Back in the cluttered and overstuffed thirties, a juke-box-like radio could be camouflaged in a maze of fringe and bric-a-brac. Today, however, modern interiors with their clean, graceful lines are more exacting on furnishings. That is why Motorola has placed new emphasis on Furniture Styling. Here are radio cabinets designed by interior decorators and built by furniture craftsmen to take their place as a lovely piece of furniture in your home. Furniture Styling plus Motorola engineering makes the best listening radio the best looking too!

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the FURNITURE STYLED Radio

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**Famous Model "PLAYMATE JR."** 1948 Version! Everything in miniature except the big, radiant TONE. AC/DC or battery operation. "Aero-Vane" loop antenna. A powerful radio the size of a small camera.

**Beautiful "PICTURE Frame" TABLE MODEL.** "Furniture Styled" in fine Prima Vera wood. Beautiful mello-bass. Console-like tone quality. 5-way slide rule dial AC/DC. sheer beauty if performance and appearance.

**A STRIKING NEW MOTOROLA FM/AM RADIO-PHONOGRAPH IN A & A'S CASE STUDY HOUSE NO. 17**

See it . . . you'll want it! Hear it . . . you'll never be satisfied with any other! Exclusive Motorola Golden Voice tone. Shadow-silent record changer with automatic shut-off. Push button tuning for both FM and AM. Radar-type FM tuner holds station at exact tune. Furniture Styled beauty in dark or blond finish. See it at your Motorola dealer's soon.

Table Model Automatic RADIO-PHONOGRAPH. Featherlight tone arm. Shadow-silent changer plays 5 or 6 inch or 3 twelve inch records. Brilliant, blue record reproduction. Simply wonderful.
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YOUR POST-WAR Western-Holly GAS RANGE WILL SOON BE HERE

7 Wonders will make its cooking performance revolutionary!

Fully automatic - built to G standards

WATCH FOR IT!
Identify it by the Blue Ribbon

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You'll find it only at Barker Bros... Precedent... the new flexible, adaptable, contemporary furniture made by Drexel, designed by Edward Wormley. It's warm, personal, friendly, comfortable, *useful* furniture that blends with any scheme... here in complete ensembles.

**Precedent by Drexel**

MODERN SHOP, FIFTH FLOOR  BARKER BROS.
SEVENTH STREET, FLOWER AND FIGUEROA
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CORRECTIONS—PLEASE NOTE

The Conover House on Pages 32 and 33 of the June issue of Arts & Architecture should be credited to Mario Corbett, Architect.

The landscape architecture for projects on pages 28-29, 38-39-40 of the same issue is from the office of Thomas D. Church, Landscape Architect.
CURRENTLY AVAILABLE PRODUCT LITERATURE

Editor's Note: This is a classified listing of currently available manufacturers' literature. To obtain a copy of any piece of literature, list the number which precedes the item regarding which the copy appears on Page 41, and give your name, address and occupation. Return the coupon to Arts & Architecture, and requests will be filled as rapidly as possible.

APPLIANCES

(55) Bauer Manufacturing Company: Brochure line electric water heaters; good design.

(56) Continental Water Heater Company: Concise folder gas storage water heaters; installation, specification data; good working information rating line.

(57) Department of Water & Power: Brochure, folders, data electric appliances; good source of information on all-electric houses; rate information available.

(176) General Electric Company: Brochure full details General Electric Disposal-Dishwaher combination; food waste shredded, flushed into sewer; can be used with septic tank; good product, worth appraisal.

(172) General Electric Company: Brochure on freezing foods, how to prepare, package, freeze, cool; features General Electric Home Freezer; all steel cabinets; aluminum liners; leader in field.

(58) Given Manufacturing Company: Folder new Waste King automatic food waste shredder; makes it sink drain; odorless, clap-proof, safe; disposes of bones, fruit pits, fibrous foods; western manufacturer, available.

(59) The Hotpoint Institute: Portfolio personalized kitchen plans; profusely illustrated, detailed specifications, installation data; features all-electric kitchens; good selling by one of largest companies.

(60) Hoyt Heater Company: Brochure Hoyr "full heating" Everdur copper tank water heaters; specifications, capacities.

(61) Ingersoll Steel Division, Borg-Warner Corporation: Brochure (16 pages) new Ingersoll Unity Unit providing kitchen, laundry, bathroom, heating, plumbing, electrical lines; installation, specification data.

(107) Malliable Iron Range Company: Plan book for kitchens featuring Monarch Electric Roaster Ranges; kitchen designs full color; two ovens; good table-top design; well worth having.

(62) Nash-Kelvinator Corporation: Brochure new Kelvinator "Space Saver"; 50% more capacity in same floor space; cove; wide variety colors; prebuilt to specifications; heat, acid, stain proof.

(167) Perfectcool, Inc.: Illustrated booklet on home freezing featuring Tyler-Hardeen line; shows all models; worth investigating.

(63) Pioneer Water Heater Company: Folder Pioneer water heaters; Grayson controls, Fiberglas insulation, oven-baked washable glass finish; steel tanks electrically welded, galvanized.

(173) Rheem Manufacturing Company: Brochure Rheem water heaters, water heater controls, water heating units; good information on appliance; well designed, good engineering.

(64) A. O. Smith Corporation: Color brochure Smithway Permagas glass-lined water heaters; glass fused to steel; no rust, corrosion; sizes, styles, specifications.

(65) Southern California Edison Company: Brochure Literature all-electric houses, electrical specifications; well illustrated, informative; specifications; good source of information.

(177) Southern California Edison Company: Well illustrated, 8-page booklet electricity in house plans; full information electric appliances; one of best sources information.

(66) Sparkler Manufacturing Company: Folder Sparkler filters for residential tap water; removes chlorine, off-tastes, odors, sediment, color, rust, algae; installation, specification data; sensible new product.

(186) Thermador Electrical Manufacturing Company: Folders Thermador electric bathroom heaters; switch at top; well designed; wide range of sizes.

(187) Western Stove Company, Inc.: Brochures, folders all Wester-Holly ranges, including Town & Country eight-burner custom built; good contemporary design, well engineered; available immediately; should be in all files.

(67) Westinghouse Electric Corporation, Appliance Division: Brochure (24 pages) covering centers in multiple dwellings; tables give space requirements, hot water, gas and electric loads for Laundromat-equipped laundries.

(68) Westinghouse Electric Corporation: Folder new table-top water heater; electric, 40-gallon; displaces kitchen cabinet, provides 4 square porcelain enamel worktop.

CABINETS, COUNTER TOPS

(201) Coppes of California: Folders complete stainless surfaced kitchen cabinets; counters, Napanee custom built; in kitchen cabinets, Geneva kitchen sinks, counters, steel sub-base; tops stainless steel, Formica, heavy gauge aluminum, Durart; well worth investigating.

(202) Fabrilux Company: Folder Fabrilux sink tops, featuring moulded cove; wide variety colors; prebuilt to specifications; heat, acid, stain proof.

(203) Home Products Company: Folder Formica 16" cabinet tops; Formica or Textile; custom-built to specifications; stainless steel moldings, water-proof lock tight construction; stain-proof, acid, heat resistant.

(119) Formica Insulation Company: Folder Formica cabinet tops; colorful, spotproof, durable, sanitary; does not chip, crack, break; not injured by alcohol, fruit acids, ordinary alkalies; withstands 275 degrees Fahrenheit; wide color range.

(222) Parsons Company: Folder complete kitchen in 8 square feet; range, sink, oven, refrigerator; all steel, fire-proof; good design.

(220) Topco, Inc.: Folder Topco sink, cabinet tops; Formica, Micarta, Linoleum; built to specifications; immediately available.

DRAFTING ROOM EQUIPMENT

(69) Craftint Manufacturing Company: Samples, new Craftint doublotone tracing vellum; two shading screens brought up with application colorless chemical; good for shading, cross-hatching, tracing finished art.

(70) Haskell Manufacturing Company: Folder "work-flow" tables, adjustable between 26½" to 37" working height; individual or line installations; makes excellent desks; heavy plywood construction, Masonite working surface.

(210) Jiffy Sales Company: Folder scale designed to make proper proportioned drawings without ruler, drafting board, T-square; 9"x12", 75 sheets tracing tissue; various scales printed on cover flaps over which tissue is layered to get proper scale; very helpful.

(71) Stewart-Jackson Instrument Company: Folder Flex-A-Beam compass; vest pocket, circles from 2" to 12" diameter; also draws ellipses, spirals, arches; linen line, aluminum cased ruler.

ELECTRICAL EQUIPMENT

(212) Bell Electric Company: Folder new No-Shok twin plug receptacles; foolproof, safe for children; inverted plug, turn to right quarter turn to make connection; spring action disconnect when plug withdrawn; needed for electrical systems against overload, short circuits, bilateral lighting, fenestration; features Insulux Glass Block construction.

(211) National Electric Products Corporation—Four-page booklet illustrating installations of Loopy-Trimp, a hollow steel raceway for telephone, buzzer, public address, or communication wires. May be used as too for pull-up cord to the top of a base board, or as finish trim.

(180) Northern California Electrical Bureau: Handbook of residential wiring: design; one of best planning, technical data.

(2) Pass & Seymour, Inc.—Booklet of wiring devices, electrical outlets for any desired use in the home. Written and illustrated in the language of the average home owner.

(72) Square D Company: Full color folder Square D multibinder; guards electrical systems against overload, short circuits; details wiring to use of multi-breakers; good.

FLOOR COVERINGS

(73) Congoleum-Nairn, Inc.: Catalog Linoleum, asphalt tile and floor products; index to uses, specification, installation data; swatches of colors, patterns.

(219) Gladding, McBean & Company: Folder Mission Red Floor Tile; hard burned, smooth texture; ideal for paving patios, terrace, walks, loggias, facing walls, garden seats, stair treads and risers; 12"x25½"x½" to 12"x12"x½"; western manufacturer, available.

(74) Tile-Tex Company, Inc.: Illustrated, brochure asphalt tile, 3"x3" to 10"x24", wide range colors, patterns; features tinted, cover bases; features modern design.

GENERAL

(3) Colotech Corporation—Six-page full color presentation of Cemento Precision-Engineered House. House is rather better than most storage; what solve housing problem by mass production. Worth seeing.

(24) Kauneer Company—Thirty pages including report of the jury, elevations, plans, perspectives, and details of the prize winners of the Kauneer-New Pen- cil Polystyrene Corporation, "The Store Front of Tomorrow."

(5) Kauneer Company—Twenty-four page booklet with 31 perspective sketches of well-designed sales-building store fronts.

(61) Libbey-Owens-Ford Glass Company—Twenty-four page illustrated ages on solar houses. Explains fundamentals of planning "openness" and gives good examples, both in photographs and sketches. Question and answer section is practical.


(75) Owens-Illinois Glass Company: Manual planned lighting in school classroom; data brightness ratios, reflections, bilateral lighting, fenestration; features Insulux Glass Block construction.

(76) Pittsburgh Plate Glass Company: Brochure (36 pages) use Pittsburgh products to increase retail store sales: professionally illustrated, data, brightnes ratios, reflective, bright colors, mirror, glass plate, glass, "The Store Front of Tomorrow."

(12) Republic Steel Corporation—The use of Republic Stainless Steel in hospital equipment is contained in a brochure of 24 pages. Well illustrated, documented, including laboratory corrosion data. Belongs in the files of any architect doing hospital work, or work involving hospital or diet kitchen equipment.

HARDWARE AND FIXTURES

(8) Adams Rite Manufacturing Company—Pamphlet illustrating newly developed solid brass flush sliding door hardware, simplified surface bolts, and a ball latch with adjustable compression. Sizes and catalog numbers are given.

(217) Bakewell Products: Folder hydraulic door closer contained in butt hinges. Bakewell door closer, install- ed exactly the same as hinges, also serves as hinge; no overhead or buried mechanical equipment; residential, commercial, industrial; good product.

