGHT IS AN ORANGE PATTERN WEAVE BY WEB TEXTILES.

8. PLASTIC SHELL CHAIR WITH ALUMINUM FRAME, BEIGE CAPRA UPHOLSTERY, DESIGNED BY SELJE AND BOND FOR COSTA MESA FURNITURE COMPANY; DOMINO SET TEAK AND METAL INLAY, BY DINO WILLIAMS; LIGNUM VITAE BOWL FROM NICARAGUA; EDGE OF PLATTER, JENISERO TEAK FROM GUATEMALA; WALNUT BOX ON LEGS BY ROBERT G. TROUT; PLATE, LIGNUM VITAE; TEAK AND METAL INLAY, BY DINO WILLIAMS; CERAMIC WALL PLAQUE OF STONEWARE PLUGS WITH GLAZED ENOS IN VARYING COLORS, BY DAVID CRESSEY; WHITE PORTUGUESE RUG, JN HEAVIEST GAUGE WOOLEN YARNS, DESIGNED BY DECORATIVE CARPETS, INC.; FABRIC BEHIND THE SOFA IS A PATTERNED WEAVE IN MAGENTA, YELLOW AND ORANGE BY MARIA KIPP; FABRIC TO THE RIGHT IS AN ORANGE PATTERN WEAVE BY WEB TEXTILES.

9. GRAY JAPANESE LANTERN FIXTURE, EXPERIMENTAL USE OF FIBERGLAS AND POLYESTER RESIN; DESIGNED BY DINO WILLIAMS, THOMAS INDUSTRIES, MANUFACTURER.

10. HOOKED RUG BY JOHN MARKO, STAVED WOODEN SCOOP BOWL BY RICHARD ARPÉE; TWO SHELL CHARLES EAMES CHAIRS DESIGNED FOR HERMAN MILLER, INC., OF FIBERGLAS REINFORCED PLASTIC.

11. PROPELLER LIGHT, HANGING LIGHT OR SHADE DESIGNED BY DOUGLAS DEEDS; LIGHT FOLDS FOR EASE OF SHIPMENT, MAGMA PLASTICS, MANUFACTURER.

12. ”FAMILY ON WHALE,” STONEWARE SCULPTURE BY BERTIL VALLIN, DESIGNER-CRAFTSMAN.
CALIFORNIA DESIGN 8

designs in California. All of these elements, as well as the existence of outstanding craftsmen and designers in California, have brought enough industry into the area to make it, for example, the second largest furniture manufacturing center in the country.

In recognition of the importance of the craftsmen and the design industries in this area, the County of Los Angeles has for eight years provided a sizable grant to the Pasadena Art Museum for the purpose of presenting to the public an exhibition of distinguished California design. Year by year the show has grown in significance, until it has become one of the nation’s leading annual design exhibitions. The success of the program can be gauged by the substantial support which the home furnishings industry, the craftsmen of California and designers, both established and new, have given to the able leadership of this year’s exhibition.

The current show, occupying virtually all of the galleries of the Pasadena Art Museum, as well as the courtyard and the sculpture deck, is unprecedented in scale and scope. The co-Directors of the exhibition, Mrs. Paul J. Hanson and Mrs. Anson C. Moore, have enlisted the help of craftsmen, professionals in the design fields, manufacturers and many individual enthusiasts to assemble a monumental three-fold display of contemporary design in California. The three categories, designs manufactured for use in the home, crafts, and crafts related to architecture, are integrated in installation but distinguished by distinctive labeling. The design-for-manufacture section was selected from many hundreds of entries by a jury composed of the co-Directors of the exhibition and myself, with advice from

(Continued on page 30)
19. PARKER PATTERN AND FOUNDRY COMPACT MAINTENANCE TRUCK, FOR SCHOOLS, CLUBS, HOSPITALS, AND INSTITUTIONS: 3 1/2' WIDE AND 8 1/2' LONG; STEEL AND FIBERGLAS CONSTRUCTION; THE POTS ARE FROM THE FOLLOWING CRAFTSMEN: CARLETON BALL, HELEN WATSON, BERNARD KESTER, THOMAS FERREIRA, SHELDON KAGANOFF, KAYLA SELZER, PAUL BERUBE, BERTIL VALLIN, FRANK MATRANGA, CLIFFORD STEWART, RUEDA LONG, STEVEN SALIGIAN, LAURA ANDERSON, LOUIS MCLEAN, MICHAEL ANSZE, LOET VANDERVEEN, CHARLOTTE ARNOLD, PHILIP BARKDULL.

