BUILDINGS TYPES STUDY:

RECORD HOUSES OF 1981

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ARCHITECTURAL RECORD

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   by Barclay F. Gordon

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   P. O. Box 25377, Houston, Texas 77005

126 Rodes house, Los Angeles, California
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32, 101 PRAGUE chairs

33 BENTWOOD rocker 404 BENTWOOD costumer

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Matt natural, walnut, red aniline finishes

Matt natural, walnut, red aniline finishes

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103 VIENNA chair

100 CORBUSIER armchair
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It all adds up to an original building design which is beautifully suited to its function and location—based on brick.

For more information about the Ward Building, and about other innovative design applications of brick, write for a free copy of "Brick in Architecture," Vol. 36, #5, from the Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22102.
Most passive solar systems for houses are designed on a qualitative rather than a quantitative basis. Furthermore, most knowledge that architects have of these systems is empirical. Mathematical models, and prediction methods based upon them, exist, but these have not been tested rigorously against actual passive-system components and houses operating under controlled conditions. And while some manufacturers of windows and skylights offer estimated seasonal performance values for these devices, presently there are no standard test procedures. In addition, test procedures are needed to give dependable data on other manufactured passive solar systems such as water walls.

So, at present, architects have to design passive systems with theoretical information and by rule of thumb. Obviously, these systems could be more cost effective if designers had more hard data on how the systems work.

Recognizing the need for research to develop data that would be helpful to designers, the Department of Energy commissioned the Center for Building Technology at the National Bureau of Standards to design and build a 1,400-sq-ft house that could be used to monitor and improve measurement techniques, which is now being readied for taking test data. The specific objectives are to: 1) develop performance standards for passive solar components, windows and skylights in particular, and 2) develop performance data on direct-gain passive solar systems (i.e., large south-facing windows) and masonry storage wall systems. For the latter, sufficient measurement points of surface, air and ground temperatures and recording equipment have been provided to enable the collected data to be used as input for the passive solar components of computer programs designed to predict annual energy usage of buildings.

Additionally, architects at the Center for Building Technology will be able to study the thermal performance and daylighting benefits of shuttered clerestory windows and shuttered north-facing windows.

Prior to the research-house activity, DOE conducted a survey to determine what kinds of passive solar products exist. Not surprisingly, most of these were found to be windows, but also included were water walls and change-of-phase tiles and tubes.

Related to the performance-standards portion of research-house program was the purchase of stock windows that were sent to private test laboratories for measurement of their thermal characteristics.

The $146,000 research house is divided into four areas: a calorimeter space for developing performance standards for manufactured passive components, a masonry-storage-wall (Trombe wall) space, a control space and a direct-gain space.

In the calorimeter space, an insulated test frame with cooling coils and an electric heater behind an absorber panel can be moved up to the wall behind the large single window, or hung below the skylight, to measure heat losses and gains through them. The purpose is not to test a window or a skylight, per se, but rather to develop a standard for measuring the performance of these types of elements. For, as Mark McKinstry, former group leader of the Passive Solar Systems Group of the Building Thermal Performance Division of CBT, states, the purpose is to develop standard test procedures, not to test products.[2]

"The Bureau of Standards," is the way he puts it. An earlier example is the test work done to serve as the technical basis for three ASHRAE standards on water-type solar collectors.

The direct-gain space and the masonry storage-wall space have a very large number of sensors installed in multiple locations so that data can be acquired to validate the passive solar portion of such energy-usage computer programs as DOE II, BLAST, and others, or some simplification thereof for residential application. Sensors will measure sensible and latent air temperatures, surface temperature of rooms, internal temperatures of the masonry storage wall and floor slabs, ground temperatures, and mean radiant temperatures (to determine if uncomfortable disparities in room surface temperatures develop because of passive solar input). Instrumentation is being installed for over 100 channels of information. This type of investigation—called class A by DOE—was originally conceived to be conducted in a total of six houses. With much of DOE's solar programs in limbo or cancelled, managers of the programs do not know how much will go ahead. In any case, DOE has committed $180,000 to taking data in the NBS test house up through October of this year.

Another type of investigation planned by DOE involves installing instrumentation for 1 channel of information in 60 occupied houses from Maine to Florida to determine how well various passive elements in a house work. Measurements are to be made in one zone of each house to determine what fraction of the heating input is solar and what fraction from the heating plant.

A research house for developing passive solar standards
The house is divided into four spaces: a calorimeter area for developing performance standards on windows and skylights, a room with a masonry storage wall (Trombe wall), a direct-gain room, and a control area between the last two with smaller windows for checking the relative performance of stored energy and direct sun. The last three rooms will be heavily instrumented with sensors buried in masonry walls and floor slabs, attached to wall surfaces, and mounted at gradient levels in the air. A clerestory shuts out unwanted sun in summer, but always admits pleasant daylight. In winter, sun can strike a masonry wall on the north side of the direct-gain space. The masonry storage wall has openings for air circulation, and doors above the windows in the outside wall for venting. North windows have shutters for nighttime and cold-weather use, and splayed recesses for more pleasant daylight. Instrumentation will be installed in the small closet with the louvered door.
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Because there is no visible hardware to detract from a clean-line minimalist design.

... the structural panels are \( \frac{3}{4} \) " thick (unlike most others which are \( \frac{5}{8} \) " or less).

... the backpanels create an impenetrable barrier against mildew and humidity.

Because custom-size cabinets are offered to create wall-to-wall, floor-to-ceiling installation.

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The Chilnburg stacking chair is suited for hotels, restaurants and highly trafficked areas where seating is exposed to severe abuse. This series includes modular benches, stadium seats, chairs, tables and lounges, all from synthetic coated steel.
Tax credits and energy-saving residential design

The tax laws today contain economic incentives to induce certain taxpayers, namely owners and renters of homes, to invest money in energy-conservation measures. These legal influences can create opportunities for architects to provide professional services to clients in the residential sector. The combination of an immediate tax credit and long-term savings on energy costs may convince clients to seek architectural services in connection with residential projects in order to maximize their technological and financial benefits.

by Arthur T. Kornblut, Esq. and Fiona A. Power, Esq.

The Energy Tax Act of 1978, by the addition of Sections 44C and 1016(a)(21) to the Internal Revenue Code, created a Federal income tax credit for qualified energy expenditures made each year in connection with a taxpayer's principal residence. Final regulations on this "residential energy credit" were filed August 27, 1980, and parts of Section 44C were subsequently amended by the Crude Oil Windfall Profit Tax Act of 1980. These recent changes in the tax law have created a number of opportunities for architects with residential practices.

The current tax credit is 15 per cent of "energy conservation expenditures" up to $2,000 (or $300 worth of tax credit) and 40 per cent of "renewable energy source expenditures" up to $10,000 (or $4,000 in tax credit) for a possible total tax reduction of $4,300. The minimum credit allowed is $10 per tax year. If the allowable credit exceeds the limitation, the excess can be utilized during the succeeding taxable year. However, there will be no carry-over allowed after December 31, 1987.

If the qualified energy expenditures were financed with Federal, state, or other grants, they are eligible for the residential energy tax credit only if the amount of the grant is taxable as gross income. Tax-free funds are not allowed to generate what would be, in effect, double tax savings.