(Continued on Page 41)
THE CHARACTERISTIC SZOEKE CHAIR SHOWN ABOVE IN BACK AND FRONT VIEWS.
THE CHAIR IS PERFECTLY BALANCED, GRACEFULLY PROPORTIONED, HAS A BEAUTIFUL VIEW FROM EVERY ANGLE.
THE BACK OF THE CHAIR CAN BE INLAID WITH YOUR NAME, YOUR INITIALS, YOUR FAVORITE MOTIF, OR CUT OUT AS SHOWN, OR "OVALIZED" FOR LIGHTNESS.
A FEW OF THESE POSSIBILITIES ARE SHOWN IN THE INSERTS BELOW.
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ART

GRACE CLEMENTS
To understand art in its fullest and deepest meaning is to understand symbolism and the nature of the symbol. We have difficulty in understanding art to the degree that we fail to comprehend (actually to experience) the symbol. Nor is such difficulty attributable to deliberate, or conscious avoidance of comprehension. The factor of our more immediate cultural heritage cannot be overlooked. It exerts a powerful conditioning influence. We are products of an age of naturalism which has dominated the western world since the Renaissance, and we cannot easily free ourselves from its characteristic mode of thought. But we are also inheritors of an older tradition which belongs not to this particular age, but to all ages—all men. The symbol has a universality which is not only the common denominator of all great art, but the timeless re-assertion of man's fundamental unity in his experience of reality. However much the substance of this perennial tradition becomes encrusted with the digressions of a particular age, even to the denial of its existence, the passage of time has invariably shown that it is never really lost. In other words the universal symbol, whether inherited or innately present, is ever a potential experience to man.

Awareness of this link with the past—awareness of the symbol—has been at a minimum for some five hundred years—a relatively long time for the individual, but an infinitesimal period in the history of man since he first gained awareness of himself and the world in which he lives. During this five hundred years science has been steadily in the ascendancy, characterized by an emphasis upon description and classification of the phenomenal world. Only very recently has investigation been focused upon man's inner world, the unconscious, and its relationship to the conscious self as well as to the external world. In a sense we have been like the athlete, who, in striving to attain superman strength, ends up by being merely muscle-bound. We have over-emphasized the importance of the rational mind at the expense of the irrational, the intuitive and the sensuous functions which contribute to the integration of the whole man. And in the process we have submerged the symbol, lost track of it, until it is no longer a part of our living awareness of things. Nevertheless the symbol, and its meaning, however feeble or distorted we have made them, are still latent within us.

When symbol becomes weak, literalness dominates. In art since the Middle Ages we see the symbol give way to the allegory, and the allegory superseded by pure and simple naturalism. Leonardo Da Vinci looms as the prototype of the post-Renaissance period. He has the mind of a scientist rather than an artist. In a way he is the father both of modern scientific empiricism and of naturalism in art, both of which are typified by an endless and non-interpretable observation of nature. It is the method of analysis rather than synthesis, of division rather than integration. The 20th century revolt in art has been a revolt against this more immediate past—against naturalism and allegory (the adulteration of art with literary content) with only a partial recognition of the validity of the true plastic symbol. Nevertheless the latter has appeared

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again and again, though its presence has figured almost not at all in the critical appraisal of the modern idiom. But the justification for, as well as the strength of modern art, abstract or otherwise, lies precisely in its potential symbolism. Any art which is characterized by a minimum of selectivity (such as representational art) or an attempt to record faithfully what the camera eye sees (as the biologist attempts to classify the parts of an organism)—such art is per se incapable of symbolism. But symbolic art is not necessarily non-objective art, i.e., without reference to nature or natural forms. Buddhist and Hindu art is highly symbolic (and in this sense abstract) while retaining a great wealth of organic forms derived from nature. It is the antithesis of naturalism. The same may be said of Egyptian, and for that matter all pre-Greek, "primitive" and early Christian art. Though their adherence to natural forms is often less apparent than in Oriental cultures, such forms are invariably employed in varying degrees of abstraction, coupled with the more "pure" geometric shapes and mathematical symbolism. The most abstract concept of man's achievement in thought occurs in the invention and use of numbers and their relationships. Both have been used to symbolize man's most profound realizations. The trinity and quaternity have an undeniable prominence in the major religions of the world. Ten—the one and the nought—is not only the sum of man's fingers but a symbol of the Ineffable. Pythagoras, 2500 years ago, and Plato after him, conceived number to be the base of the real world. Today, Einstein's theory of relativity is stated in a mathematical equation. Indeed mathematics is an inseparable part of modern physics, whereas geometrical relationships are the distinguishing characteristic of cubism, constructivism, and non-objective art. But we need not be limited to such extremes of abstraction, for the symbolism invested in human, animal and vegetative, as well as non-organic forms, has an equally long and vital history. Fire, earth, water and air, the sun and the moon, the day and the night, are not merely phenomena but highly symbolic embodiments of a non-corporeal reality. The unity in duality has been experienced time and again in the opposing forces of nature, darkness and light, the yin and the yang, the body and the spirit. The true symbol ever expresses an aspect of the wholeness of things—a microcosmic image of the macrocosmic reality. In a Mondrian it is the achievement of equilibrium of opposing forces, the vertical and the horizontal. But in a Mondrian it is also the shifting interplay of unequal entities, a subtle re-assertion of the quaternity in its multiple manifestations, a reaching back to the primordial symbol of the cross with its four members. In a Paul Klee we find a different manifestation of the symbol emerging from the unconscious depths of the experience of birth—the waters, the fish; or the flight of the spirit—the birds, the flame; eyes as the windows of the soul; the spiral the whirlpool of life—immortality; the sun and the moon—male and female; the mandala—the magic circle of infinity; the swastika with its four arms—the four seasons, the four points of the compass, the four gates to the greater self; the one in the center of all. These are of the primordial images of our heritage. They are the vehicles to realization of an inner reality. To experience and embrace them is to move toward the full integration of the personality—that which is the whole man. These archetypes are the substance of the symbol, and it is the symbol which gives meaning to art. Though the full meaning of the symbol is inexpressible by rational means alone, for it can only be known in the fullest sense through a living experience of that which it symbolizes, it is possible to know something of their implied content. Thus such symbols as the circle, the square, the triangle, the spiral, the cross, the swastika—the fish, the goose, the centaur, the bull and the lamb—the lotus, the rose, the grape and the fig—can be thought of in relationship to the concepts they embody. But as long as we speak of their meaning we remain on the periphery of their full significance. And yet such verbalization may act as powerful springboards to awaken in us their deep and compelling reality. Thus we may find great value in the writings of such men as D. H. Lawrence, C. G. Jung, and Ananda Coomaraswamy. Lawrence is one of the few creative writers of this time to grasp the significance of the archetypal symbol in art as well as to use it in his own writing. His insight on the significance of Etruscan tomb sculpture and mural paintings with their wealth of human, animal and bird symbolism, has been demonstrated with remarkable

THE HEART OF THE KITCHEN

in Case Study House #2

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That's what John Frederick, president of Crenshaw Service Supply, told his electrician, after a Department of Water and Power representative had explained Adequate Wiring to him.

Mr. Frederick sells electric appliances—so it was only natural that he should want his new home at 9901 Cimarron Street to be all-electric. Imagine his surprise when our representative showed him that his wiring wouldn't carry his electric range, water heater, bathroom heater, refrigerator, home freezer, and garbage disposer.

Electrician Harry Herman was happy to make the change. He pulled out the rough wiring, substituted flexible conduit, and installed recessed meters, a modern multi-breaker control panel, and plenty of switches and convenience outlets. Also happy about the change: Contractor Irwin D. Tolboe and Mrs. Frederick.

No home is modern unless the wiring is modern too. Let our Adequate Wiring Specialists help you plan the wiring before you start building. Just phone Michigan 4211, Station 2637.

DOROTHY Puccinelli Cravath

No one should miss the Henry Moore exhibition at the San Francisco Museum of Art. To see it is a great and valuable experience. No matter how familiar one may be with Henry Moore's sculpture, through photographs, the sculptures themselves are a surprise. They are so much more beautiful than they appear in photographs. They are absolute sculpture, an almost unbelievable wedding of the substance and the idea.

The sheer material beauty of surface, curve, mass, and their relation in these sculptures produces an irresistible urge to touch, to feel with the hand these shapes, these wonderfully articulated masses

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clarity in his Etruscan Places. On the other hand Jung has presented an imposing mass of evidence (which he stresses is empirically derived) to substantiate not only the living reality of the archetypal image within the unconscious, but the relation it has to art. Jung provides one of the most valid keys that we possess today for the approach to, and understanding of great art. That the greatness of this art is closely allied with religio-philosophic concepts throws much-needed light on the function and purpose of art. His findings in this sphere are well summed up in both Psychology and Religion and The Secret of the Golden Flower, the latter translated from the Chinese by Richard Wilhelm with commentary by Jung. For richly rewarding material on the symbol in Oriental art there are the invaluable writings of Coomaraswamy, including Elements of Buddhist Iconography and The Transformation of Nature in Art, in addition to which should be mentioned Heinrich Zimmer's Myths and Symbols in Indian Art & Civilization. There are others, of course, but these men in particular have gone far to help break through the shell of our one-sided awareness. Through them we may find new meaning in the abstractions of a Paul Klee, a Mondrian, a Morris Graves or a Peter Krasnow—all those artists who have known the inner reality of the archetypal symbol. Their work constitutes a link with that living tradition which comes to us out of the past and will carry us into the future.

20th century design presents
of material, these planes which pass into each other with the logic and inevitable rightness of a living organism. Touching and feeling these shapes (although frowned on by the Museum) is like satisfying a hunger. They are so rich, so imaginative, so simple, and yet so varied, the transitions so true and right, that one feels there was no other way for them to be. It is as if they have grown within, as living creatures grow.

And yet there is nothing fleshy about these forms and surfaces. The stone is hard, with its hardness and density underlined, as it were, by the carving. Stone is stony and wood is woody; but through their solidity and toughness runs a supple life, a returning rhythm and a flow of light on rounded, ridged and hollowed surfaces, so that one loves these sculptures both for their own sakes, and for the memories of life they enclose.

This is the largest exhibition of the English artist's work ever held. There are 58 sculptures, in wood, stone, bronze, terracotta and lead and carved concrete, and 48 drawings, some from the "shelter" series made during the bombing of England, and many studies for sculpture.

Some of Henry Moore's early things are included, done when the influence of Mayan and African sculpture was beginning to shape the course of his development. There are a few masks, and other forms, which match the stoniness and intensity of his Aztec and Mayan models. There is a girl's head which seems to be a trial in the direction of African sculpture, and then a stream of mature works which are pure Henry Moore.

The exhibition will remain until September 7, and is worth traveling far to see. It will probably be the inspiration of western sculptors for years, as was the mural technique of Rivera to western painters.

The Moore show is so overwhelming that it is hard to leave it to look at other exhibitions; and yet there are several well worth seeing. The City of Paris Gallery has a three man show, of Antonio Sotomayor's Bolivian watercolors, assembled by the Council for Inter-American Cooperation under a grant from the Department of State, and his caricatures of famous North Americans; Ethel Weiner's oils and watercolors, and Francina Terebova's naive sculpture in cast stone and wood.

Gump's Gallery shows a large group of engravings by Stanley Hayter, founder of the experimental workshop Studio 17, where Chagall and Picasso, Miro and Ernst, and many other modern artists of widely divergent personalities worked under the technical guidance of Hayter to explore and use the old medium of engraving in contemporary ways. Hayter's own experiments, shown here, include combinations, with engraving, of aquatint and other etching techniques, color areas, embossed lines and masses, and various textural enrichments.

The War's Toll of Italian Art, at the Legion of Honor, is a collection of photographs showing the horrifying devastation of some of the most precious Italian monuments, and the painstaking efforts being made to preserve and restore them where that is possible. There are fragments of a few things; the scraps of fresco that were part of a head by Mantegna, from an otherwise vanished mural, one of several in the Eremitani Church in Padua, which were blown to bits and lost forever; part of the bronze doors of the Cathedral of S. Fotino in Benevento; other bits of "restored" fresco.

A step away from the old is the very new: Elmer Bischoff's non-objective oils in the next gallery, bright and promising, and a roomful of small paintings by Calvin Albert, full of sophisticated simplification of form and elaboration of theme, usually having to do with music and its players. Musical too are certain passages of color, mostly in the prismatic scale.

BOOKS

GARRETT ECKBO

UN HEADQUARTERS—by Le Corbusier

Here is a brief and quickly-read 79 pages documenting the part played by one of our greatest 20th century architects in the seven months' search for an appropriate program and site for the physical headquarters of the United Nations. Here is as sharp a synopsis of the advanced theories of urbanism and city planning developed by Corbusier and the CIAM, and as pungent a presentation of the continuous—and continuously ignored—relation between architecture and politics, as one could hope to find.
In the very beginning on page two, Corbusier sums up the whole debate over the future of the UN and its headquarters as one between Academism and Life. Here is a slogan which covers architecture, city planning, and politics all at once. Further along, in his reply to a request for substantiation of his analysis by "standards given by one of the big professional associations of the USA", and in his brief and scathing analysis of the Headquarters Commission's determination of 40 square miles as the site space needed, Corbusier shows clearly which side of this debate he is on. Such clarity and courage is a delight to any designer who has been forced to tangle with professors, employers, colleagues, or bureaucrats in the course of maintaining the integrity and creativity of his work.