20. SKIN DIVER’S BOARD, FLOATING ISLAND OF WHITE FIBERGLAS, 18 1/2' LONG; THE BOARD IS DESIGNED WITH A HOLE FOR AN ANCHOR AND RECESSES TO HOLD SURFACE GEAR; DESIGNED BY WILLIAM FLANAGAN FOR ARCHITECTURAL FIBERGLAS PRODUCTS.

21. ALUMINUM BASE ARMCHAIR WITH BORIS KROLL WOOL, COTTON AND VISCOSE FABRIC; BY GEORGE KASPARIAN FOR KASPARIANS, INC.

22. WRITING BOX BY "ESPENET," HANDCRAFTED OF CALIFORNIA WALNUT WITH DRAWERS LINED IN FELT.

23. "SEATED GIRL," DARK STONEWARE BY CLIFFORD STEWART, DESIGNER-CRAFTSMAN.

24. "ELEPHANT," CARVED STYROFOAM COATED WITH EPOXY RESIN; PROTOTYPE FOR MANUFACTURE; BY BARRY W. WILKINS, DESIGNER.

25. HANDCRAFTED DOMINO SET IN TEAK, DOTS OF INLAID SILVER, MATCHING TEAK BOX, WITH CRIBBAGE BOARD INSIDE OF THE LID BY "ESPENET."

26. KIPP STEWART’S TUB CHAIR DESIGNED FOR DIRECTIONAL CONTRACT FURNITURE CORPORATION, WALNUT CURVE LAMINATE ON A STAINLESS STEEL SWIVEL BASE PEDESTAL, UPHOLSTERED IN DARK ORANGE LEATHER.

27. QUILTED APPLIQUE EMBROIDERY ON COTTON BY JEAN RAY LAURY.

28. CERAMIC BIRD HOUSES, DESIGNED BY STAN BITTERS.

29. BLACK, BLUE, AND ORANGE TAPESTRY DESIGNED BY MARK ADAMS AND EXECUTED BY THE CRAFTSMEN AT AUBUSSON; CHAIR AND OTTOMAN OF BLUE ENAMELIZED METAL WITH INSET FRAME WITH WOVEN REED ON BOTH FRONT AND BACK BY WEB WILLIAMS.

30. TABLES, SHOWING A NEW TECHNIQUE OF INLAYING PLASTIC AND WALNUT; LEFT: ORANGE AND MUSTARD PLASTIC, WALNUT BANDING, HIGH-LOW 17" TO 35" STEEL BASE; RIGHT: ORANGE AND MUSTARD PLASTIC WALNUT INLAY, CHROME LEGS; DESIGNED BY HOWARD MCNAB AND DON SAVAGE. STEREO CABINET, PROTOTYPE BY VIRGIL ELSNER, SHELVES ARE ADJUSTABLE AND DOORS REMOVABLE; OTHER SIDE PANELS SLIDE UP AND OUT. "WARRIORS" TAPESTRY BY JOHN SMITH; STEP LADDER OF ALUMINUM ANODIZED GOLD, BY HENDRIK VAN KEPPEL FOR VAN KEPPEL-GREEN; NAT WHITE GLAZED POTS ON WALNUT BARE. BY MALCOLM LELAND FOR ARCHITECTURAL POTTERY.

PHOTOGRAPHS BY RICHARD SHORE
BOB MARTIN
WILLIAM HOLZ
Flexibility was the principal requirement demanded of the Knoll Planning Unit in designing this showroom of approximately 1000 square feet for Dow's Textile Fibers Division. To accommodate frequently changing displays of a wide variety of Dow fiber products, the designers utilized sliding panels, multiple ceiling tracks, movable screens and wall panels which close to form storage closet or fold back to expand the floor area. Small portable platforms are also provided to create a shallow stage for fashion show presentations.