The tax credit is limited to expenditures made in connection with a taxpayer's principal residence, which must be located in the United States. It does not apply to money spent for energy savings in vacation homes. The law does not restrict the credit to homeowners, but because of the considerable expense involved, renters probably would not make expenditures to take advantage of the tax credit without the security of a long-term lease.

The statute defines the term "energy conservation expenditure" as an expenditure made on or after April 20, 1977 for insulation or any other energy-conserving component (or for its installation) for a dwelling which was substantially completed by that date. Qualified insulation materials include fiberglass, rock wool, cellulose, urea-based foam, urethane, vermiculite, perlite, polystyrene, and extruded polystyrene foam. The term "other energy-conserving component" is defined as any item (other than insulation) which is included within one of the following eight categories:

1. a furnace replacement burner designed to achieve a reduction in the amount of fuel consumed as a result of increased combustion efficiency,
2. a device for modifying flue openings designed to increase the efficiency of operation of the heating system,
3. an electrical or mechanical furnace ignition system installed to replace an existing gas pilot light,
4. a storm or thermal window or door for the exterior of the dwelling,
5. an automatic energy-saving setback thermostat,
6. caulking or weatherstripping of an exterior door or window,
7. a meter which displays the cost of energy usage, or
8. an item specified by regulations to increase energy efficiency.

The original use of the energy-conserving component must begin with the taxpayer. It must also reasonably be expected to remain in operation for at least three years and must meet established performance and quality standards.

"Renewable energy source expenditure" means, in general, an expenditure made on or after April 20, 1977 for property which, when installed in connection with a dwelling, transmits or uses solar energy, energy derived from geothermal deposits, or any other form of renewable energy specified in Internal Revenue Service regulations to heat or cool a dwelling or provide hot water or electricity for use within it; or wind energy for nonbusiness residential purposes. The renewable energy source property must meet performance and quality standards that are in effect at the time of the acquisition of the property and must reasonably be expected to remain in operation for at least five years. The original use of the property must begin with the taxpayer.

The performance and quality standards both for energy-conserving components and for renewable energy source property are to be established by the Secretary of the Treasury, who shall also establish a procedure for the certification of such items. The statute states that the manufacturer of the item must apply for certification. It was suggested that anyone (such as a homeowner or an architect) be permitted to request certification. The regulations could not allow this, however, because the statute specified the manufacturer as the appropriate person to request certification. This could prove burdensome if an architect or other person finds an energy-related use for a product which has not been recognized by the manufacturer. The innovator must then convince the manufacturer to go to the time and expense of the application process. However, the manufacturer might be persuaded to make the effort by the prospect of greater sales as a result of the newly found use for the product.

Some of the language of the statute was found to be ambiguous and confusing, and various amendments have been enacted subsequendy to clarify meanings and answer questions raised by members of the public. Most of the amendments involved added definitional material. It is in these definitions that one finds the denial of a credit for devices with a dual function, a recurring theme throughout the regulations.

The final regulations supplement the definition of "insulation" ("any item which is specifically and primarily designed to reduce when installed in or on a dwelling [or water heater] the heat loss or gain of such dwelling [or water heater] . . . ") by requiring that such item be installed between a conditioned area and a nonconditioned area (except when installed on a water heater, water pipe, or heating/cooling duct). The regulations offer an example precluding awnings from qualifying as insulation. Because "conditioned area" means an area that has been heated or
An absorber (defined as a surface, such as a floor, exposed to sun rays admitted through the solar collection area, which converts solar radiation into heat and transfers the heat to the storage mass),

- a storage mass (defined as material, such as masonry, that receives and holds heat from the absorber and later releases the heat to the interior of the dwelling, is of sufficient volume, depth, and thermal energy capacity to store and deliver adequate amounts of solar heat for the relative size of the dwelling, and is located where it will be capable of distributing stored heat directly to habitable areas of the dwelling through a heat distribution method),

- a heat distribution method (defined as the release of radiation heating from the storage mass within the habitable areas of the dwelling or convective heating from the storage mass through airflow paths provided by openings or ducts in the storage mass to habitable areas of the dwelling), and

- heat regulation devices (defined as shading or venting mechanisms, such as awnings or insulated draperies, to control the amount of solar heat admitted through the solar collection areas and nighttime insulation or its equivalent to control the amount of heat permitted to escape from the interior of the dwelling).

Even if a system qualifies as a passive or active system, it does not mean that all of the materials and equipment are "solar energy property" for which a tax credit can be claimed. Only those materials and components (as well as labor costs for installation) whose sole purpose is to transmit or use solar radiation qualify for a tax credit as "solar energy property." (The definition of "insulation" is somewhat more liberal because it includes items whose primary purpose is insulating.) Thus a solar collector that is a structural part of the roof and such items as windows, skylights, and greenhouses do not qualify as "solar energy property" because of their dual function.

Yet another definition contained in the regulations is that of "wind energy property" which includes equipment (and parts solely related to the functioning of such equipment) installed in connection with a dwelling that transmits or uses wind energy to produce energy in a useful form for personal residential purposes. Examples are given of equipment such as windmills, wind-driven generators and storage devices that use wind power to generate electricity or mechanical forms of energy. If the device uses wind merely to ventilate, it does not qualify as wind energy property.

The final definition is that of "geothermal energy property." The term includes equipment and related parts necessary to transmit or use energy from a geothermal deposit to heat or cool a dwelling or provide hot water for use within the dwelling. Because of the dual-function rule, equipment such as a pipe which serves both a geothermal function (transmitting hot geothermal water within a dwelling) and a nongeothermal function (transmitting hot water from a water heater within the dwelling) does not qualify as geothermal property.

A geothermal deposit is described as a geothermal reservoir consisting of natural heat which is taken from an underground source and is stored in rocks or in an aqueous liquid or vapor (whether or not under pressure) having a temperature above 50°C at the wellhead or, in the case of a natural hot spring (where no well is drilled), at the intake to the distribution system. The proposed regulations had required a minimum temperature of 60°C, but several comments from the public convinced the IRS that the lower temperature would be appropriate.

Because these laws and regulations are relatively new, it remains to be seen how the Internal Revenue Service will apply them in situations in which building products and materials do not fall clearly within the categories for which tax credits are permitted.

Architects normally design the energy-related aspects of a new or remodeled dwelling in accordance with the client's functional, aesthetic and budgetary requirements. However, if the design can achieve tax savings, the client will receive a double benefit. Steadily rising fuel prices should encourage more people to approach residential design with an eye toward taking advantage of these tax credits. Architects with an awareness of how to design with tax credit-eligible housing components should be able to assist them.
The myriad expressions this house makes come from many angles. Each expression is a sensitive response to the needs of the owners and the environment.

The site is a long, narrow lot running from east to west in an established neighborhood of dignified homes and mature trees. Although the surroundings are park-like and there's a lake only yards away, view amenities were limited. Therefore the spatial organization of the house follows a strong linear progression from public to private from the street to the back of the lot. The basically symmetrical form of the street side clearly indicates entry, both for cars and pedestrians. Beyond this, the building form begins to reach for the sun and pull back for privacy. To this end, the majority of windows are placed high and wide on the south side. A veritable parade of Pella Clad Fixed Windows along the top of the ridge and dramatic triangular Pella Clad Fixed Windows at the top of stairways allow an abundance of light and warmth while still maintaining privacy.