In his clear, brilliant, and inspiring analysis of the physical potentiality and space needs of a UN headquarters; in his masterful presentation of the CIAM outline of the primary functions of the urban environment—Dwelling, Working, Culture of Body and Mind, Circulation; in his insistence upon primary relationships to "the laws of nature" and "the efficacious and positive solar day"; in his sharp contrasting of the two poles of theoretical solution of our urban problems—the horizontal garden city and the vertical garden city—with its clear putting-the-finger on the terrible waste of time and energy in travel attendant upon over-emphasized and uncontrolled decentralization (page Los Angeles); in all of these technical-esthetic aspects does Corbusier show himself the great mature architect and planner. Such clarity, precision, and brilliance of imagination are most remarkable when one considers that they developed within a social pattern which offers little use, respect, or livelihood for such professional integrity. Whether or not one likes Corbusier's work or agrees with his urban projects, one must respect their consistency, their strength, and their completeness.

For seven months we follow this active imagination in its frustrating search for a headquarters program and site that would express the stated objectives of the UN—peace, harmony, order, the improvement of the life of man. We see him at the beginning sufficiently conscious of the silken curtain of power-politics diplomacy to reject the silly idealism of World Capitol for the greater realism of Headquarters. We see him struggle to persuade this Hq to accept and express great principles for the solution of our environmental problems. Seven months of this; then a sudden gesture from one Mr. Rockefeller, and within 24 hours the acceptance of the facts of life by this flexible architectural mind, and its accurate classification of the new site and its implicit program as a Battle-Post. "Our intuition is finally awakened, and we realize that the world is not ready. We cannot open up an abyss of illusion between the harsh realities of the world and this UN, whose mission it is to prevent irremediable catastrophes."

Here is the great architect, the great urbanist, he who should be serving the people by rebuilding their cities into fit environments for human life, tossed about like a cork in the high pressure diplomatic storms engendered by those brazen forces which talk democracy but pursue more tangible elements such as oil. This cork, tough, resourceful, and articulate though it may be, can do no more than take to the printed page once again. The physical environment remains safely and profitably chaotic in the hands of the finance men, the real estate men, and the speculative builders. Those of us who find ourselves disturbed by the current arrogant hypocrisy of our relationship to the UN, can feel a certain tragedy in the spectacle of this fine robust architectural cork tossing about in the slick and oily waters of world politics. But we can also take heart from the fact that this cork is not alone, and that the healthy corks of America and the world are beginning to get together to find out where all that oil is coming from.

**MUSIC**

Benjamin Britten, an English composer now in his early thirties, has written successfully in many forms. His music has been played throughout the Western world often enough to establish him as one of the more important among the younger international composers. Like many of the better known English composers he inclines towards prettiness, but with an acid bite that distinguishes his work from the pallid rhapsodizing of such as Moeran, Ireland,
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and Bax. Britten might have continued for a generation this half-light existence of the younger recognized composer, if he had not turned his talents to the writing of opera and become within three years one of the two best known practitioners in this severely limited art.

The writing of operas has been for over fifty years an academic privilege of any composer who wishes to fill many pages with instrumental and vocal combinations. The odds against the production of an opera, when it has been written are so great that the writing of them has been left for the most part to musical traditionalists who might manage to have their operas produced on rare occasions in out of the way places and to musical politicians who can manage to get their operas produced but cannot keep them in the repertoire beyond a couple of years. Deems Taylor has been a prominent example of this latter sort of success.

Taylor’s Peter Ibbetson is, measured by staying power, the most effective grand opera that has been written in the United States. Yet the ordinary American music-lover, if pressed to name in a hurry one American operatic work, would almost certainly first mention Gershwin’s Porgy and Bess. The reason is simple. In writing Porgy and Bess Gershwin aimed below the level of grand opera and wrote directly for the stage. The play is both interesting and exciting, the setting unusual and very colorful, the plot strong, the action easy to follow, and the ensemble, which even in the original made effective use of spirituals, allows for continuous combinations of soloists and chorus. Porgy and Bess has a place of its own, as a singspiel, somewhere between Show Boat, which is avowedly light opera, and the traditional full-bosomed grand opera of the Italian-German-French tradition.

Another work which aspires to the condition of opera is Virgil Thomson’s setting of Gertrude Stein’s text Four Saints in Three Acts. Though it has been discussed as if it were a literary joke, Four Saints is at least as sacred as Parsifal and a good deal more reverent. Direct, without verbal explanations, it is vivid with shadowless Spanish sunlight and sung verbal images, abstracted from prose and native as painted figures of the saints. Many revelations will come to anyone who will explore the music with the printed text. Four Saints is a religious opera of the people with verbal immediacy and no dogmatic veils; but for stage purposes it remains rather a cantata, and no amount of color in the setting and costumes can disguise this fact.

During the last ten years an American composer who makes few pretensions to musical greatness has been slowly winning attention by the writing of small operas with reasonably good original plots and a full operatic apparatus. The Old Maid and the Thief established Gian-Carlo Menotti as a practical composer whose work could both be easily heard and followed with interest on the stage. At the present time two operas by Menotti are holding their own on Broadway. The Telephone, a light curtain-raiser requiring only two voices, followed by The Medium, an all-out musical thriller, have demonstrated that new opera can be produced and can sustain itself at the box-office without depending on the occasional courtesies of a major operatic company. Menotti’s operas resemble Puccini’s both musically and in their reliance on “strong” stage action, but they prove beyond question that an American composer, writing in English, can find a popular public for opera that meets at least the minimum requirements for being musically “grand”.

Benjamin Britten’s present reputation as an operatic composer is based on two major works, Peter Grimes and The Rape of Lucretia. Peter Grimes, a dour folk-opera, requires all the resources of orchestra and stage. It has been produced in several countries, but its ultimate staying-power will depend on its being accepted by major operatic companies as a part of their more or less permanent repertoire. Of the music only the four Interludes between the acts have been generally heard, and these will scarcely bear comparison with the similar Interludes of Debussy’s Pelléas and Mélisande.

The Rape of Lucretia is a different matter. Written for eight voices and twelve instruments it does not depend for performance on the sort of planning that requires a large box-office draw. It has already been taken on tour through England and Europe, and performances of it have been given during recent months in New York, Chicago, and Los Angeles. The combinations achieved by blending a few voices with an orchestra of solo instruments are in every case as interesting as those provided by the usual much larger vocal and instrumental apparatus. The continuous obbligato playing of the instruments takes on equal importance with the singing. If opera is again to be written for the contemporary stage, it will do better
musically to follow this model, which can be produced by any locally organized company without too much strain, than to continue along the larger scheme of nineteenth century tradition or to compromise with the public, like the work of Menotti, for box-office advantage.

The weakness of Lucretia is its libretto, by Ronald Duncan, a French bedroom tragedy out of the high pagan tradition of Livy-Ovid-Shakespeare, which tries to change a narrative poem into a stage drama without the dynamic action of a plot. To make up the lack of a stage play the librettist has drawn together curiously unrelated elements. The opening curtain reveals two "Early Christians" seated at each side of the stage, who serve as Male and Female Chorus for the action which occurs in Rome of 500 B.C. Measured by the number of notes sung these are probably the chief actors of the composite play. They serve as commentators, consciences for several of the actors, and additional voices to blend between the stage singers and the miniature orchestra.

While Tarquinius is moving up on the sleeping Lucretia the Female Chorus, divided from him by six or seven hundred years, pursues him with bitter arguments around the bedroom. When the action that is the sole cause of dramatic interest is abruptly cut off from the audience by a quick curtain at the moment of its consummation, the Choruses assuage the general disappointment by a duet on a higher plane. At the close, after the violated but already forgiven Lucretia has asserted her unconquerable superiority by stabbing herself with her husband's dagger, the Choruses continue at length a dissertation on Christian salvation that is, considering the subject and the circumstances, if not blasphemous at least ethically uncertain. The Male Chorus in addition supplies vocal amplification to a passage of rather ordinary hoofbeats and rotating river-movement which might be called, in the operatic tradition, Tarquinius's Ride. He also swims the Tiber.

The opening scene in the camp is both clumsy and bawdy to an inexcusable excess. The second scene, in the home of Lucretia, contains the loveliest music of the opera, showing how merely intelligible diction, well set to music, can charm attention, even when unsupported by plot. The dramatic crudities of the two later scenes,
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Time is a commodity which, when used by politicians, is conceived to be something that (like God) is "always on our side." "Time" as a human concept, subject to a complexity of pressures, can also become an unbearable burden of unresolved and utterly destructive frustrations. It becomes a process of erosion that contrives to wear away the strongest rock of faith built by any men who undertake a high resolve.

Once, not too long ago, though it seems to recede rapidly into the dimness of the past, we, with the other peoples of the world, stood for a wonderful moment on very high ground where we conceived and resolutely proposed the conception of one world. That conception was not made upon a faith that was merely fanatic, nor was it conceived out of undisciplined emotion, nor was it a dream built upon a tepid wish for the merely naively "good." It was an idea that had been growing in the mind of man throughout the hundreds of years of his conscious culture. It was the objective of all his best creative thinking and realistic practice. Whatever diversions, whatever compromises were necessary, were made to contain and to consolidate gains already achieved and to build an even more solid ground from which further progress toward the great idea could begin again.

The long and steady movement toward of this crusade against darkness has always been subject to delay and frustration and heartbreaking disappointment. But somehow the trek has always been renewed, and the objective, the bright hope, never changed. Whether mankind throughout its history has, from time to time, been able to run toward this objective, or been forced to crawl painfully on its hands and knees, the direction has been steady and agonizingly maintained. The methods and techniques gradually become more apparent. The shape, the substance of the objective, becomes clearer, and it is not strange, as we approach the birth tremor, that the most difficult obstacles reserve themselves for the last—that the choices and the compromises become more desperate—that the breathless urgencies weigh more heavily on us.

So time (that is, the politician's "time") is used again to slow up the process; to baffle with small obstacles; to create diversions that sap the strength and will; to cast doubt upon a purpose; to confuse with attempts to re-examine and re-calculate out of existence the broad truth all too clearly established. This "time" throws us once again into an introspective fear of a future that is our own creation.

Three years ago the world stood united in one great purpose, but once again the devastating force of evasion and delay and cross purpose erodes the high ground beneath us. We seem to have forgotten, or at least we have been made to forget by the diverting carnival of politics, that a new world came into being on an early morning over Hiroshima. Then, for one terribly bright moment that illuminated every corner of the earth, we knew about ourselves, we knew about the future, and we knew that ours was to be an age of final decisions. But we knew, more than anything else, that we must now implement and live by the best principles of an expanding democratic way of life. We know that the hope of the world was the affirmation of these principles; that they were the principles of life, and that to regress was to embrace the principle of death.

So, "time" became infinitely precious. It became the weapon of triumph or defeat, because no people or no world of people can live for long with the realization of such a truth unless that truth can become a part of the working conscience of mankind.

In 1945 man at last came upon the final secrets of the atomic structure of his world and universe. He held a key to a future more fantastic and incredibly wonderful than any of which he had dreamed. He held a key that was forged and beaten into shape under the democratic system of life, a system which had attracted to itself the best science and techniques that lived in the minds of men forced to live the chilling darkness that had fallen upon half the world.

And so, because of all this, "time" has become infinitely urgent and immediate. Our "time" within our "democracy" becomes the most important ingredient of a life in which the decisive issues must at last be resolved. Issues that are the end result of thinking that began 400 years before Christ, when a civilized man made the first shrewd guess that everything was made up of small particles or "atoms;" a truth buried under a blanket of alchemy, mysticism, and conscious fraud for more than 2,000 years. That man lived in Greece and was called by the name Democritus.
While it is not part of any self-conscious desire, it may be that love for what I know of life at this moment gives meaning to my work for those who are alive with me. Faith in the ultimate survival of human existence itself precludes despair. One can no longer analyze destruction if compelled, despite himself, to create. In retrospect, this appears to be the one possible opponent to present fears of annihilation; it is impossible to fear death while making new life. This is a matter of compulsion, not conscious effort—so long as we are thus driven, there is hope; for fear of personal death becomes mere vanity.