Furniture is kept to a minimum and decorative accents are generally incorporated into architectural elements to enhance the sense of uncluttered spaciousness. A neutral color scheme of beige or white provides an unobtrusive background for displaying diverse patterns and vivid colors. The lounge chairs and coffee tables were designed by Florence Knoll; the single pedestal furniture by Eero Saarinen.

Decorative focal point of the showroom is a fanciful floor-to-ceiling wire cage, visible through the glass entrance doors from the elevator lobby. Lacquered white, it holds a colorful display of some of Dow's basic fibers and yarns.

The structural building columns which emerge at the center of the showroom are encased and treated as decorative elements. An enlarged black and white photomural of a seventeenth century German fashion plate, also intriguingly visible from the lobby, is mounted on the rear column. Facing side of column in foreground is extended and fitted with a light panel to provide setting for a changeable display of color transparencies. Two free-standing two-panel screens, placed here to create four right angle niches, can be combined in a variety of ways for display purposes. Fabric-wrapped panels on both sides snap easily into the metal frames, facilitating display changes. The screen can also be used to close off the showroom from the entrance to the reception and office areas during private showings. A full-length light wall lines the far side of the showroom. Three rows of floor and ceiling fluorescent strips are mounted behind overlapping panels of translucent Fiberglas, suspended from ceiling tracks. Two other tracks provide for mounting of fabric lengths and special displays. Behind the light wall is storage space for fabrics and for eleven three-foot square platforms, three inches high, which can be lined up in front of the light wall to create a shallow stage for fashion shows.
The hexagon presents itself as an organic module primarily because of its appropriateness as a form in which to congregate. This is reinforced by the momentum of the liturgical movement; the concern is for participation. Geometrically, the hexagon can grow organically as does the structure of a beehive. Here is a form not found in everyday secular life. This sets the experience of worship apart.

A further, important consideration for such a module is the pattern of intermittent architectural expansion. The first unit must be strong and integral in itself and yet imply the larger whole to come. The importance of a first unit with a dominant aspect of worship cannot be overstressed. In the most critical and formative years of the congregation a liturgical, architectural symbol is needed, not just a schoolhouse.

The materials proposed are white concrete for framework, a light, variegated, warm brick for walls, and stained glass for the continuous clerestory.

The entry courtyard and the low-ceilinged narthex slowly prepare the individual for worship in a hieratic approach to the sanctuary.

The trapezoidal classrooms are felt to be not unreasonably shaped for their function. No plan including so many separate rooms could exist without some corridors. They have been employed to reach the center of the classroom clusters.
MUSIC
(Continued from page 7)

Evening Concert I thought it pretentious rather than funny; maybe it's serious. The record does not change my opinion.

Last year I was host to the Japanese composer Toshiro Mayuzumi during his visit here as a guest of the State Department. He is a sophisticated student of European and Oriental music, though he does not compose in Oriental media, and an admirer particularly of Edgard Varese. Recently he has conducted Cage's Concert in Japan.

His Nippon Symphony, which he played me at the time from a Japanese record, has been reissued, including some rather unattractively recorded passages from the original tape, as the fifth record of the Time series. The performance is by the Nippon Hoso Kyokai (Japanese Broadcasting Corporation orchestra) conducted by William Schuechter. Mayuzumi has brought together the sounds of large Japanese temple bells translated into music for symphonic orchestra and the voices of Buddhist priests reciting the Sutras, composed as music for chorus. He describes the result as a sort of Buddhist cantata. The symphony is large, well worked for orchestra and voices, conservative in design and outline, and should be quite enjoyable for listeners who would reject out of hand at least three of the four other Time records. None of them are really hard to listen to, and the percussion record should delight anyone from the age of two up.

I should like to mention here a performance of three movements of the Third Piano Sonata by Pierre Boulez played by Leonard Stein at a recent Monday Evening Concert. Mr. Stein played the Sonata with a solid earnestness and command beyond anything I have before heard from him and was deeply dissatisfied by his playing. He has offered to play it for me again, and I shall take him up on the offer. The music seemed to me well suited to the pianist, and I doubtless I have), receiving for these pleasures a deserved audience ovation.