Throughout the design development, the client added enthusiasm to the architect's exploration of forms and shapes that aim for energy efficiency and a spirit of excitement. After all, one of their major requests was that the house be "unique." Unique it is. Efficient, too. Even when the outside temperature was 0°, the house captured enough sun during construction to raise the inside temperature to 45° without using the furnace. Massive 2 x 6 framing in the walls and a 12" deep roof also allowed for maximum insulation.

The Pella Clad System impressed the architects. So did the old Pella Windows. An addition built in 1952 to the owner's former home featured Pella Casements. Even after nearly thirty years the architects found the weatherstripping still tight, and the Roll screens still rolled. Today's Pella Casement Windows offer air infiltration rates 16 times better than industry standards. Plus, outstanding R and U value combinations to make a truly energy tight window. And, the trapezoid and triangular windows could be built with identical Pella Glazing to match the operable units.

The Pella Clad System. Matching protection for both fixed and operable windows. Completely covering the exterior surface of both operable and fixed units is a sturdy aluminum jacket that's finished with high-temperature baked enamel. This tough coat, in either White or Dark Brown, resists color degeneration, chipping, flaking, peeling, cracking and a host of other plaques. The corners are carefully joined for effective weather protection and give a neat, mitered appearance. Underneath, the solid wood construction has been vacuum treated with a water and insect repellent preservative after forming and before the units are assembled.

This same cladding is available on Pella Sliding Glass Doors and all types of Pella Windows. Yet, for all this protection on the outside, the inside shows only the warmth and beauty of real wood, ready for stain or paint.

Air space. It's one of nature's best insulators. And Pella offers more. The Pella Double Glass Insulation System features a full 1⅝" of insulating air space between the fixed outer pane and the removable inner glass panel. Or specify Pella's Triple Glass Insulation System with a total of 2" of air space between the fixed outer pane and the inside pane of the removable inner double insulating glass panel.

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Easy washing. A distinct advantage. Pella Casement and Awning Windows feature a unique patented hinging system that allows the sash to open towards the center of the frame. There's more than ample room to reach both sides of the window without leaving the house or using ladders. Pella Double Hung Windows have a special spring-loaded vinyl jambs that allow each sash to rotate 360°. Every corner can be easily reached for cleaning. And because the sash pivots at the center the weight is counterbalanced for safe handling.

More Pella options to consider. Like the Pella Slimshade®. Attractive narrow slat metal blinds set between panes of the Double Glass System means dust and damage are almost unheard of. Adjustment of these Oyster White or Dark Bronze blinds is easy with just a twist of the dial set inconspicuously in the lower corner of the sash. And they offer considerable heat retaining benefits as well as shading. Available in Pella Casement and Double Hung Windows, the Pella Contemporary French Sliding Glass Door, and the new Pella Sunroom.

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For the design-conscious, it's Weather Shield windows and doors – a beautiful way to add shape, dimension, interest, and creative flair to the structure and architectural design of the home.

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The exterior of this striking home designed by Walt Bazemore is made entirely of cypress and stained with Rez Oil Type Semi-Transparent Wood Stain. A variety of Pittsburgh® Paints were also used throughout the interior.

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crafted elegance in wood that stands the test of time.

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Sitecraft Square Planters offer strength and beauty in seventy-eight stock sizes. Two inch thick, clear redwood staves reinforced with two galvanized steel rods in each face for extra strength. They're as tough as they are good looking.

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As easy to sell as it is to install.

Consumers liked its design, technology and performance. And they really liked how easy it is to install. That made the Circa part of the most successful new product introduction in our 25 year history.

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**Superior sales appeal:** Nothing sells the Circa like the Circa itself. There's sales appeal in the allure of its design, the quality of its performance, and the simplicity of its installation. And to all this, add the fact that the Circa is UL listed. None of its competitors are.

**Superior advertising support:** Beautiful full page, four-color ads in over 40 national magazines to display the feature-by-feature superiority of the Circa to more than 37 million qualified prospects.

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SUNTRONIC HOUSE

...an excitement of elegance and inspired concepts

Count on Copper
Raise high again your expectations with the inspiration of Copper Meta

The exciting Sun/Tronic House™ features inspired concepts for the copper metals in an elegant home setting using the latest in residential solar energy and the precision of household management control provided by personal computers. Conceived and built by the Copper Development Association Inc., advanced market development arm of the copper and brass industry, the Sun/Tronic House is a dazzling showcase of sensitive design, superb building materials, tasteful home furnishings by W&J Sloane and clean-lined, efficient appliances from General Electric.

The Sun/Tronic House is a comfortable real home. The home is proof-positive that with sound energy management and personal computer technology, you can raise high again your expectations for elegant living — even in an era of tightening fuel supplies.

An interplay of active and passive solar systems in the Sun/Tronic House provides more than 60% of the home’s space heating and hot water. Photovoltaic cells that directly convert the sun’s power into electricity furnish a portion of the home’s electrical needs.

Nature and the creative intellect work together brilliantly in the Sun/Tronic House to give a strong yet subtle statement of the sensibly elegant comfort that is available today. Natural building materials, the captured sun, and electronic systems in the Sun/Tronic House are aimed directly at convenience and efficiency, in an environment of confident good taste and carefree elegance. California redwood, upholstery fabrics of Herculon® olefin fibers and Karastan carpets, along with copper metals used throughout the house, provide an almost maintenance-free environment. In addition to copper solar equipment, the home’s copper, brass, and bronze products are hallmarks of quality construction and design. These include copper plumbing and wiring and copper metals for architectural and decorative uses.

Home’s southern exposure features copper solar collectors by Libbey-Owens-Ford, mounted at ground level for easy maintenance. They flank two-story Lord & Burnham greenhouse-solarium, flashed with lead sheet. Copper is first choice for solar panels because of its superior heat conductivity and corrosion resistance.
Snug in a hillside, north side defends against winter winds. Vestibule serves as airlock against drafts. Copper-clad doors by Stanley have magnetic weather-stripping. Siding is durable, clear-grade certified kiln dried California Redwood.

East and west elevations reveal the design versatility of the “Tough 12” high-strength standing seam copper roof. Copper roof was installed with new automatic forming and seaming equipment, reducing total cost. Underneath every roof surface: 9” of R-30 Owens-Corning Fiberglas® blanket insulation plus 1” of Owens-Corning Fiberglas® High-R sheathing.

Floor plan depicts Sun/Tonic’s various room levels, spacious living areas and graceful, curved wall surfaces.
Living spaces that radiate gracious warmth and comfort

Interior spaces of the Sun/Tronic House flow effortlessly into one another, charming the eye with change and surprise. The lines are gentle, soft, and curved, and yet there is sufficient angularity to establish a pleasing balance of grace and quiet strength.

Natural materials used on the exterior, such as redwood, slate, and copper metals, combine beautifully with the distinctive interior furnishings from W&J Sloane, the fine carefree fabrics of Herculon, distinguished furniture from Sherrill, and the lush Suede Manner broadloom carpeting from Karastan.