The very mystery of this compulsion makes the act of creation to me an act of faith. The description of the relationship between man and a force larger than himself can be accomplished only in a linear manner, for a line alone is the essence of such moving growth as is this relationship. When a man is concerned only with himself, his own fears, his own ambitions, even his own formal problems in art, he conceals himself behind layers of self-expansion and his art grows richly decadent in mass and thickness—as in the Renaissance or in the Renaissance tradition—and is smothered eventually by its own encirclement. This individual may be spectacularly beautiful, like the orchid which lives on air, but his moment dies with him. He does not make of himself the seed of faith which he is, nor plant himself in the cell of his time where he alone must segregate the poison from the nourishment and create himself from fertile reality and not from arid theory. In this cell are embedded the secret nourishments of all time. The winds and rains of any particular climate will only alter the surface of any man and his art, and leave intact the eternal act of life and growth itself.

Our present climate is not all warmth and comfort, but neither is it more nor less vitalizing than the climates of any previous time, or than will be the weather of an illusory future. Always we have encountered those natural elements which have twisted, beaten, and shaped ourselves and our work, and always will they be there, despite the deceptive, feeble forces which seek to sterilize nature today. If we face these natural elements unafraid, unterrified by disillusion in fruitless intellectualisms, we remain free from the horror of our own images—free to build and not to destroy. And from this freedom, aided by the forces of our time, evolve the forms, the functions, and the meanings of our art.

The forces which shape our forms today are as challenging as ever, but no more important. The materials which an isolated science (like an isolated art) has evolved, however, need more careful weighing than before; for many recent materials are the sterile products of scientific excesses and must be avoided as violations of nature as surely as the sterile products of an over-analytic aesthetics. In relation to the plastic arts, this means that materials ought to be used which bear still the accidents of nature in their structures, no matter how modern their processing may become; and this modern processing is one of the elements of today's climate which we must respect as craftsmen.

Contributing to contemporary despair is the illusion of the so-called “uselessness” of the arts—their lack of function—and the easy label of “art for art’s sake!” This is presumed to be a recent manifestation of the effeminacy and degeneracy of recent art. Might one not ask the function of the ornamentation of a hymn-tone in a Bach chorale prelude (as indeed his congregations did); or the function of three-quarters of the space below the ceiling of Hagia Sophia; or the usefulness of the Divine Comedy’s poetics, in terms of social satire?

That integration of the arts, and of the arts with science and with life, which we have talked so much about, might best be accomplished when the function of art for its own sake is accepted and not rejected. When we believe that the “isolated” poetry of today's art is its greatest contribution to the seemingly loose ends of our culture, and believe in our hearts that this alone is the bond we offer to science, to politics, to education, and to all the rest, then we are ready to produce works which are as true to themselves and to their setting as are the Kings and Queens of Chartres.
On the basis of this thinking, I have come to feel that a good deal of what is written about modern furniture is largely hogwash. I feel, too, that much of the so-called "research" that has been done to justify new designs is largely wasted. Take as an example the matter of seating. A really astonishing amount of effort and money has been expended by one institution or another to ascertain the average proportions of the human posterior, proper reclining positions and so on, and much of it has been embodied in the seating developed for the latest trains and planes. I have yet to find a seat on either which does not become excruciatingly uncomfortable after several hours. The point here is simply that seating design is a time problem as well as a matter of carving out a shape in space. The slat bench is a completely satisfactory seating piece for fifteen or twenty minutes; equipped with a rubber pad the time can be doubled, but heaven help the person who has to spend an evening on it. No armchair of whatever design will be comfortable for as long as a couch, and the reason for all these time factors is that the body does not stay relaxed in one position for more than a short period, and that piece which provides for a maximum of shifting around will be comfortable for the longest time.

At the present stage of furniture design that piece is an upholstered slab to sit on, an upholstered slab to lean against, and at least one padded arm. Visually, this is not a very exciting piece of furniture.

One can buy fairly acceptable versions of it anywhere.

Since it is in the nature of the designer to want to feel that he is making some kind of contribution through his efforts, he is likely to be somewhat frustrated by the very real technical limitations which turn him into a stylist. One possibility that exists lies in a different organization of a piece of furniture which produces shapes that may be new, and at least have validity based on a different appraisal of the functions involved. In our desk, for example, the design arrived at stemmed from a dislike for drawer storage, a preference for visible storage above the desk top, the need for a built-in portable typewriter, and the use of a Pendaflex file—a unit so constructed that no drawer is required.

The result is a piece of furniture which turned out to be somewhat unusual in appearance as a natural result of an organizing process.
Even here, however, nothing terrific happened, for the desk fundamentally is not very different from many English writing tables developed in the middle of the 18th century. Similarly unspectacular examples will be found in the illustrations.

Many of the weaknesses of modern furniture are the same as those of modern houses, stemming from an attempt to make one material look as if it were another. The International Style house, while a valuable negation of what preceded it, was fundamentally dishonest in that it used the oldest of materials and techniques while attempting to create the impression of a product turned out by a sheet-rolling and stamping mill. A good deal of solid wood furniture is being turned out today in forms that could properly be achieved only through the use of metal, or wood laminates. To some extent this misuse of materials is inevitable, for the new forms which have evolved through industrial production have an almost irresistible attraction. The Eames chairs are immensely satisfying for this reason: they have the shapes we have come to like, and these shapes were naturally arrived at through materials and processes.

Another weakness of modern furniture is the result of a craving for "originality" (perhaps novelty is a more accurate word) which in turn comes from the continuous pressure for something "different" to satisfy department store buyers and consumer magazine editors. Perhaps the hardest obstacle for the designer to overcome is this idea, that originality has any validity whatever as an objective. In reality the original contribution is always a by-product; the designer tries to see and feel the problem as completely as possible and to work out the most natural solution; should there be any new elements injected into this process, the result is something "original." Which is fine if things work out that way. On the other hand, the forms developed in the course of a search for something new and different are rarely good for more than a season. One of the most offensive offshoots of the obsession with "originality" that has appeared within the last couple of years has been the emphasis given by several of the home magazines to the

"American" quality of such and such a piece of furniture. The idea put forth is that a piece with no dubious foreign ancestry is to be greatly admired. As a matter of fact, any piece designed and produced in America is bound to show its origin, although it is hard to see why this should be a matter for self-congratulation, and it is equally inevitable that it will show influences from other countries. To take the most "American" of our best modern furniture, the Eames chairs, these simply could not have come out the way they did without the earlier work by Aalto and Matthson in Finland and Sweden, which is the way design has always developed. Possibly the excitement being generated about the "Americanism" of modern furniture is somehow related to our current hysterical behavior on the international level. But whatever the cause, it is doing no good to either designers or consumers, and a logical extension of this approach would be to advertise a bedroom suite as "100 per cent Aryan." Which, as demonstrated in the past few years, would do even less good.
Another matter that comes to mind in connection with modern furniture design is the matter of distribution. It is fairly characteristic of the younger architects and designers that they want to relate their activities to as large a group of people as possible. In furniture manufacture this has led to a rather exasperating contradiction. There is mass production of furniture, but to date the mass product has been conceived on a completely false period basis, or it falls into the indescribable category known as "borax." Mass production of furniture—even without radical technological upheavals—is a fact. But what is also a fact is that virtually every one of the manufacturers producing furniture acceptable to the modern architect is a small manufacturer. The furniture of Aalto, Eero Saarinen, Edward Wormley, Paul Laszlo, Ralph Rapson, Robsjohn-Gibbings, Charles Eames and others is all in the hands of relatively small producers. Thus, while the idea of modern furniture includes mass production, the present state of affairs is quite the contrary. It is true that the Mengel Company gave a competent modern designer freedom to work out a problem in his own way in conjunction with its "Module" line, and possibly the meaning of the success of this furniture will not be lost on the rest of the industry. Nevertheless, at the moment, most modern furniture is almost custom made by comparison with the rest of the output of the industry.

Another fact to toss into the general picture is this: virtually every technical development of importance that has been made in furniture has come from outside the industry. The reason is not far to seek, of course. The large manufacturers tend to resist change, and the smaller ones (assuming they are in favor of design progress) lack the needed facilities for experimental work. The result has been stagnation for the larger part of the industry and high-priced modern furniture coming out of those few factories which have been willing to gamble. In this situation there is nothing particularly remarkable—the first modern houses were done for individuals, not operative builders, and the first cars were developed for a small group intrigued by a new sport, not by the possibility of faster transportation. There is ample indication that more and more manufacturers will bring out contemporary furniture, and that the price level will gradually spread out. This will happen even if all the postwar dreams of furniture stamped out like doughnuts come to nothing; anyway, technical changes will merely speed up the process. The job for the designers is not to lament over a situation that is admittedly short of ideal, but to solve their design problems as honestly as they can within the existing production framework, and at the same time, to make obsolete that framework as rapidly as they are able.

The pieces shown on these pages are part of a collection designed, over a period of about two years, for the Herman Miller Furniture Company. As few of them represent anything radical in the way of concept or fabrication, there is relatively little to say about them which the photographs do not make perfectly clear. They do represent an experience, however, which has some bearing on the whole problem of furniture design and which may have interest for those who have considered working in this field.

For some reason or other, architects are always intrigued by the idea of designing furniture, and I was certainly no exception. Accustomed to the complexities of even small buildings, one imagines furniture design to be child's play—as a kind of creative relaxation. I also suspect that one has the feeling that no one else's furniture is quite appropriate for one's own buildings. Then too, there is the quite legitimate attraction of the idea of designing for production, an experience denied the average architect in the present state of building technology. Which of these reasons intrigued me most strongly, I do not know, but in any event I signed a rather casually worded contract in the summer of 1945, with high hopes, a light heart and not the faintest idea of what I was getting in for.
is important, and there has been so much irresponsible talk around it that clarification is in order.

The design process is one in which materials, functions and production methods are so closely welded that ultimately an object is produced which has an inevitable quality similar to things in nature. Once this state of relative perfection is reached there is no further design development—any changes then made are superficial and merely represent a kind of styling, or variation on a basic theme. Styling is not "bad" necessarily. It merely represents an activity which is not as fundamental as design. There are many objects which reached a completely designed stage quite early: the wheelbarrow represents a fundamental design concept unaltered for centuries, and so does the scissors. The only way in which the latter has been improved was by a fundamental change in the process of cutting, which involved the introduction of motors and a whole series of new movements. This change produced new designs for cutting, but the man does not exist who is capable of redesigning the scissors. The umbrella is another interesting example of an object which reached its final design stage a long time ago.

Now to return to furniture.

The designer who works in furniture faces roughly the same functional requirements designers have always had to meet: a chair has to support someone's bottom, a chest of drawers has to store objects of small size, and so on. Unless there is a basic technological change involved, the furniture designer will necessarily function as a stylist, modifying standard models only superficially. When the younger Thonet arrived at his bentwood chair he met an old function with a new technique; so did Aalto, Breuer and Eames. In each instance we find these designs exciting because they open new vistas and make possible the creation of chairs which are more satisfying esthetically because the process of manufacture leads to shapes which are felt to be more in keeping with the feeling of the period. Attached to a traditional furniture plant, however, the designer can only attempt to capture this feeling by reshaping the old materials using old techniques. The results may be pleasing, but the basic patterns will not be greatly different from those of the cabinet makers of the 17th and 18th centuries.

All illustrations from furniture designed for and manufactured by Herman Miller Furniture Company by George Nelson, a practicing Architect, co-author of Tomorrow's Home, and editor of Fortune Magazine, and crusader against the useless.
CULTURAL DELINQUENCY
and how to prevent its spread

The General theme is: “The Expanding Arts. Is Education keeping pace?”

It may be useful to preface the remarks that follow with a question which is not made in the spirit of skepticism but rather in the spirit of objective inquiry.

If the Arts are indeed expanding, in what form and in what direction? Whom does this expansion affect and to what extent? If the arts are moving in a certain direction, are we sure it is a desirable one? It appears to me that Education may unwittingly accelerate the movement typical of our time in quite the wrong direction, unless we recognize that there are two distinct trends. On the one hand, the major movement, in my opinion, is a negative drift, which it is our duty and task to arrest: a preventative program. On the other to assist the development of positive constructive gains made in the last quarter of a century by creative artists and educators.

The words Art and Artists are being so loosely used that I am going to ask your indulgence by first attempting to define these terms as I understand them.

The human need to create tangible ordered form, to compensate us for the uncontrollable, has found expression ever since man discovered technology with which to control his environment. Whenever the making of tools of control and means of communication of experience to meet individual and social need, through whatever medium, reached that level of performance when the “thing” as a whole transcended the more total of efficiently functioning parts, we recognized the performance as artistic, the product as art.

In an industrial society such as ours where we rely progressively more and more on specialists and machines to produce the various control and communication instruments, the creative act or experience becomes progressively more and more remote to the average individual: we are living in a society in which spectators and consumers are the majority, the creative individual a shrinking minority. The probability of transference of creative experience will become negligible if we cannot find new means of counteracting the anti-art development inherent in a laissez-faire industrial civilization.