Since writing this article I have received a sixth Time record, the great Concord (Second) Piano Sonata by Charles Ives, recorded by Aloys Kontarsky as if he had worked it up intelligently but in a hurry. Mr. Kontarsky, a young pianist who has gained reputation playing at European festivals of contemporary music, may have asked what was the most important American work for the piano and gone on from there. The size, the weight, the breadth of melody, the many inter-relationships of kind and degree that bind together the four movements and 45 minutes of the Sonata into a unified composition, are generally missed. He plays well and best the small third movement, The Alcotts. He introduces, following the composer's suggestion, obbligato viola and flute for short sketches in the first and fourth movements but provides no body of melody for them to ride on. When will musicians learn that the music of Ives is "primitive" only in inadequate performance?

A NEW GOVERNOR'S MANSION—CAMPBELL & WONG & ASSOCIATES

THE ARCHITECTS' STATEMENT:

In our conception of the Governor's Mansion we wanted to design a building of elegance and dignity to serve as a visible symbol of government and yet scaled and proportioned to serve the domestic function of a private residence for the Governor of California. We wanted to recognize and respect the traditional planning and design elements of California architecture and incorporate into them our scheme without being eclectic.

The plan of the mansion is a simple two-storied square with a court in its center. An arcade completely surrounding the perimeter offers shade and protection from the climate. Respect for family privacy and various functions of State are defined and separated in plan. Two separate parking courts and entrances are provided in plan, one for the State and one for the family. The state areas are boldly scaled and integrated with the open court which flows into the state living and dining area which have ceilings two stories in height. The family areas are intimately and domestically scaled. All major rooms are oriented toward the west and south, recognizing the future park and lagoon which will eventually encompass the mansion site.

The parking courts and exterior patios are treated as roofless exterior rooms, brick-paved and brick-walled for privacy. The structure of the exterior walls are whitewashed brick. The roof and floors are of fireproof steel framed with concrete slabs over steel decking. The building will be completely air conditioned.

JUNIOR SCIENCE LABORATORY—CENTURY XXI

Working originally under the general establishment of a framework set up by the late Walter Darwin Teague, the government of the United States, with Dr. Athelstan Spilhaus as commissioner, assigned spaces in the pavilion complex to individual designers to develop. The buildings are designed by architects Minoru Yamasaki and Associates, and Naramore, Bahn, Brady and Johanson.

Included in the Science Pavilion are the major exhibitions designed by Walter Darwin Teague Associates, Charles Eames, Raymond Loewy Associates and Frederick Usher, John Follis and Associates. In addition, the pavilion includes the Boeing Spacearium, which takes visitors through a simulated flight into outer space. A special film presentation depicts on six movie screens different but related
images simultaneously. The film condenses the development of science and some of the attitude that has made the scientific discipline.

The Children's Science Exhibit, shown here, permits the children who visit the pavilion to explore the scientific concepts and principles which seem significant and which can be performed dramatically for three-dimension presentation. Concern for self-participation which requires little or no supervision carries this exhibit into the level of performance not given to a major world's fair previously.

Fabrication of the models itself included such design problems as how to build an Auditory-Visual Stethoscope to demonstrate the individual's electrocardigram and phonocardigram. The shape of the display is a free form and it should be relatively light in weight. The result as developed by Usher and Follis (#25 on the exhibit plan) is formed of Fiberglas and finished with a thin coating of molten aluminum sprayed on the form. The aluminum has the function of keeping out ambient electrical disturbances in the room. The large piece of sculpture which this demonstration becomes serves as a reference point in the exhibition area. All models and demonstrations are considered in the scale of children for whom the exhibit is planned.

The orderly arrangement of the 26 different display areas of the science exhibit invites the visitors to exercise initiative and freedom throughout the experience of discovering one after another the series of demonstrations. No particular sequence is intended for the visitor. The numbers of the exhibits provide identification but do not indicate sequence. Through careful attention to detail the designers permit children to view and review and spend time at their individual paces.

A series of microscopes are equipped with slides which show sequences of development of life and other examples of interest. These multiple slide binocular zoom microscopes include slides of living specimens which can be changed any time by the supervisors. Besides providing the visitors this opportunity to sit and observe through the microscopes (#18), the designers mounted on the wall facing the installation complete graphic and written descriptions of the material.