The plan of the Sun/Tronic House is eminently practical. The soaring ceiling takes advantage of convection currents: rising warm air is recycled down an energy column and circulates under the Vermont slate floors of the lower levels. The bold, brass-appointed fireplaces add steady warmth to the living spaces by recirculating heat to other rooms.

The semi-circular library is one-half level below the living room, and the microprocessor system from Apple Computer is located there. Continually monitoring data from electronic sensors, the personal home computer determines when to activate the solar systems and in what combinations; when to distribute space heating from storage; and when to operate heat pumps, solar cells, and night setback thermostats for maximum efficiency, comfort, and economy. The home computer also controls the security, fire sprinkler, and smoke detector systems.

Architects for the Sun/Tronic House are the Berkus Group Architects of Santa Barbara and Washington, D.C. Mechanical engineers are Mueller Associates of Baltimore. Contractor is, W. R. T. Smith, Wilton, Conn. Interior design is by MAC II of New York.

Vaulted space of living-dining areas is divided by soaring mirrored-brass, double-faced fireplace. Column in living room collects warm air that rises toward the ceiling and then directs it down for circulation in lower level "air floor." Vermont slate flooring radiates the warmth upward again.
ary's computer console monitors energy resources, lighting, fire and security protection. TVs and keyboards in other rooms have access to Apple IIe's 48K memory. The skylight (with its thermal-shading shade to limit nighttime heat loss) opens library to brighttime comfort.

Two-story Lord & Burnham greenhouse-solarium is part of passive solar system, which provides 15% of space heating. It's equipped with insulating glass, power fan ventilation, computer-controlled Roll-A-Way motorized insulating shutters. Redwood hot-tub invites the family. Masonry greenhouse walls, slate floors, copper tubes in the family room solar wall — all store sun's heat.

Sectional group by Sherrill in the quiet corner of the living room stimulates conversation and relaxation. A brass-faced sliding glass door has easy access to the open redwood deck beyond.

Looking down from the balcony: W&J Sloane furnishings reflect traditional and contemporary taste. Sherrill sectionals and other furniture are covered in fabrics of Herculon®. Carpet is Suede Manner by Karastan. Brass end tables and cocktail tables are from W&J Sloane. Greenhouse-solarium provides solar-heated air that warms floors in family room and library.

Open spiral staircase leads to the upper level balcony commanding exciting views of the living areas.
Sun-filled spaces bring good friends, good food together

Sun/Tronic's formal dining setting is gracious, light, and calmly ordered. Entertaining in this home makes evident Sun/Tronic's exceptional and elegant qualities.

The kitchen fulfills all the criteria for excellence and joy in food preparation. The work island with salad sink is convenient to all resources as well as the informal dining area. Windows of Libbey-Owens-Ford Thermopane® insulating glass in brass frames provide a warmth that blends beautifully with the copperware, the slate flooring, and the St. Charles cabinets that are finished with hardwood countertops and solid brass trim.

Computer efficiency comes to the kitchen also. A GE television equipped with keyboard is linked to the central computer. Simple instructions command the computer to display selected menus, recipes, and food and wine inventories and to forecast expenses.

GE's kitchen appliances and nearby laundry appliances, all placed with an eye to work flow, were chosen because of their proven quality and energy conservation. Copper cookware is here also, the overwhelming choice of gourmet cooks. Copper has no equal for even-heating.

The GE dishwasher and microwave oven are real energy savers. The GE Food Saver Refrigerator has compartments for specific foods with their different temperature and moisture requirements. Color-coordinated fixtures in American-Standard's Fiesta dual-level sink add to the showy delight of Sun/Tronic's kitchen.

St. Charles' cabinets provide fingertip access to utensil and storage areas. Gliding out at a touch are such units as bread box, ventilated trays for fruit and vegetable storage, and deep-base sliding shelves for bulkier items.

Antique mahogany dining table with place settings from W&J Sloane sparkles from through Thermopane® insulating glass by LOF set in brass insulated window frame. Brass-trimmed breakfront and brass service cart add touches of elegance.
Cross-sectional view of the Sun/Tronic House reveals an integrated architectural design, which blends secluded northern exposure with open, sun-filled living areas on the south.

Island food preparation center is complete with salad sink by American-Standard. Note dual-handle brass pantry faucet. Professional-quality copper cookware functions beautifully, lasts a lifetime with easy care. Antique mahogany table and chairs from W&J Sloane echo curving corner window in charming breakfast nook.

Platinum color, brass-accented cabinets lining work areas are from St. Charles Fashion Kitchens. Side-by-side refrigerator-freezer, food processor, compactor, and stove with large-capacity oven are latest work-saving designs by GE.

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Special places in this home give new meaning to privacy

The Sun/Tronic House provides special areas of restorative privacy for family members.

Thoughtful zoning by the architect is where it starts. The master bedroom suite and the children's bedrooms are located at opposite ends of the house. Behind the master suite's double doors we find an adult retreat, providing basic human comforts with Sherrill furniture, Herculon fibers, and Karastan carpeting, all available at W&J Sloane.

It's still a solar environment, of course. The serene copper cylinders gracing the suite's southern window wall are passive solar heating units. Water inside the cylinders is warmed by freon charged heat pipes, which collect their heat from a copper absorber plate on the outside. Copper is exceptionally efficient for heat transfer. The wall between is insulated with Owens-Corning Fiberglas® insulation. The stored heat in the cylinders radiates into the room.

The fireplace and mantel are beautified by brass. It opened to view on two sides, delighting the bed and sitting areas and the expansive bathing space beyond. Fitted brass framed glass doors prevent heat loss. Outdoor air, warmed room air, is used for combustion.

The master bath is, without contradiction, both simple and sumptuous, having a shower and sunken whirlpool by American-Standard. Twin pedestal island lavatories enhance the master bath area. The self-venting coppSovent™ single-stack drainage system makes possible the design and location of island lavatories like these.

Sleeping as well as living areas in the Sun/Tronic House are protected by an all-copper fire sprinkler system. Brass-accented fireplace separates sitting and bathing areas. Dropped floor puts heart comfortable sitting height. California redwood deck outside semi-circular brass windows echoes breakfast nook design at other end of house. Sherrill chaise upholstered in fabrics of Herculon supports a decorative pillow grouping.
American-Standard whirlpool bath is nestled between the brass-accented fireplace and plant-adorned shower area. Sun enters skylight to warm and brighten bathing area and dressing room. Computer controls insulator-shade under skylight.

Four-poster brass bed in a supremely comfortable setting of restrained luxury is located for privacy while commanding a view of the outdoor redwood deck and the fireplace-sitting area. Copper heat pipe wall is in background.

Multi-faced brass framed mirror serves separate American-Standard Elassse Grande lavatories. Copper Sovent™ plumbing makes this island design possible. Beyond is another convenience: twin walk-in clothes closets.

Girl's and boy's rooms have upholstery fabrics of Herculon and Karastan Berberiau Prims carpeting. Both can take active wear from energetic children and still keep their freshness. Overhead, practically invisible copper fire-sprinkler protection.