The high level of sensibility which can produce art or the appreciation of it, is the product of integration of well developed sensory perceptions, oral, visual, tactile, with intelligence. The highest peaks of achievement appear to spring from situations in which the individual, whether the creator or spectator, is physically, emotionally, as well as intellectually responsive to his environment.

Does our society tend to develop this kind of integrated individual? The evidence seems to point to the contrary: we are actually inhibiting the very qualities which we need for the development of a contemporary art commensurate with contemporary science and technology.

Since the beginning of the nineteenth century our drift towards unadulterated materialism has been accelerated. An enlightened minority observed this drift, has recorded it and has suggested various means of arresting it. Some positive steps have been taken, but we are, however, far from a program of action sufficient to reserve this tragic trend. An objective view of the situation which confronts us reveals an overwhelming predominance of anti-art conditions. In the realm of economics, politics, philosophy, and art, those areas of human activity which have many intangibles, we have deliberately ignored demonstrable facts.

We have gone out of our way to obscure or distort those facts with a curtain of meaningless words. We have gloried in self deception which would not be tolerated for a moment in matters of technology, science or business.

As a result, the majority of our citizens look with their ears, hear with their eyes, or have developed the capacity to be quite blind or deaf to anything they find difficult or distasteful. Civilized man has developed a technique for systematic half hearing (the radio) and lost his capacity for spontaneous song or dance. He accepts unquestioning, prescriptions and definitions of others on matters about which he should have first hand sensory reactions of his own. He reads more reviews and condensations than original works, is satisfied with musical criticism instead of finding his own satisfaction in music. He looks at labels and accepts values established all too often with the moricin’s yardstick, in our Museums, but does not see architecture, painting, and sculpture. He responds to pecuniary (Continued on page 53)
The house as seen from the crest of the entrance drive is dramatic in line and form. A long serpentine wall stemming from a group of trees near the property line enters the house several feet below the wide overhang, separating the motor court, car shelter and entry from the living terrace and grounds. The motor court drops from the road, then flattens out to provide ample space for turning and guest parking. All of this area is asphalted within a few feet of the wall to the edge of the bordering bank including also the floor of the car shelter. A concrete entrance step angles outward against the wall and is accented with a circular planting well. The weight of the flat roof is supported visually on the far side of the car shelter by the solid mass of the outside storage units, half of which are used for garden tools and equipment and the other for deep freeze and bulk food supplies. The wall wedges slightly toward the rear of the car shelter where two wide panels of translucent glass admit light from the service yard.

A line of vision from the road above determines the height of the wall. The curving in and out of this brick serpentine offers a striking contrast to the straight lines of the house. The long horizontal of the wall is broken with the repeat pattern of vertical value changes on the convex and concave surface. Fruit trees are to be espaliered against it.

The expansive grounds to the south of the house are to be terraced into several flat areas, one to hold a proposed swimming pool, and another a badminton court. The line of the terrace swells out at the areas of maximum use and recedes where extensive use is not anticipated. This form like that of the entrance step compliments the severe straight line of the roof.

photographs by Baskerville
Flush lights of the underside of all overhangs illuminate the terraces and surrounding ground, throwing a soft glow upon the house. They are arranged to prevent night reflections on the large glass areas.
The width of the overhang on all three sides was developed to cut the summer heat while admitting the longer rays of the winter sun. The terraces were also planned for year-around use. The south terrace for summer sunning is enclosed between the high wall and a solid fin extension of the east wall offering winter shelter.

The window walls are fixed glass panels interspersed with panels of louvered windows, top hinged with screens on the inside in two sections that slide over one another vertically to permit easy adjustment of the window openings. These glass walls were made on a fifteen foot module with the heavy vertical supports accented with a light color while the smaller glass divisions were minimized by using darker shades.

The north elevation of the house consists of the window wall of utility, kitchen, and living room between the wide overhang and the terrace, with the solid block of the children's room jutting out on the east end. The wall of the service yard projects from the corner of the glass area varying the regular roof line with a forceful lower plane of horizontal redwood siding. A wide redwood facia board concealing the gutter trims the roof projection all around the house. This contrasting with the light roof top surface and under-eave plastering extends and integrates the inside of the house with the terraces and outside living areas.

A ravine spotted with large twisted live oaks and sycamore trees as well as smaller scrub growth enriches the outlook and forms the northern boundary. The north elevation with its existing trees provides an always cool and shaded summer terrace for outdoor living and eating. The concrete on all the terraces is stained dark to minimize glare, and shaped to permit planting against the window walls in decorative patterns.

The East elevation like all the others is straight-forward in design. This side of the house is the children's play yard, with the terrace opening off both of the bedrooms.
The general plan of the house achieves a feeling of spaciousness and flexibility. The dark stained terraces stepping out from the black asphalt floors; the plastered ceilings picked up by the plastered underside of the overhang, and the long wall pulling the inside outward, all tend to increase room sizes. The living area was not broken with any floor to ceiling partitions. The high wall enters the house and separates the entry from the living area, and is further accented by inside planting at its base which is the continuation of the outdoor landscaping. An entrance case, twelve feet long and free from floor and ceiling, is supported with a light weight column on the tapered free end. A large panel of translucent glass is used on the entry side of the cabinet and the narrowing end is natural birch plywood.

Traffic circulation is around the outside wall with a flexible arrangement of the easily rearranged furniture. The one solid wall of the living room contains the fireplace faced with split brick and capped with a lip of black soapstone. The brick hearth continues to the window wall and the line is picked up in the outside planting. The wall above and around the fireplace is panelled in birch plywood, one of the panels is split and hinged on both sides to enclose a radio-phonograph; flush fabric replacing another panel above to conceal the speaker and playback. The south side of the wall is filled with book shelves several inches free from the back and a row of solid front drawers at table height hold gaming equipment, beneath which are bins for record albums.

The dining side of the divisional case has sliding glass doors and shelves for the storage of dishes and silver. A concealed fluor-
escent fixture lights the entry hall side of the case. The pass-through pantry has sliding doors and shelves above open from both sides. A horizontal strip of small drawers continuing from the base of the glass case to the bottom of the pass-through furnishes storage for linen, silver and bar accessories.

The kitchen work area is "U" shaped with range at the end. Cabinets fill the wall above the counter, concealing a kitchen ventilating fan above the stove. Bar storage on the kitchen side of the pass-through gives the counter a double function. The end of the wall between kitchen and utility has a recessed niche for electrical appliances and telephone, a bread board type shelf pulls out to give added space for menu planning or kitchen eating. Two transparent glass panels slide over one another and enlarge both kitchen and utility. Above the glass is a continuous fluorescent light serving the utility space as well as kitchen.

The utility room has a micarta topped work counter. There are drawers and shelves below, and in the counter a recessed laundry tray with a flush lid. Space is provided for a home automatic washing machine and a built-in ironing board. At the end are the doors to garage and service yard. The entire outside wall is filled with louvered windows, some open and some fixed. The outside planting area is directly against the glass.

The master bedroom is on the south side of the house and two smaller bedrooms face east. As in the rest of the house, the traffic circulation is along the outside wall and the bed faces toward the south grounds and terraces. The case work from wall to wall behind the bed is filled with drawers for linen storage and clothing. The black asphalt tiled floor has a soft warm sheen, picking up reflection from outside light and does not necessitate additional floor covering, although it offers a neutral contrasting background for any color choice in rugs.

The two small bedrooms are minimum in floor area. The outside wall has windows on either side of a door. As in all rooms of the house, to-the-floor drapes may be pulled across the openings. The opposite end of the room contains a built-in wardrobe with storage overhead, and a chest of
drawers, above which is a mirror completely filling the space and reflecting the outside view.

In the architect's original plans, translucent glass was to be used in the to-the-floor louvred windows of both bath rooms. However, in the completed structure, all outside walls are clear glass. This gives the occupant full advantage of the view outside. If there is any concern over outsiders looking in, there are full length drapes which pull quickly and easily on sliding track. In the small bath room the shower is over the tub and enclosed with pebbled glass. The master bath has a separate stall for decreases in width toward the door of the both shower and toilet. The basin is recessed in a micarta topped cabinet which toilet stall.

The property for Case Study House Number 2 is over an acre of almost flat ground with large trees and a view of the distant mountains. The architect approached the problem of a way of living that would include extensive entertaining, with a plan and orientation developed with consideration of the site and the social and private life of the occupants. This house, of a comparatively moderate footage, was given the needed importance with the severe lines and extensive use of entire glass walls forcing a movement of space in and around the house and completely through the living area.
PRODUCTS AND SERVICES MERIT SPECIFIED FOR CASE STUDY HOUSE #2
Mr. Don A. Proudfoot

With a broad background of education, training and experience in acoustics, Mr. Proudfoot ranks as one of the country's outstanding acoustical engineers. He is a graduate physicist, having majored in acoustical studies under one of the nation's foremost authorities on architectural acoustics at the University of California at Los Angeles. Mr. Proudfoot has had many years' field experience with acoustical contracting firms. During the war he was selected to serve with Columbia University Division of War Research on underwater sound work in connection with submarine warfare under the auspices of the Office of Scientific Research and Development.

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SIMPSON research has been combined with long experience in the wood products field, new manufacturing processes, new controls for uniformity, and an ultra modern plant to produce an acoustical tile of improved quality, performance and appearance.

In appointing Mr. Don A. Proudfoot to head the Acoustical Department, Simpson is providing their acoustical contractors and their customers with technical and field experience to match the quality of the products. Mr. Proudfoot is recognized as one of the country's outstanding acoustical engineers. His wide experience in sound research for the government, his knowledge and years of practical experience in architectural acoustics, will provide the highest type of technical service. Mr. Proudfoot's services are available to all Simpson applicators as an aid in providing scientifically correct solutions to problems involving noise quieting and acoustical correction.

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FROST HARDWOOD LUMBER CO.
208 Railroad Ave., Pullman, Wash. Phone: 4681

UTAH LUMBER CO.
323 W. 1st St., Salt Lake City 9, Utah Phone: 4-4316
(223) Federal Industries, Inc.: Folder electronic garage door opener; opens when button on car dash is pushed; seems simple, inexpensive; easy installation, service.

(215) Homen T. Seale, Inc.: Two fold- ers Seacle adjustable shower heads, accessories; 30 degree ball joint swing angle; good product, worth investigating.

(9) Kirsh Company—Order catalog of complete line of draperies, fabrics and accessories, including extension rods, brackets, supports, red accessories, hooks, custom-made rods, work room tools, decorative hold backs, and household cleaners and brushes.

HEATING & AIR CONDITIONING

(77) American Radiator & Standard Sanitary Corporation: Brochure new baseboard radiant heating panel; "high, replaces baseboard, can be painted; worth investigation.

(13) American Standard & Radiator Corporation—Home Book showing different kinds of heating, winter air conditioning and plumbing equipment using coal, gas, or oil. In full color, includes individual units with description, cutaway views with explanations, plans, pictures of rooms incorporating units into interior design.

(78) Bell & Gossett Company: Information-packed folders, brochures Hidro-Flo Triple-Duty Radiant Panel Heating System; also provides domestic hot water; authoritatively discusses radiant heating theory; good information source.

(225) Blue Diamond Corporation: Factural, illustrated brochure Heatsilator fireplace heating unit; circulates heat to entire room by warm air furnace principle; adapts to any design; sensible product.

(79) Burnham Boiler Corporation: Rating, installation guide on Base-Roy Radiant Heating Panel Baseboard; reliable manufacturer, good information.

(14) A. M. Byers Company—Fifty-two-page bulletin on radiant heating; Complete and concise data on installations both here and abroad.


(80) Columbia Steel Company: Extensive bulletin radiant heating gives advantages, methods of installation, heat transmission tables and technical data; excellent.

(81) Eagle-Picher Sales Company: Folder new "air changer" fan ventilator adaptable to attic, basement, kitchen floor installations; quiet, aluminum, sensible product.

(82) Emerson Electric Manufacturing Company—Three-page book, "Indoor Climate Control" design, construction, performance, ceiling, kitchen, exhaust, cooler fans; technical data.

(83) Evans Products Company: Free pocket-size heat loss calculator; also literature Evans automatic oil-burning hot water heaters, gravity furnaces; installation, specification data.

(84) Hammel Radiator Engineering Company: Folder Comfortaire winter air conditioner, summer ventilator all technical information; centrifugal blow; motor mounted spring suspension and rubber; four sizes, 60,000 to 120,000 BTU.