Certain decisions of what principles to include were based on the ability to show in three-dimensional form the ideas involved.

Bernoulli's principle, for instance, provides an opportunity of showing how a baseball can be pitched to curve (#5). A device to teach optics, the light machine (#3) permits the participant to turn two knobs, one to bring a new object into the light and the other to rotate the object.

The precision of the craftsmanship involved in making the models and demonstrations is an education factor in itself. The complete and overall attention to detail shows the children (and adults) the importance of good workmanship and the place in the world of science for pride in the quality of craftsmanship. Machined parts are tooled with jewel-like precision. Molded forms are smooth to touch and feel.

Included in the exhibit in the children's area are individual mechanical movie projectors with short films on mathematical subjects. These shows, designed by Charles Eames, are on loan from International Business Machines (#26).

The Atom Smasher (#16) is included through the courtesy of the University of California. Through the cooperation of the Bell Telephone Laboratory, General Dynamics Corp. and Spinco, division of Beckman Instruments, other exhibits were developed which otherwise could not be included because of the budget limitations.

Through the exhibit which includes demonstrations and models of the Lunar Orbit Gravitational Well (#15), Trips to other Worlds (#17), Ant Nest (#19), Crystal Growth (#22), Micro-Organisms (#23) and others, the children receive basic explanations of principles which most of the participants' parents will not comprehend. In such in-
The essence of the children's exhibit is that a communication between the exhibit and the child permits the participant to explore in his own time and space the principles of science which are taking him into the spaces which are increasingly finite.

CALIFORNIA DESIGN 8
(Continued from page 24)

professional designers in the Advisory Committee. In addition to new products already being manufactured, designers contributed many prototype designs that have not yet reached the quantity production stage. Selection was based on freshness and originality of design as well as the integration of design and function. The crafts and crafts related to architecture sections were juried by members of the Southern California Designer Craftsmen, with outstanding craftsmen from other parts of California invited to participate without being juried. Many craftsmen have created pieces especially for the exhibition, among the most important being hand-carved wooden doors, a metal fountain, architectural wall sculpture, stained glass panels, and a large, four-piece, lacquer screen. In all, over 750 pieces are included in the exhibition, which is surely the most impressive assemblage of good design from California ever presented.

It is most appropriate that CALIFORNIA DESIGN is held annually at the Pasadena Art Museum, as part of its active contemporary arts program. All boundaries in art are more or less artificial, and the useful arts are among the most vital in the world today.
DECORATIVE ACCESSORIES

(364a) Contemporary Clocks and Accessories: Crossroads Chimes Chimes contemporary clocks, crisp, simple, unusual, and of fine craftsmanship. Includes a wide range of stock sizes, and Arcadia aluminum sliding glass doors in stock and custom designs, including the Arcadia 500 sliding glass door for light construction. The details of the single glazed and insulated glass and all other well-known features of Arcadia doors and windows are presented in three catalogs—a 15-page catalog of sliding glass on windows and one dealing with the Arcadia 500 South Maple Avenue, Gardena, California. Write: Northrop Architectural Systems, 5023 Triggis Street, Los Angeles 22, California.

(357a) Furniture: A complete line of imported upholstered furniture and related tables, warehoused in Burbank and New York for immediate delivery: handcrafted furniture moderately priced; ideally suited for residential or commercial uses. For free brochure write to Dunbar Furniture Corporation of Indiana, Beverly, Hills, California.

(353a) norsk design: the Con-temporary collection of outstanding Norwegian imports. Upholstered furniture and related tables, dining groups, and occasional seating. Teak and walnut: included in the collection is an outstanding selection of contemporary furniture and the unique circular louver. Immediate delivery. For further information write Peter Jensen, Inc., 500 Santa Monica Boulevard, Beverly Hills, California.

(359a) Norwegian Furniture: Complete collection of outstanding Norwegian imports. Upholstered furniture and related tables, dining groups, and occasional seating. Teak and walnut; included in the collection is an outstanding selection of contemporary furniture and the unique circular louver. Immediate delivery. For further information write Peter Jensen, Inc., 500 Santa Monica Boulevard, Beverly Hills, California.