Copper keeps the energy flowing

The Sun/Tronic House is certified by the National Energy Watch, the energy conservation program developed by the Edison Electric Institute. In this home, Owens-Coming Fiberglas insulation and LOF solar systems are put to full use to conserve energy.

All-copper liquid flat-plate solar collectors by LOF meet primary space heating needs by circulating sun-warmed water through copper tubes to the 1,000-gallon insulated tank, where its heat is stored and eventually distributed as warmed air. Passive solar systems, including a copper tube water storage wall, a copper heat pipe wall, a Lord & Bham greenhouse-solarium, and Vermont slate floors stand and radiate supplemental heat. GE high efficiency Executive Weathertron® heat pumps supplement the various solar systems and provide the home’s central cooling. Hot water household use is supplied by the active solar system, Hot-Water-Bank heat recovery unit, and auxiliary electric.

Solarex photovoltaic cells convert sunlight directly to electricity, which is stored in C&D’s lead-acid batteries and operate pumps in the active solar system and to provide auxiliary heating and cooling.

1. One of home’s two GE high efficiency Executive Weathertron heat pumps which provide auxiliary heating and cooling.
2. 1,000-gallon tank is for solar storage and holds water supply for the fire sprinkler system.
3. Copper service lines carry electricity to house through ever reliable copper cables. Safe and sure copper building wire distributes power throughout the home.
4. Dependable, durable copper plumbing tube and fittings integrate liquid solar, fire sprinkler, water distribution, and drainage systems.
5. C&D lead-acid batteries store electricity supplied by Solarex photovoltaic cells.
6. Bronze-bodied pumps keep fluids flowing through advanced mechanical systems.
7. Heat exchangers transfer heat from liquid solar collectors to solar storage tank.
8. Copper Sovereign single-stack drainage system takes care of home’s sanitary requirements and provides architectural design flexibility.
9. Glazed black copper absorber plate captures sun’s warmth and transfers it to freon-charged copper heat pipes inserted in copper storage tanks.
10. For convenience and security: Stanley’s new Pre garage door opener with safety reverse.
11. LOF all-copper liquid solar collectors supply heating and domestic hot water.
12. Numerous types and sizes of bronze valves varied and flexible control of mechanical systems.
13. Forced air flows over copper fan coil unit thru which circulates solar hot water.
14. The Solarex photovoltaic panels satisfy a portion of the home’s demand for electricity.
and the home secure... beautifully so!

Emergency lighting and computer power.

Coordinating these active and passive systems is the computer program prepared by W.W. Gaertner Research. Software also handles other aspects of environmental control, monitors fire and intrusion protection, and facilitates computer access to the family's personal files.

Copper's traditional uses in plumbing and electrical systems are basic to the functional performance and security of Sun/Tronic House. For these uses, copper has always set the standard of quality and true economy. In addition, copper's role in countless consumer products, lighting fixtures, and other applications inside and outside the home demonstrates an extraordinary versatility. But its story does not end there. The good news goes on — for the future is bright as to the plentiful supply of copper in the USA. Natural abundance plus recycling make the USA essentially self-sufficient in copper. So use it with complete confidence — as is done so beautifully in the Sun/Tronic House.
Products and concepts from the following participating sponsors are featured in the Sun/Tronic House with the thought that they will assist you in your own quest for the good life.

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 Plumbing Fixtures & Fittings

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California Redwood Association
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The Stanley Works
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 Stanley Venico
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 Slate Flooring, Exterior Walkways

W. & J. Sloane
 Interior Furnishings
From Bermuda to California, from Texas to Michigan, the houses in this issue reflect with striking diversity the variety of their owners’ programs, their environments, and—in a nation dominated by irregular topography—the distinguishing features of the sites on which they are built. As a group, they are idea-rich and remarkably free of cliché. Historic and regional themes, although fully and freely re-examined, provide no more than the simplest design constraints. And in several of the houses like Hugh Jacobsen’s “telescoping” plan (cover and pages 116-121), wit makes a welcome contribution too. But humor never comes at the expense of solid, thoughtful design, for when the smile passes, a substance remains. Energy concerns are apparent in nearly all of the designs, and as these concerns continue to mount, as they continue to reshape residential buildings, the need for more comprehensive and reliable data on energy use is widely felt. To help satisfy this need, the U.S. Bureau of Standards is presently conducting extensive trials on passive solar design components in a specially constructed test house north of Washington, D.C. RECORD’s senior editor Robert Fischer examines the significance of these trials in an article on pages 26-27. A second and related article, this one by architect-attorney Arthur Kornblut and his associate Fiona Power, de-mystifies the new IRS amendments to the Energy Tax Act of 1978. These amendments define as specifically as possible which home improvements qualify for tax credits and which do not.

Finally, to make space for these articles and give each of the 16 award-winning houses the space it deserves, Record Apartments—long a part of this issue—will be given a separate, more generous, more appropriate setting in our regular July issue where it will continue to recognize and celebrate the increasingly meaningful achievements of architects in the important field of higher-density, multi-family design. —Barclay F. Gordon
Bermuda architecture has a character all its own—a distinct hybrid combining the English vernacular traditions of its 17th-century settlers with the exigencies of a semi-tropical place. This well-tempered blend of history and practicality is a legacy Bermudians are intent on preserving. Any new building must necessarily pass under the watchful eye of a committee, charged with maintaining the island’s architectural continuity; if the proposed plans are not deemed appropriate—read “traditional”—they must either be revised or the building isn’t built. Five years ago, that guardian committee was presented a set of drawings detailing the house shown here; one can only imagine their delight. The committee was being presented with the quintessential Bermuda House—almost.

The “almost” belongs to Robert Venturi, John Rauch and Denise Scott Brown, who argue that the existing conditions (architecture, tradition, topography, culture) of any given place (not just the beautiful places) should not only be acknowledged, but should generate architectural form: from Las Vegas to Levittown to Nantucket to Bermuda, these architects do indeed take their cues from the environment—and then enhance what is there. Case in point: If “Main Street is almost all right,” then designing on Main Street should look almost like Main Street—or Main Street enhanced. And so with Bermuda. Robert Venturi provides the firm’s basic design premise, as applied to this project: “The game to me was to take the classic elements, use them generally correctly, and sometimes incorrectly—knowledgeably.” Therein lies the “almost,” explicit in this firm’s work: it is the conscious tension between the time-honored and the incorrect, balance and reduction of class. The classic elements of Bermuda, are rendered with equal sensitivity in this house; they’re discreetly and advisedly employed. First, the semi-tropical place. Bermuda possesses quite specific architecture. The white stucco is especially effective because it reflects the sun; the louvers collect rain water for domestic use (there are few wells in Bermuda); louvered shutters—hinged at the top and sides—admit cooling breezes while keeping out the sun; and the generous overhang of the oceanside double-porch (overleaf) shields the interior from
excessive sunlight. But less pragmatic considerations are given equivalent design vent in Venturi, Rauch and Scott Brown’s vestigial recall of elements more specifically identified with the Bermudian vernacular. A soft porous stone (quarried on the island) is the traditional building material of Bermuda. And though it has been replaced—in this and other new houses—by the now more economical concrete block, a close inspection of the house identifies the stone’s conspicuous application for the fat column supporting an arbor extending from the garage (photo top left, overleaf), for the square gate posts (photo above), and for the low walls encircling the entry courtyard. Under the eaves of the service quarters (at left in photo above), a cedar-timber sill plate serves as a reminder that Bermuda used to be covered with cedar.
trees. A more literal re-employment of Bermuda's architectural history can be witnessed in the "buttery" (far left in photo below), which traditionally served as a storehouse for perishables—this small structure houses the electrical transformers.