(85) Hammel Radiator Engineering Company—Two folders, one on gas fired vented wall heaters, other on gas fired gravity basement furnaces. Wall heaters require no pit or basement, and there is no danger of flooding. Feature convenient operation, effective heating, attractive appearance, fully approved by A.G.A. Guaranteed. Furnaces exclusive Hammel sectional type element. Feature Hammel volume air flow, maximum heating surface, capacious air delivery and minimum heat loss. Both folders have installation data, sketches.

(86) Heating Research Corporation: Brochure (12 pages) Safe-Aire gas heating unit; illustrations, explained view units; installation, specification data; wall heater, no moving parts, vents through outside wall, all aluminum, stainless steel chambers.

(211) Holly Manufacturing Company: Folder model Holly wall heater; styled by Walter Darwin Teague; ideal slab heat installation; sensible new product, worth checking; full technical, installation data.

(214) Holly Manufacturing Company: Two-color folder Holly forced air furnace; filters dust, dirt, pollen; blower operates independent of furnace for summer filtering; Minneapolis-Honey- well or General controls, thermostatic; specifications, cut-away model shown.

(86) Ilg Electric Ventilating Company: Illustrated folder filter-type ligatures, window ventilators; fits in window, filters indrawn air of dirt, pollen; furniture steel cabinets, quiet motor fan.

(165) Institute of Boiler and Radiator Manufacturers: Factural brochure hot water radiant heat; technical data; good source information.

(87) Naco Manufacturing Company: Brochure, folders Pacific Thomsoners, vented console heaters; good design, available immediately; also information Pacific floor, dual register furnaces, suspended units, duct furnaces.

(224) Naco Manufacturing Company: Folder new Superior pipeless floor furnace, fully vented; no basement, heating units, oval, round, vent pipes; one of best sources heating data.

(88) Payne Furnace Company: Catalog, brochures, folders complete line forced air heating units, oval, round, vent pipes; one of best sources heating data.

(91) United States Radiator Corporation—Folder radiator panel heating featuring "Comfort Line"; all commercial boilers; diagrams, illustrations, technical installation data.

(181) Wesix Electric Heater Company: Color folder (20 pages) Wesix electric heating systems; technical data, typical layouts; western manufacturer; worthwhile specification chart for built-up roofs.

(190) Williams Radiator Company: Folder Williams Wall Warmalot Heat­ ing unit; vented, 45,000 BTU; no pit, basement; also information other Williams heaters; old, reliable maker.

INSULATION AND ROOFING

(92) American Roof Truss Company: Folders wood bowstring trusses; span 25' to 100'; for houses, industrial, commercial buildings; full technical data; good information source.


(17) Celotex Corporation—Four-page folder on roofing products, including information on insulating flat roofs. Has worthwhile specification chart for built-up roofs.

(19) Celotex Corporation—Sound conditioning brochure based on Celotex products, including Acousti-Celotex fibreboard, Acousti-Celotex mineral tile, standard Mullitone, fissured Mullitone, Q.D. Durclute, Given construction details, has application selector, explains Acousti-Celotex Sound Conditioning Service.

(20) Celotex Corporation—Brochure on industrial building products, including thermal insulation, sound conditioning, interior finishes, expansion joints, vibration isolation, wall units, partitions, roof decks, roofing, and siding. Loaded with technical data. Well worth file space.

(1) Eagle-Picher Company: Brochure Eagle-Picher insulating, certified installation; technical detail proper installation; worth study.

(220) Gladling, McBean & Company: Series folders, brochures Zonelite insulation; insulating fill, insulating plaster, insulating concrete, insulating plastics; shower, bathroom; full details uses established, proven product; worth study, file space.

(221) Gladling, McBean & Company: Brochure Zonelite concrete insulation; interesting for use in portion concrete slab below radiant heating pipes; prevents heat loss into ground; normal concrete should be used above pipes; definitely worth study.

(226) Kimberly Clark Corporation: Brochure (20 pages, two colors) Kimberly blanket-type insulation; moisture, fire, vermin, insect resistant; non-settling, light, flexible; four with, three thicknesses; specification tables, installation data; well illustrated; worthwhile, file space.

(93) Insulite Division, Minnesota & Ontario Paper Company: Brochure Insulite Sealed Lok-Joint lath; serves as plaster base, insulation, makes good sense; specification data.

(97) The Paraffine Companies, Inc.: Factual folders Alumi-Shield, coating composition, fireproofing materials and asbestos fibers, through which tiny flakes of aluminum rise to surface, reflects 80% sun heat; for composition roofs, sheet metal walls and roofs, concrete or cement structures; decorative, service value; specification, application data.

(98) Pioneer-Flintkote: Information-packed 120-page manual built-up roof specifications; valuable detail, source material; features 1-P Built-Up Roofs, answers any reasonable question with graphs, sketches, technical data; must for files.

(96) Pittsburgh Corning Corporation: Rogers, leaflet, Waterproof, fireproof roof, wall, floor insulation; light weight, odorless, vermin proof, rigid, durable; technical data.

(21) Red Cedar Shingle Bureau—Blueprints showing recommended methods of applying wood shingles on roofs and sidewalks.

(22) Republic Steel Corporation—Brochure explaining Republic Triple Drain Roofing and Siding, sectional metal roofing and siding, each section or sheet having three drains so that driving rains can't cause leaks. Complete information for specification and application.
If you consider your clients’ comfort and convenience for years to come, your clients will be friends for years to come. And one sure way is to plan for built-in telephone outlets before construction starts. Here’s why!

Built-in telephone outlets add little to building costs…much to building value.

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An example of the thoroughness of this work is a recent investigation of the holding power of various types of nails. Revere is interested not only in seeing to it that the right specifications of copper are used, but also in every factor, large or small, that will help your jobs give lasting satisfaction.

Whenever you are faced with a problem concerning the design or installation of copper, look first to the Revere manual; and if you do not find the complete answer there, the Revere Technical Advisory Service, Architectural, will be glad to help you. The chances are that they have already had experience with a similar problem. In any case, they’ll do their best to help solve yours.

There is no charge or other obligation for this service. Simply call your Revere Distributor or the Revere office nearest to you.
(52) United States Plywood Corporation—Four-page folder describing Firzite, a pre-finisher for fir plywood and other soft woods which improves paint, enamels or stain jobs. Seals open pores, subdues "wild" grain, minimizes checking. Available in cans, drums.

(189) Wesco Waterpaints, Inc.—Full data, color samples Velduro wall paint; brush or roller; thin with water, dries one hour; easy to wipe clean; pastel colors; good product western manufacturer.

PANELS AND WALL TREATMENTS


(118) Formica Insulation Company: Valuable brochure (12 pages, full color) Formica plastic panels for walls, counter tops, doors, wainscot, cabinet tops, etc.; no painting, spotting, burning; full information on types, colors, patterns; leading product of its kind; worth close study.

(218) Gladding, McBean & Company: Detailed brochure (8 pages) Hermosa Tru-Joint wall, floor, drainboard tiles; wide range colors, shapes; full suggested tile specifications, tables; suggested uses kitchens, baths, etc.; western manufacturer; probably best source tile information in West.

(51) Libbey-Owens-Ford Glass Company—Four-color brochure (12 pages) on Vitrolite Glass Facing. Section on modern baths and kitchens is good selling. Commercial application well illustrated.

(120) M and M Woodworking Company: Series of folders Resnprest exterior plywood; sizes from 8' to 90' to 9" thick; technical, installation data.

(52) Marsh Wall Products, Inc.—Eight-page catalog, illustrations and complete information on Marshite plastic-finished wall and ceiling paneling. Marsh moldings, and Marsh bathroom accessories. Detailed installation instructions, specifications and swatches of all available colors.

(121) Masonite Corporation: Attractive 20-page folder uses Masonite Preformed; full specifications, suggested uses, typical installations; worth file space.

(212) Neal Company: Two-color folder Grainwood paneling featuring natural wood grains; polished surface, rounded edges, marked surface hardness; standard panels and smaller; good for paneling, furniture, display backgrounds, showcases, office interiors.

(213) Pomona Tile Company: Folders Pomona Space-Rite tile; technical, installation data; good product, old manufacturer.

(47) United States Plywood Corporation—Installation booklet (20 pages) on Weldwood plywood for interiors. Full technical data wit lucid, explanatory illustrations, including information on finishing.

(49) United States Plywood Corporation—Complete listing and data on Weldwood, plywood and allied products, for both exterior and interior uses. Good handbook on the use of such products, well illustrated, in 16 pages.

(50) United States Plywood Corporation—Brochure illustrating and describing uses of Weldtex, a striated plywood panel. Covers decorative, structural uses and suggestions for original treatments in built-ins, curved surfaces, and exterior paneling.

(54) United States Plywood Corporation—Four-page folder on Decorative Micarta, laminated plastic surface material with scores of uses. Will not dent or chip, crack or break, splinter or warp. Does not stain from food, fruits, or grease, and does not mar with alcohol. Easy to clean, never fades, never needs refinishing.

(214) Western Hardwood Lumber Company: Folder Panel-ette, wall panel; Honduras mahogany surfaces, Cold Bond insulation core; 1/32" mahogany veneers, 1/2" insulation core; lengths 6' to 18'; widths 8" to 16'; immediately available; good product, well worth investigating.

PLUMBING FIXTURES, ACCESSORIES

(205) American Concrete Products Company: Folder American concrete laundry trays; steel reinforced, mitre joint metal rim; smooth dense mixture; full details, technical data.

(169) American Radiator & Standard Sanitary Corporation: Brochure full color American-Standard plumbing fixtures; kitchen, bath, laundry; top modern design; good selling by leader in field.

(123) W. R. Ames Company: Folder new aluminum shower cabinet; rust, corrosion, leakproof; one-piece aluminum receptor; rough-in dimensions, installation data.

(124) Anti-Corrosive Metal Products Company: Brief circular stainless steel sink bowls.

(166) Briggs Manufacturing Company: Full color brochure Briggs Beautyware bath fixtures; porcelain-enamelled steel; stainproof, variety of colors; safety-bottom tub; good selling by large company.

(23) A. M. Byers Company—Sixteen-page bulletin concerning all the problems and possibilities and methods of bending and slanging wrought iron pipes.

(125) Cal Cast Products: Folder new cast aluminum laundry trays; light weight, chip proof; easy installation; available.

(126) Crane Company: Brochure (24 pages, full color) presenting complete 1947 Crane line of plumbing fixtures; features Dial-ese trim; illustrates model bathrooms, powder rooms, kitchens; idea-packed.

(127) Fiat Metal Manufacturing Company: Brochure new Fiat Cadet shower cabinet; good design, can be used free standing; features Zephyr door; worth appraisal.

(128) Gerity-Michigan Die Casting Company: Catalog contemporary line Gerity Lifetime chrome bath accessories; clean lines, good quality.

(215) Fir-Tex of Southern California: Folder Alumilite finish F. T.-50 shower cabinet; heavy aluminum, simply design, completely prefabricated; equipped with floor, shower head, fixtures, curtain; 32"x32"x75".
The building was a thing of beauty inside and out. It was ideally suited for its purposes in every respect—except one.

That deficiency made the building a disappointment to owner and tenants. The rooms and corridors were reverberant. Working quarters were noisy.

When the owner complained, the architect pointed out that unfortunately his original specification for sound conditioning had been eliminated in a penny-wise effort to cut costs. The only remedy—sound conditioning as originally specified, but installed at added expense because the building is now finished and occupied. This time, the recommendation was not over-ruled.

Architects know that in most buildings sound conditioning is necessary for human comfort and efficiency. Even when every possible cost saving must be made, specifying sound conditioning is good practice—and good insurance of client satisfaction.

Acousti-Celotex® sound conditioning accounts for only a negligible part of the total cost of a structure.

When planning a building in which an atmosphere of quiet comfort is wanted, remember this—more sound conditioning has been done with Acousti-Celotex than with any other material. That is significant evidence of Acousti-Celotex excellence.

The Celotex Corporation line of acoustical materials is complete and up-to-date, as pictured and described in your Sweet's Architectural File. For the latest data on availability of any Acousti-Celotex materials in the quantities your specifications may require, consult the local Acousti-Celotex distributor. Or address your question to The Celotex Corporation, Dept. AA-478, Chicago 3, Illinois.
Also catalog pages on newly designed suspended matter, odors. Steel filter bar.

Revised edition catalog of all types of water. Removes chlorine, discoloration, connected to city water line or to well graded quartz. Relies filled with activated carbon and public sanitary drinking fountains, recommendations for modern bathrooms. Cabinets, bathroom accessories.ish, immediately available; western

(26) Heinz Drinking Faucet Company—Pamphlet on filter which may be connected to city water line or to well water. Removes chlorine, discoloration, suspended matter, odors. Steel filter bar.