(355a) Office Furniture: New 80-page Dunbar office furniture catalog fully illustrated in black and white and four colors; complete line designed by Edward Wormley. Collection includes executive desks, storage units, conference tables, desk and conference chairs, upholstered seating, occasional tables, and chests, and a specially screened series of谈判 lighting and accessories; meticulous detailing, thorough functional flexibility. For free copy write to Dunbar Furniture Corporation of Indiana, Beverly, Hills, California.

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(351a) Furniture: Laverne Furniture, test-proven by leading architects and business organizations, has attained the status of a classic. A unique and distinctive group.—most californi and saddle leathers, precision steel and wood, etc. in our modern stock sizes, and Arcadia aluminum sliding glass doors in stock and custom designs, including the Arcadia 500 sliding glass door for light construction. The details of the single glazed and insulated glass and all other well-known features of Arcadia doors and windows are presented in three catalogs—a 15-page catalog of sliding glass on windows and one dealing with the Arcadia 500 South Maple Avenue, Gardena, California. Write: Northrop Architectural Systems, 5023 Triggis Street, Los Angeles 22, California.

(353a) Furniture: A complete line of imported upholstered furniture and related tables, warehoused in Burbank and New York for immediate delivery: handcrafted furniture moderately priced; ideally suited for residential or commercial uses. For free brochure write to Dunbar Furniture Corporation of Indiana, Beverly, Hills, California.

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(368a) Recessed and Accent Lighting Fixtures: Catalog, data and engineering drawings of Prescolite Fixtures; complete range contemporary designs for residential, commercial applications; exclusive Re-lamp-a-lite hinges 30 seconds to fasten trim, install glass or re-lamp; easy to install. Builder and owner acceptance, well worth installing—Prescolite Manufacturing Company, 2229 4th Street, Berkeley, California.

(401a) Multico Beafe, an advanced baffling concept eliminating brightness caused by interferences between the conventional horizontal baffles plates. The light is allowed to pass through the perforated cylinder instead of being trapped within the area of a baffle. The beveled baffles project upwardly, rather than toward the customary horizontal. These innovations reduce light bounce and glare. Write for Catalog No. 131 to Marvin Electric Manufacturing Company, 648 South Santa Fe, Los Angeles 31, California.

(339a) Lighting Equipment: Booklet available on the "C.I. Board" (Century-Illuminor Board) first all electronic system for stage lighting control. Main elements are preset panel, console desk, and tube bank. Advantages include adaptability, easy maintenance. Write to Century Lighting Inc., 521 W. 43rd St., New York 36, New York.


(306a) Acrylite: New catalog available from Acrylite, an important new material for interior and exterior design. Acrylic sheets in a variety of shapes, textures and colors. Write for Catalog No. 131 to Marvin Electric Manufacturing Company, 648 South Santa Fe, Los Angeles 21, California.

(305a) Lighting Equipment: Skydome, basic Wasco toplighting unit. The acrylic plastic dome floats between extended aluminum frames. The unit, factory assembled and shipped ready to install, is used in several Case Study Houses. For complete details write Wasco Products, Inc., 933 Fawcett St., Cambridge 38, Massachusetts.

(255a) Kaiser Aluminum, for Products & Manufacturing, has a new 34-page booklet containing up-to-date information on Kaiser Aluminum mill products and services. Includes data on aluminum alloys, forms, properties, applications and availability. An abundance of tables and charts throughout provides convenient reference material. Booklet may be obtained from Kaiser Aluminum & Chemical Sales Inc., Industrial Service Div., Dept. AA, 12041 Wilshire Boulevard, Los Angeles 24, California.

(333a) Pryne Bio-Fan—Ceiling "Spot" ventilator. Newly available information describes in detail the principles and mechanisms of Bio-Fan, an effective combination of the breeze fan and the power of a blower in which both features are both utilized. Includes many two-color illustrations, helpful, clearly drawn diagrams, specifications and examples of fans of various types and uses. Bio-Fan comes in three sizes for use in various parts of the house and can also be combined with a central heating unit. For full and attractive brochure, write to Pryne & Co., Dept. AA, 140 North Towne Avenue, Pomona, California.

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