While the particular forms and the general approach exercised for this house are respectively signature Bermuda and signature Venturi, Rauch and Scott Brown, the siting and plan represent a considerable departure from the regional vernacular and for the architects. The site is a dramatic isthmus spanning ocean and bay. Rather than embrace proper English discretion—which would have hidden the house—the clients sought to expose their house to magnificent and romantic views. Consequently, the house becomes a small village—spreading out in a crescent over the jagged site. The individual pieces appear to have been neatly exploded into identifiable objects—each with its own characteristics: the buttery is local history incarnate; the garage, an undecorated shed; the service quarters, cottage architecture complete with picket fence; and the main living area, a modestly monumental gesture. The intersections of these disparate elements are intentionally explicit. There is neither attempted deception nor contrived resolu-
Due to the jagged site, the split-level house has been draped-like a small village-over the terrain; the individual elements recall Bermuda's local vernacular—double-hung windows, English proportions, shutters, white stucco, and stepped roofs. The bogus coining (photo middle left), the giant oculus (photo left), the flattened columns applied to the structural columns (photo above), and the oversized lunette window (photo above) are characteristic of the architects.
tion struggling to meld the house/village together: the juxtaposition of a grand oversized scalloped entry gable with the humble picket fence of the cottage is telling enough. This house is an assemblage of elements—some particular to Bermuda and some particular to Venturi, Rauch and Scott Brown. But one measure of success in architecture is how well a building communicates its purpose, its place, and its time: a house built on the island of Bermuda in the latter 20th century should look like just that—this one does. "Almost" is just right.

—C.K.G.

The front door opens to a view of the ocean (through the giant lunette) and a view of the backyard (through the lower level door). Robert Venturi credits this idea to George Howe's 1914 Philadelphia House "High Hol- low." In the library, (photo left) pilasters are again flattened as elemental decoration—reduced and abstracted to two-dimensional form. The tie rods in the living room are necessary tension members. Interior walls are painted pale blue to suggest reflection from the ocean.
Rolling farmland in Chester County outside Philadelphia is the setting for this modest, unassuming, and altogether appealing house built amid the stone foundations of an old barn that was destroyed by fire in years past. The decision to use this building site—to integrate the old and new—was particularly felicitous, and obvious only in retrospect. The main approach to the house is from the south and it terminates in a grassy entry court (photo left), which is defined by low stone walls. These walls step up to a story and a half in height at the north and west to provide a hard outer shell for the new wood structure. On these two elevations, the narrow space between the inner and outer walls is covered with a sloping glass hip roof that serves as connective tissue between the old and the new. On the other two elevations, the old foundation walls stand at a distance and simply provide a comfortable, loose-fitting envelope for the new construction within. The sensitivity with which these relationships are maintained is one key to the success of the design. Old and new construction are freely and closely juxtaposed. The contrasts they create are enjoyed, but the relationship is never permitted to become blurred.

The success of the design also depended on the skillful manipulation of the simplest, most vernacular forms in ways that created enchanting spaces. The owner, who grew up on a Wisconsin farm, wanted "spaces defined not so much by function as by moods, feelings and atmosphere." He got these things in the informal, vertical, relationships of spaces, in the use of daylighting to amplify these relationships, and in the selection and inventive use of finishes—like the brick and block wall that serves as a heat shield for the wood burning stove and its flue, or like the industrial sash that floods the
The Gaffney house is filled with small personal touches. The "bite" taken out of the coffee table (photo below) echoes the line of the balcony above. A selection of gray tones unifies the interior and recalls the exterior which is also pale gray except the roof, which is finished in red asphalt shingles. The house is furnished simply and in the best tradition of the region's working farmhouses.

BOLLIN POWELL LARKIN & CYWINski
southeast section of the house with sunlight.

Among a rich assortment of unexpected features are the oblique placement of the stairs and the cutout in the corner of the master bedroom. Both are designed to exploit the fine views to the southwest.

Inside and out, it is a personal house, a comfortable house, a house in which modest means have produced uncommon richness and variety. —B.G.

Modern architecture rarely gets a chance to express domestic grandeur, since clients who can afford such a gesture usually opt for Elizabethan or 18th-century palatial tradition. But William Kessler, an architect whose modern bona fides are beyond question, did get such an opportunity when a wealthy couple abandoned a conventional mansion and asked him to design a new house for them.

For a site that edges a small lake in suburban Michigan, the architect combined axial formality and asymmetry. A tidily bricked drive enters the grounds between a pair of low posts to circle a landscaped island (camouflage for air-conditioning equipment). This formal axis continues through the house’s central atrium and is taken up at the back by a maze of trimmed evergreens to culminate at a gazebo over the water.

Placing the house at right angles across this axis, Kessler has permitted its massing a less stringent composition. The central atrium declares itself at the entrance, but the wings outstretched on either side, however carefully composed their elevations, take form from the different contents. The rear elevation (next page), which overlooks the maze and the lake, seems less guarded, opened up with windows and a multiplicity of loggias. Paradoxically, however, the rear facade is more nearly symmetrical than that in front.

The smooth-faced finish—a seamless stucco-like insulating system—lends the house an air of reticent formality somewhat reminiscent of Regency propriety. Its relative blandness provides a good foil for the splendor of the stainless steel turret projected from one end of the house. The tower, which encloses a stairway from the library to a bridge on the second floor, is wrapped with spiraled steel panels. Though a spiral of curved glass appears to support the top of the tower, top and bottom are in fact separately cantilevered from the steel structure.

A more discreet luxury, one that is essential to the building’s suavity, is the garage door on the front facade. A converted hangar door, its single horizontal joint domesticates the scale of the three-car garage.