(129) Kohler of Kohler: One of best brochures contemporary bath fixtures; suggestions for modern bathrooms.

(130) F. H. Lawson Company: Folder (8 pages) well designed line bathroom cabinets, bath accessories.

(131) Mastercraft Company: Folders well designed line bath accessories; simple lines, few corners; chrome finish; immediately available; western manufacturer.

(132) RCB Manufacturing Company: Brochure Mixet shower control; new method gives independent adjust either volume or temperature; well designed, chrome, Lucite.

(133) Salter Manufacturing Company: New catalog detailing Salter-Glauber all brass plumbing fixtures; exception.

(134) York Seating Company: Folder new line plastic toilet seats; tarnish-proof, rust-proof, unbreakable, stain-proof, fade-proof; chrome brass hinges; white, black mottled with white; all standard sizes.

(127) J. A. Zurn Manufacturing Company: Twelve-page bulletin describing improved line of wall closet fittings including connection details, dimensions.

SASH, DOORS AND WINDOWS

(135) Air-O-Blind Metal Awning Company: Folder Air-O-Blind (Venetian-type) outside metal awnings; controlled from inside; protection against weather, prowlers; guards privacy; simple design.

(136) Albert Storms & Company: Data sheets; tubular construction projected casement windows; strong enough to carry weight glass blocks without lintels; multiple fitting of standardized lengths of sash to frame and frame to continuous fin; no rattle, swell, warp; no painting.

(137) Aluminum Company of America: Detailed literature. Alocs aluminum windows of all types; specifications; installation data; one of best information sources.

(138) American Plywood Corporation—New Landowner Hollow-Core Flush Doors, a "Plinyeeded product," treated in four-page folder, which shows how doors are built. Details on American Solid Core Flush Doors and scarfed plywood, which makes possible building of larger than standard plywood panels.

(199) Bailey & Cook: Folders Twin-set metal windows, awning or casement; complete with frame, jamb, sill, trim, glass; bandedizer; immediate delivery; good design.

(20) Ceco Steel Products Corporation: Brosure Chamberlin combination screen-storm windows; change from inside; Bandedizer frames, rattle-proof glass panels; rainproof screens; all metal.

These are only three 'General' ideas for commercial and home lighting. Send for the new illustrated catalog showing many more

(139) Detroit Steel Products Company: Data standardized Fenclraft metal windows, casements; becoming available; good design, good quality.

(140) Grand Rapids Hardware Company: Illustrated brochure Invincible Sash Balance; no tapes, cables, exposed parts; fits narrow casings; easy to adjust; specification, installation data.

(141) Ingersoll Steel Division, Borg-Warner Corporation: Factual brochure KoolShade Sun Screen, "window insulation"; screen is series of miniature slats clamped to repel 90% sun heat; no painting; wind resistant, good visibility, ample light.

(143) Yorke Seating Company: Folders Twin-set metal windows, awning or casement; complete with frame, jamb, sill, trim, glass; bandedizer; immediate delivery; good design.

(144) Detroit Steel Products Company: Brosure Fenestra steel windows, doors, panels; all standard sizes; doors swing and slide; panels for jounts, subflooring, roofs, partitions; full technical, installation data.

(145) Yorke Seating Company: Brosure KoolShade Sun Screen; "window insulation"; screen is series of miniature slats clamped to repel 90% sun heat; no painting; wind resistant, good visibility, ample light.

(146) Chicago Window Company: Brosure KoolShade Sun Screen; "window insulation"; screen is series of miniature slats clamped to repel 90% sun heat; no painting; wind resistant, good visibility, ample light.

(147) Chamberlin Company of America: Brosure Chamberlin combination screen-storm windows; change from inside; Bandedizer frames, rattle-proof glass panels; rainproof screens; all metal.

(148) Detroit Steel Products Company: Data standardized Fenclraft metal windows, casements; becoming available; good design, good quality.

(149) Detroit Steel Products Company: Brosure Fenestra steel windows, doors, panels; all standard sizes; doors swing and slide; panels for jounts, subflooring, roofs, partitions; full technical, installation data.

(150) Grand Rapids Hardware Company: Illustrated brochure Invincible Sash Balance; no tapes, cables, exposed parts; fits narrow casings; easy to adjust; specification, installation data.

(151) Ingersoll Steel Division, Borg-Warner Corporation: Factual brochure KoolShade Sun Screen, "window insulation"; screen is series of miniature slats clamped to repel 90% sun heat; no painting; wind resistant, good visibility, ample light.

(152) Yorke Seating Company: Folders Twin-set metal windows, awning or casement; complete with frame, jamb, sill, trim, glass; bandedizer; immediate delivery; good design.

(153) Detroit Steel Products Company: Brosure Fenestra steel windows, doors, panels; all standard sizes; doors swing and slide; panels for jounts, subflooring, roofs, partitions; full technical, installation data.

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Quality in a barometer shows up in the accuracy of its readings. And this accuracy depends on delicately adjusted mechanisms inside the instrument.

With building products, too, quality of performance is determined by what's inside. Your eye seldom sees the values that make the important difference.

That's why building-wise people insist on Celotex Building and Insulating Products. They know the raw materials which go into Celotex products are the finest that nature can grow and man can refine.

They know, too, that rigid production controls all along the line guarantee the uniformly high quality of every product bearing the Celotex name.

Timeless laboratory research perfects materials and methods still more... helps to maintain Celotex leadership year after year.

These, plus more than a quarter of a century of building materials "know-how," are the invaluable ingredients in every Celotex Product.

They make a big difference in performance... in long life and low cost maintenance. A difference that has proved its value on hundreds of thousands of building jobs of every kind.

* * *

There aren't enough of these famous Celotex products to go around now—but our plants throughout the country are working day and night to increase production. Everything possible is being done to speed the time when we can supply you with all the Celotex products you need.

Building Board  
Colo-Rok Wallboard  
Colo-Rok Anchor Lath and Plaster  
Colo-Siding  
Cesto  
Flaxcell  
Rock Wool Insulation  
Triple Sealed Shingles
Grip LATH

THE FIREPROOF INSULATION

In specifying GRIP LATH for the one-hundred-and-forty-seven homes in the Pleasant Hill site, the veterans have been provided a material that is fire resistant, therefore is safer... a material that is durable... economical... impervious to expansion or contraction, and which reduces cracks to a minimum. Build to last... specify GRIP LATH.

THE PARAFFINE COMPANIES, INC.
Schumacher Gypsum Division
San Francisco, 475 Brannan Street
South Gate, 4201 Firestone Boulevard

C P A - Veteran's Homes at Pleasant Hill Homesite

R. MORGAN
General Contractor
Richmond, Calif.

RALPH BAER
Subcontractor
Pittsburg, Calif.

HOWARD WAITE
Laying Foreman
Walnut Creek, Calif.

H. MARTIN
Building Contractor
Richmond, Calif.

MAJESTY PETERS
Building Contractor
Oakland, Calif.
Now we can
MEET THE HUGE DEMAND
for
FINE WELDWOOD
HARDWOOD
PLYWOODS

For the first time since before the war, Weldwood Plywood is available in large supply...in a wide variety of fine cabinet hardwoods!

And you'll find eager acceptance for Weldwood all through your clientele.

Why? Because...even in the face of serious shortages...we've carried on a vigorous national advertising campaign to sell Weldwood to home-minded Americans. As a direct result of this advertising, almost half-a-million prospective users have written for more complete information.

We’ve told them all the entire Weldwood story. They know, for instance, that Weldwood has striking decorative beauty plus high structural strength. They know, too, that Weldwood can be installed easily and economically...either for remodeling or new construction.

And your clients know this: Weldwood's first cost is the last. It's guaranteed against splitting, cracking or warping for the life of the building in which it's installed.

Take advantage of this knowledge...and the acceptance that comes with it. Specify Weldwood. It's a modern material of proved quality and demand.

You can get detailed information on the wide variety of sizes and veneers now available from your nearest USP office or representative.
and Magic of Windows," by Dr. Matthew Luckiesh, internationally known lighting authority. Must reading for modern designers. Shows sense and necessity for wide glass areas.

(142) Milwaukee Metal Strip Service, Inc.: Folder combination spring sash balance and weatherstrip; economical, simple installation, accurate balance; no wood to wood contact; rust, corrosion proof.

(143) Perma-Steel Corporation: Folder new Lifetime exterior stainless steel awnings; ten colors, fireproof; impervious salt-spray, acid fumes; assembled to measure.

(144) Pittsburgh Plate Glass Company: Information folder Twindow, insulated glass; hermetically sealed air space between dual panes; reduces heating cost, permits larger windows; product worth appraising.

(201) Polydore Company: Folder Premier double hung, casement, picture aluminum windows; also data aluminum extrusions, structural, sheets, and aluminum fabricating.

(34) R.O.W.—Pamphlet showing structural detailing of R.O.W. removable "spring cushion" wood window units, factory fitted and assembled, weather stripped with noncorrosive metal. Also available is a 17-page booklet with sketches of houses of all periods using R.O.W. windows.

(194) Ry-Lock Company, Ltd.: Descriptive folder Ry-Lock tension window screen; easy to install, keeps clean; won't stain paint; good product by western manufacturer.

(215) Steelbilt, Inc.: Folder functional Steelbilt horizontal sliding sash window units; streamlined mullions, muntins, outside screens; wide range sizes; unit is steel, includes frame, sill, ready to install; specifications, installation details.

(145) Steel Window Corporation: Folder aluminum windows, metal screens; illustrates all types, gives specifications, installation data; western manufacturer.

(146) SterlingWindows, Inc.: Series two-color folders new double-hung aluminum windows, sash and frame; packaged, ready to install and glaze; frictionless, rattle-free, non-binding; specifications, installation data.

(197) Timm Industries, Inc.: Full information Timm aluminum casement windows; contemporary design, engineering; all types available immediately; one of best Southern California sources.

(147) Tremco Manufacturing Company: Brochure Tremglaze mastic glazing compound; ten colors, no painting; weatherproof, elastic but firm after years of use; easily removed; cites advantages over putty.

(148) Turner & Seymour Manufacturing Company: Folder new vertical sash balance, Hidalift; completely concealed; simple installation and adjustment; standard, odd sizes.

(35) United States Plywood Corporation—Well illustrated four-page folder on Mengel flush doors and Weldwood doors, giving sizes, weights, showing construction details. Also mentions Craw-Fit-Door for garages, Sar-A-Space sliding doors and frames.

(149) Warrington Brothers Manufacturing Company: Folder Fulvue stainless steel double-hung windows no sash balances, thin mullions, simple design; single or multiple units.

Services of H. Jay Ault were merit specified for Case Study House #17

- Drapery making and installation
- Custom building of furniture

H. JAY AULT - Interior Decorator

Drapery Upholstering
60 N. Lake Ave., Pasadena 1, Calif.

CArpet S

SImpson ACOUSTICAL TILE

Cut down office noise inside or deaden outside industrial disturbances with this new improved tile board.

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- Angeles Industries
  924 McGary Street
  Los Angeles 21, Calif.
- Allied Construction & Specialty Co., Inc.
  8955 Melrose Ave.
  Los Angeles 46, Calif.

California Panel & Veneer Company

50 SOUTH ALAMEDA • TRINITY OOST • LOS ANGELES
CARPET LAYING

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CARPET LAYING

ROUX STREET 1107

CARPET LAYING

CITIZENSHIP 8-417

CARPET LAYING

JEWELL CARPET COMPANY

CHAPMAN S-1174 CITRUS 1-9677

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CARPET LAYING

GLENDALE, CALIFORNIA

CARPET LAYING

ROYAL JET-FLOW

Heats Homes Better Faster Than Other Units Costing Three Times as Much.

Send for free folder:
ROYAL HEATER INC.
1024 WESTMINSTER AVE.
ALHAMBRA, CALIF.

CARPET LAYING

This handbook of residential wiring design for single family dwellings has been prepared especially for the use of architects, engineers, builders, electrical contractors and lending institutions.

It is not a handbook on how to install wiring...it is one on how to plan wiring. It sets forth...room by room...outlet and circuit requirements for an efficient, convenient and useful home wiring system...a system which will help avoid electrical obsolescence.

If you have not received your copy of this free handbook...or if you wish additional copies...contact your local utility office or this Bureau.

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If you have not received your copy of this free handbook...or if you wish additional copies...contact your local utility office or this Bureau.
(209) Behr-Manning Corporation: Booklet (10 pages) flock, flock finishing; process of coating short fibers on surfaces to velvet-like pile finish; contains actual color samples.