For architects who may envy him his design opportunity, however, Kessler admonishes, “It is harder to do an expensive house than an austere one. Can’t justify design compromises because of cost!” — G.A.
The lofty atrium that anchors the center of the house was a particular request of the client. Two stories high at the entrance, three as it emerges to the garden below (see also next page), it functions chiefly as an impressive reception hall and for regal circulation in a house meant for generous entertainment. The evergreen maze (below) will not confuse or lose strollers ("Oh, we wouldn't want that," says Kessler), but rather will prolong the leisurely saunter to the gazebo. The house plan (left) provides: 1) exercise room; 2) bedrooms; 3) office; 4) upper atrium; 5) master bedrooms; 6) upper library, with balcony and bridge to master bedroom; 7) dressing rooms; 8) garage; 9) garden room; 10) kitchen; 11) breakfast room; 12) dining room; 13) lower atrium; 14) living room; 15) lower library; 16) bar; 17) entrance. A lower floor accommodates the garden exit, maid's room and laundry.
The atrium boasts two grand staircases: a white marble flight bordered by trees and plants, leading to the maze, and a riserless flight with glass and stainless steel railings leading upstairs. Daylight enters the space through similar but opposed setbacks. Above the entrance, skylights are supported by stainless steel panels, which emphasize the central front entrance. At the back, the setbacks become clerestories with stainless steel roofs and admit south light for the benefit of planting. For the indulgence and pleasure of guests, a raised platform at one end of the living room (above right), reached by a short flight of steps with fluorescent noses, leads to the neon-lighted stainless steel bar. The white marble powder room (lower right) has a semi-circular basin and mutually reflective semicircular mirrors.
Several separate design ideas have been adroitly combined behind the handsome, rambling—almost nonchalant—exteriors of this hillside house outside San Francisco. The house is "dug into" the slope (see section) and its spaces are arranged in a linear pattern parallel to the contours. But because the site slopes to the west, the architects layered this elevation with a double height arcade that masks the house visually at the same time that it protects occupants against a low western sun. A combination of flat and shed roof forms further enlivens the massing. All these varied angles and projections are unified, however, by a tightly stretched outer skin of cedar shingle, a material that will eventually weather to a soft silver gray.

The lower level contains the main living spaces including living, dining, family room, kitchen, garage and guestroom. The upper level, reached by separate stairs in the entry and in the family room, houses two childrens' rooms, a play space, an outdoor sun deck, a
study and a master bedroom suite with a small private deck. The long corridor that links these upper level spaces provides overlooks into the living room, the family and the entry. The design, as a result, has a strong horizontal and vertical development.

The treatment of interior spaces is no less lively. The living room, shaped by a sloping beam ceiling, has generous views of the site—including (see photo above left) framed openings that are designed to look like landscape paintings. Similar window treatment in the family room and on the upper level corridor (small photos at right) gives unexpected glimpses into and through other spaces of the house.

In all its details, the design suggests that thoughtful attention has been given to the daily requirements of family living, and to the individual and collective needs that must be accommodated if a house is to satisfy its owners over many years. —B.G.

Long a showcase for the progress of significant contemporary house design, East Hampton on New York's Long Island continues to echo current concerns and trends in its new buildings. If one wanders amongst its woods, potato fields and dunes, a truly remarkable collection of summer houses can be discovered, from the relaxed traditional and shingle styles of earlier eras to the crisp, geometric white boxes of more recent times.

This house, designed by architect Jaqueline Robertson, is a choice example of a current preoccupation with searching out architectural means to relate with the earlier, more regional qualities while maintaining a contemporary freshness and originality.

In describing his basic design intent, Robertson comments that "formally the house is a response to the general 'manners' of an historic summer residential colony with a distinctive architectural tradition—and a demanding climate. The archetypal local dwelling is the New England salt box amended over the years by the 'amenities' of a more easy-going summer cottage style—porches, rooms-as-bay-windows, inglenooks, etc.—and the house has consciously attempted to employ these images so as to fit into a popular, genteel and still valid visual and social environment. Materials, massing, scale of openings, trim color, roof silhouette and sitting with respect to lot lines and other buildings are within an established local vocabulary." In all this, the house is a resounding success, without resorting in any way to "applied" eclectic or historic elements.

The house is organized in a well-zoned but relatively informal manner. The front approach to the house (photo top right) provides guest parking near the entry porch, while a family parking and service court is to the back (top left), screened by a long-soon to be rose-covered-trellis. (The garage shown in the exploded isometric drawing at right has not yet been built.) The service court is reached from the house through a coat and mud room just off the main entry.

The second level is reached by three separate stairs: an inside one from the entry hall, an outside covered one off the front porch, and an open one to the big raised terrace below. A painting studio overlooks the double-height living room.

On the ground floor, the two-story entry hall leads to a sizable, multi-purpose family room and the raised terrace beyond. A short, top-lit corridor leads from the entry to two children's bunk rooms and a guest suite. Throughout the house there are unexpected interior views and change in light and scale.

—H.L.S.
The elongated, gabled front (above) shows how openings on the sunny sides are inset on the cedar-shingled exterior to temper summer glare and heat. For emphasis, the insets are clad in T & G cedar siding. Sash and trim are stained. Below are shown inner and outer views of the main entry.
Large, protected windows face south and west for views (photo above), but the north and northeast facades have small openings against the cold winter winds, yet give through ventilation in summer (photo top right).
Roof dormers and skylights (see section and entry photo below left) add dramatic daylighting through the house. Interiors are painted drywall with pine trim, as in the living room photos below. Floors are oak or Mexican tile.
They stand as twin sentinels looking out to sea—two lean, intelligent, and refined houses by Crissman & Solomon, Architects, for the Pantaleoni and Spooner families on the Massachusetts coast. Their steeply gabled wood frames and shingled sidings bespeak their ties to the vernacular houses of New England and Long Island Sound. Yet they are as different as they are alike, being a sympathetic response to the clients and the landscape.

Creating paired houses for two long-time friends challenged the architects to establish and control the relationships of the houses to the site, the houses to each other, and the individual elements of the houses to their over-all form. The first step was to attempt the renovation of a modest house existing on the site for joint use by the families. When this proved unfeasible, the clients agreed to demolish it as part of the cost of preparing the site for two new detached houses.

With the Atlantic Ocean as a focal point, it was obvious from the start that both houses would face seaward. The difficulty lay in aligning them to the sea without locking them into a classic geometrical relationship deemed antithetical to the wooded site. As seen in the view and plan on this page, the architects have situated the Pantaleoni house (left) slightly further from the road and the sea than the Spooner house (right) but have lifted it to a higher elevation. To augment the sense of informality, they have turned the Spooner house slightly askew so that the houses appear to nod at one another like passing friends. Neither house can therefore
be interpreted as an adjunct of the other, and members of each household never look directly at a facade of the other house.

The houses share the same compact 10-foot module, exterior dimensions, and room proportions. Their differentiation is mainly due to the Pantaleoni's preference for placing the living, dining, kitchen, and guest bedroom on the ground floor and the family bedrooms above (see previous page). The Spooner house (on these pages) results from the reverse order; three children's and guest's bedrooms are placed below the living, dining, kitchen, and master bedroom.

Since the Pantaleonis do not need the entire potential floor area of the upper story for bedrooms, the two children's bedrooms and the master bedroom were placed at the ends of the principal longitudinal axis and connected by a jaunty bridge with a nautical air. The roof and ceiling lines express this hiatus in a reversal of slope between bedrooms and bridge. The roof rises to its zenith over the bedrooms.

By contrast, the Spooner house is more traditional. The roof peaks over the living, dining, and master bedroom. The ground floor terrace of the Pantaleoni house is translated into a balcony for the Spooners. In both houses, the interiors are simple volumes flooded with light and air, as all eyes turn to the sea. —R.Y.
Styling the firm’s previous work an evolutionary process of “remaking the optimum composite object,” Charles Gwathmey points to this Ohio residence as a marked shift in direction. Here, he says, “We were not making an object at all. . . . For the first time, we consciously pulled the house apart.”