(218) Cal Management Company, Inc.: Folder Migh-T-Safe, wall safe; fire-proof, burglar proof, earthquake proof; combination dial lock, different combinations; also floor models; good product, worth appraisal.

(219) W. P. Fuller & Company: Exceptionally good 16-page color brochure shower and tub enclosures; standard shower doors, sand carved doors; illustrates many kinds obscure glasses; winging or sliding doors; full details; specifications; should be in all files.

(164) Kinkead Industries: Descriptive, illustrated booklet Kintrim protective metal mouldings for linoleums, wall and floor coverings; stainless; contains planning guide.

(214) R. C. LeTourneau, Inc.: Brochure (8 pages) describing on-the-site monolithic construction with Toumain, huge machine which "lays" complete concrete houses; any design, full details explained; worth study.

(150) Marsh Wall Products, Inc.: Bulletin seven new alloy mouldings for plastic wall panels, counter tops.

(151) New Castle Products: Idea-packed 12-page brochure Modernfold doors; accordion-type folding walls, top hung, no floor track; metal frame with leatherette cover; good contemporary design accessory.

(152) NuTone, Inc.: Color folder NuTone door chimes; wide range styles, including clock chimes.

(153) Plastic Process Company, Inc.: Folder sensible new Plasmode roll-away interlocking doors for cabinets; rolls up, stops any height, saves space; variety of colors.

(154) Robert H. Clark Company: Brochure Genie Built-in Canopener; encased in chrome-plated box, recesses in tile, plaster, wood walls; flush when not in use; worth seeing.

(155) Rohm & Haas: Folder Plexiglas, transparent plastic; illustrates applications, gives tables optical, mechanical, chemical, thermal data; size, color of sheets.

(216) Southern California Ceramic Company: Full color folder new line ceramic dinner ware, utility pieces; immediately available.

(210) Stuart-Denn Company, Inc.: Brochure Genie Built-in Canopener; enclosed in chrome-plated box, recesses in tile, plaster, wood walls; flush when not in use; worth seeing.

(156) Thomas Manufacturing Company: Catalog, free plan service folders Thompson lawn sprinkler systems; lays; adjustable sprinkler heads; up to 18" spacing.

STRUCTURAL BUILDING MATERIALS

(157) American Rolling Mill Company: Detailed portfolio sheet metal specification guide for architects covering Armco steels; particularly good section architectural uses stainless steel.
AUGUST 1947

(227) Blue Diamond Corporation: Detailed brochure Durex, agent for entraining air into concrete; increases durability of concrete, its resistance to disintegration; full technical data highway, structural, man, ready mixed concrete, concrete products.

(37) A. M. Byers Company—Thirty-two page illustrated bulletin "101 Uses for Wrought Iron". General idea of the various types of service for which the material is installed.

(38) California Redwood Association—Two wallet cards, "Yard Grades" and "Grade Use Guide", treating on redwood. Latter is probably of most use to architects. Reading rules have been changed to make available larger volume of high grade all-heart redwood for architectural design.

(24) Cemco Steel Products Corporation—Technical brochure, 24 pages, on Cemco open web steel joists, giving construction details, standard specifications, steel joint loading tables. Also explains the use of Cemco open web joists used as purlins with necessary technical tables.


(40) Celotex Corporation—Celo-Rok brochure listing and explaining Celotex plaster and wall board, related gypsum products. Valuable for technical and use data.

(41) Celotex Corporation—Review of all Celotex home building materials with full application data. Products include sheathing, insulating lath, interior finish, siding, anchor fast, plasters, wallboards, rock wool, roofing, hardboard and cemento.

(158) Dan & Russell: Brochure Dantere, new lightweight building material; formed of light glass globules "popped" by extreme heat from raw pet. Description includes wall plaster, 12 lbs. to cubic foot, sand 85 lbs.; insulates against heat, cool, noise.

(42) Kanene Company: Announcement of Zetone, an aluminum panel with tongue and groove joints to be used as a decorative and practical exterior or interior building material. Also given are full size details and applying methods.

(185) Kraftile Company: Brochure, folders Kraftile Glazed Wall Units, modular coordinated dimensions; building tile glazed finish, variety colors; full range thicknesses, types; full technical data.

(180) Michel & Pfeffer Iron Works, Inc.: Booklet Arston Spiral Stairs; welded steel construction; heavy pipe columns, railings; quick delivery from stock parts; western manufacturer.

(159) National Gypsum Company: Folders Gold Bond gypsum products; include sheathing, gypsum lath, plaster, finishing, wool insulation, hour-hour wall paints; one of best sources of information.


(160) Pittsburgh Corning Corporation: Brochure (28 pages) PC glass blocks; illustrates typical installations; technical, installation, performance data; lists types, accessories available; layout tables for glass block panels based on modular coordination.

(212) Portland Cement Association: Brochures, folders giving complete story on cement in concrete construction, including houses; best source of information on subject; worth full file space and study.

(43) Republic Steel Corporation—Brochure listing and explaining Republic sheets for the building industry—En duro Stainless Steel, Torcon iron, enameling sheets, Electro Paintlok, Electro Zinchel, Taylor ternes. Twenty pages. Well illustrated, many users suggested offers special services to architects.

(44) Republic Steel Corporation—Four-color folder on new product, Electric Painlok sheets, electrolytic zinc, won’t flake or powder in dies, and won’t crack, won’t peel.

(161) Revere Copper and Brass Incorporated: Information-packed brochure (96 pages) sheet copper construction based on extensive sheet copper research program; charts, facts, instructions, specifications; powerful assistance with design, installation copper; best of its kind.

(162) Reynolds Metals Company: Catalog, folders Reynolds aluminum building products; shingles, ceiling panels, clapboard siding, corrugated roofing, crimp 5-V roofing, snap-seal roofing; specifications, installation data.

(45) Stran-Steel Division, Great Lakes Steel Corporation—Series of well illustrated folders, brochures on Stran-Steel "packaged framing," used in thousands of housing projects built before the war and more than 150,000 "Quonset" buildings for military and postwar uses. System features patented nailing groove in studs and joists, is particularly well adapted for quick housing construction. Final assembly of basic framing package provides dimensional framing for house 24' x 28'. The 24' is fixed, the 28' is variable in 2' increments. Size arrangement of windows, doors variable. Wide variety of collateral materials can be used.

(46) Stran-Steel Division, Great Lakes Steel Corporation—Series of well illustrated folders, brochures on adoption of company’s patented framing system to residential, industrial, commercial construction. Carries full information, short of final engineering, on assembly techniques. Provides an answers to question regarding war-famous Quonset construction.

(48) United States Plywood Corporation—Particularly well done 20-page brochure, shewing uses of plywood plywood for commercial interiors. Stores, offices, banks, hotels, institutions, bars, restaurants. Illustrations good, ideas many.

(163) West Coast Stained Shingle Company: Full color folder Olympic pre-stained side walls; roofs; red cedar shingles, vertical grain; color, specifications charts; also data shingle stairs.
our streets, our cities, and which threaten to spread like a fog to engulf and destroy our countryside and darken our sunlight. On the other hand, we work equally unseeing, the new, often vital and exciting creative acts which are natural instruments with which to make a good life.

If what I have outlined is even partially true, and I don’t think I have exaggerated observable facts, do we not have to ask ourselves if a society which on the whole inhibits the very attributes which are essential to art can hope to achieve the goals we have set ourselves without a drastic and widespread program of social therapy.

I do not believe that we can, and positively assert that art as an experience is a major instrument in such a therapeutic treatment. It will be necessary in the first place radically to change our prevailing attitude towards art. Art must cease being considered as a commodity provided by mystically endowed specialists for the delectation of an equally exclusivistic body of patrons, and must become an activity in which all participate. Then art can become an instrument of social therapy, as present in nutrition, hygiene and medicine. Democratic society can survive only if it can develop integrated and healthy citizens capable of realizing through concerted action our highest aspirations. The Science of psychology tells us that the integration of sensory as well as intellectual vigor is essential to our survival. This assertion seems incontrovertibly supported by observable facts in the light of our present knowledge. The form of education which we adopt at this time will determine to a large extent whether the process of inhibition, leading to atrophy of our essential sensory equipment, will continue or will stop, whether the veils before our eyes are torn away and we see that which is living and real.

If our concept of education is not based upon the most liberal principles and is not conducted at the highest level of which we are capable, the product will be the very antithesis of the high purpose which we profess. If we are objective we will have to admit that at this time our practice coincides but rarely with our professions. We profess enlightened responsibility towards our children, yet tolerate the exposure of the majority in the formative stage of development to second rate personalities in surroundings of uninhibited garrulity or of outright ugliness. We tolerate the constant exposure of our children to false and degrading illusions churned out by contemporary commercialism through the media of movies and the comic strip, yet we expect in the face of this conditioning these children, when they reach adolescence and maturity, to derive benefit from very transient and incomplete contacts with what we dedulously believe to be masterpieces, posing as eternal values.

We encourage comfortable conformity to obsolete patterns rather than encourage free imaginative experiment and self-expression.

In a society of which the physical shape in which we are transforming at a tremendous rate, we have developed a schizophrenia in our gratuitous division between the so-called rational things which can be changed and so-called aesthetic values which we deliberately maintain as static and inflexible. Do we not require a dynamic approach to the problems of philosophy and art for contemporary man equal to that which we so readily accord to the technics of destruction?

As a first and essential step in this social therapeutic process, is it not necessary to begin working towards building a physical environment consonant with our aspirations and productive potential? . . . So that these things will speak for themselves, requiring no specialist interpreter.

We will have gone far towards the achievement of our educational objectives in their widest sense when we have established a sense of security based upon the four freedoms and have implemented these concepts with the physical fact of good housing, decent schools, well planned cities and preserved natural resources. In such an environment the poet, musician, painter, sculptor, architect, could function organically and reach an audience of real understanding. Through such a process, much latent talent now repressed would find its expression, many misunderstandings and conflicts would be removed. It is the individual and joint responsibility of our educators in particular to accrate the realization of these first essential steps in restoring our social health, which will be followed inevitably by the restoration of a climate in which art in its fullest sense may put out deep roots and flourish. In such a climate we need have no fears that, as Eric Gill so eloquently put it: “Beauty will look after herself.” If we can put our will and energy to work on these basic essentials within the framework of our general plan, we need have no fear that contemporary man like Frances Cornford’s “fat old woman whom nobody loves . . .” will continue . . . “. . . to walk through the fields in gloves, missing so much and so much.”
YOUR SQUARE Multi-Breaker

...IS THE HEART OF HAPPY HOME LIVING

The drafting board is a reflection of the architect's ability ... and integrity. Breakfast nooks, ample closet space, sun decks and tennis courts catch the prospective buyer's eye but there are many other vital, important factors needed to insure happy home living.

What, for instance, does your drafting board say about electrical home comfort? What about Square D Multi-Breaker control? With the thousand and one new electrical appliances now ready for home usage, are you asking the buyer to accept the old-fashioned switch and fuse box, knowing full well that he will beat a path down the basement stairs to the tune of "I'm Forever Changing Fuses"?

Why not join the ever-growing group of modern architects who specify Square D Multi-Breaker control? It costs little more than the archaic fuse box it replaces, actually often less; but because it is safe, economical and practical, it means that your client is assured of happy home living ... and what is more important to the architect?

A call to your nearest Square D Engineer or Distributor will bring you first hand information and assistance.

SQUARE D COMPANY

LOS ANGELES 21  SAN FRANCISCO 3  SEATTLE 1  DENVER 4  DETROIT 11  MILWAUKEE 2
Part of the 250,000 sq. ft. roof surface covered by P-F Type AAA-1 Built-Up Roof.

for SEARS, ROEBUCK

CO. new Compton Store

SEARS, ROEBUCK COMPANY'S new store in Compton, Calif., designed by Architect Stiles Clements, is protected from foundation to roof by P-F products. The 250,000 sq. ft. roof area is surfaced with P-F type AAA-1 Built-Up Roof. The subgrade foundations presented a special problem due to the high hydrostatic pressure of the Compton area. P-F engineers, working with Mr. Clements, with L. E. Dixon, the general contractor, and with the Associated Roof Co., the roofing and waterproofing contractors, pre-tested P-F Cold Process Foundation Waterproofing and found it well able to withstand the severe conditions. P-F Cold Process Foundation Waterproofing employs no fabric, felt or hot bitumen. It is sprayed on from the original containers, not in a single coat, but in scientifically designed multiple courses of cold bitumen applied with a cross application technique forming a thick film that provides an impervious waterproofing layer designed to last as long as the foundation itself.