The impulse to do so emerged in equal parts from site and program. The site is a rolling meadow that is enfolded by woods on three sides and falls gently away from a high northern approach to a sweeping view of the Ohio River Valley on the south. Its freedom from contextual constraint, together with the owners’ desire for generous guest accommodations distinct from but connected to the main house, invited for this residence an expansiveness that prompted the architects to relax if not release the taut spatial organization that has been their hallmark.

The underlying conception is that of a “court” house, with its implied overlapping of indoor and outdoor spaces. But because the privacy of its location made literal enclosure unnecessary, the house was exploded into three separate elements clustered in an “L,” while the focal courtyard of the original image was rendered as a varied procession of exterior courts.

At the base of the L-shaped cluster are the guest quarters, which pair a small but self-sufficient villa for grown children with a matching unit containing guest apartments above and garage below. Yoked by an upper level corridor, the guest wings are in turn connected with the main house by a strongly articulated gallery bridge mortised firmly within the structures it joins.

The complex is entered from an auto forecourt screened at its far end by an arbor and walled on the house side by an almost featureless facade. From the court, a gateway scarcely distinguishable from the bays of the adjacent garage passes under and between the paired guest houses, emerging to reveal a large paved pool terrace and, beyond, the main house, which is approached by way of a partially screened walkway that follows the curve of the overhead gallery past a small sculpture garden to a second understated entrance.
Within the house the passage expands to an entry hall, contracts again to corridor and stair hall, and seems to end in the soaring space of a two-story living room. Visually, however, the passage extends forward in horizontal plane through a sitting room alcove to the glass south wall and outward to the view.

On the upper level the volumetric as well as planar interconnections established by this carefully wrought circulatory chain are yet more evident. Widened as on the floor below to form a balcony sitting area between the airy living hall and the master bedroom, the passage narrows at the stair well and again expands to a small study. Its heightened ceiling emphasized by clerestories, the upper gallery here becomes a distinct crossing from the main house to the guest house, where it is anchored in a flared sitting area between the two wings.

Because of the strong, though controlled, thrust of its north-south axis and the relative inconclusiveness of the glass boundary on the south, the house wanted... a destination. It got one: a monumental structure at once sunscreen, sculpture, and added space. Rising three stories (and so defining the roof terrace as yet another exterior space), the massive frame reinforces the composition of the facade with a Mondrian pattern of deep reveals that outline the spaces within and, from within, contain the views. So effective is the structure as pure form that its functional uses seem almost incidental. Yet it not only serves as a sheltering brise soleil, it also encloses a two-story screened porch that adds to the master bedroom suite a welcome private “outside” space. As a bonus, the grid of the screen framing sets up a contrapuntal scale and texture within the larger grid. And, not least, the huge screen provides a bold and fitting coda to a composition marked throughout by both daring and assurance. —M.F.C.

Although the familiar signatures of Gwathmey Siegel's work—play of rounded and rectilinear forms, crisp elegance of finish and detail—are evident in this residence, the tight density of interlocking volumes seems here less insistent, the spaces more flowing. The pervasiveness of the gallery as a place-making as well as connective device is suggested in the views of the small study bowing outward over the two-story breakfast room (right) and of the sitting room nestled in the flare of the gallery's sweep to the guest quarters (below). In both spaces, clerestories mark the raised roofline that defines the gallery as a formal element in the composition of the house.
HAMMOND BEEBY AND BABKA

FULTZ HOUSE, PORTAR COUNTY, INDIANA
Characterizing his design for the Fultz house in northern Indiana, architect Thomas Beeby calls it "a super-idealized modern historical revival." While the simple classical form and the legibility of its structure recall the "modern" influence of Mies van der Rohe, the rigorous symmetry of the plan recalls just as clearly the "historical" influence of Andrea Palladio. Disciplined by a strict 4-ft grid, the 36-ft square plan encapsulates a 12- by 28-ft rectangle, which itself encapsulates a square kitchen lighted by a skylight in the exact center of the roof.

Virtually all of the house's elements appear in duplicate, set as mirror images of each other: two entrances, two bathrooms, two wood stoves, two kitchen counters, a pair of painted crossed tie rods on the front facade—and on the identical back facade. The inexorable symmetry relaxes only where pocket doors trisect one side of the house, allowing sliding partitions to isolate corner bedrooms and a center study. Other sliding doors close off the brick core.

Standard industrial components figure largely in the house's construction, their precision and cleanness (metal panels and industrial glazing are all painted an even white) combining common sense and formality. On the interior, materials are equally straightforward and easily maintained: exposed steel decking on the ceiling and exposed steel panels on the walls. Punched metal C sections act as joists and provide ventilation outlets for the bathrooms. Aggregate in the concrete floor slab was polished with a terrazzo grinder, giving the floor a more luxurious finish than that mundane material usually gets.

Intended for weekend use now and retirement living later, the house occupies a 20-acre site, the acreage divided equally between plowed farmland and forest. Of the forest, Mrs. Fultz, a botanist, writes that it is "nearly climax forest—beech and maple, with a generous admixture of other trees, including the tulip poplar, a very tall tree not usually found so far north."

Professor Fultz, who teaches chemistry, also finds professional reference in the house: bathroom fixtures are laboratory equipment, including deluge showers. For ease of maintenance, curtains replace shower stalls around a depressed circle in the floor slab.

The house cost $60,000, exclusive of the new pole barn nearby, which accommodates a studio, laundry and stable. —G.A.


ARCHITECTURAL RECORD HOUSES OF 1981 93
Houses that are classics of the Modern Movement fare no better than most fine contemporary houses that pass from the hands of their original owners. The passion for good design shared by the first owners and their architect, being rare, is seldom to be found in the hearts of the next family to move in. Though their house may be in the architectural history books, to them it is their new home. They do what they like with it, often bringing to an end its short life as a work of art.

By good chance, an important landmark house by Marcel Breuer will live on. The Breuers completed it in 1951 and used it as their year-round home until they sold it five years ago to the Brattis, a couple with children, who wished to enlarge the house, yet maintain its esthetic character. Before the house came on the market, the Brattis had been working with Breuer’s long-time associate Herbert Beckhard on the design of an entirely new house for a nearby site. Thus by further good chance, Beckhard, who has collaborated with Breuer on many houses, took charge of this project.

Much had to be done to adapt the house to today’s more sybaritic lifestyle. The vanguard houses of the late forties and early fifties were really designed for people who had elected, either consciously or unconsciously, to lead Spartan lives. The original Breuer house had no fine cabinet work and little furniture except for a few pieces—modern classics—some designed by Breuer.

The new house was to be larger and more comfortable. It was also to be luxurious. As the plans (overleaf) indicate, the interior of the house was virtually gutted. Bathrooms were improved, bedrooms were rearranged to meet the Bratti’s storage requirements, and the kitchen was greatly enlarged and relocated in such a way as to significantly increase the living-dining area. Here natural light was augmented by the addition of skylights. A children’s wing was added with its own entrance and courtyard.

In spite of the introduction of alien luxury, and because architect Beckhard and the Brattis have respected the basic esthetic of this long, horizontal, ground-hugging house with its massive stone walls and terraces, its floor-to-ceiling windows, and its wide continuous cornice, the Breuer landmark has remained of a piece.

—M.F.S.

The plan and photo of the original house (left) reveal that the Breuers lived simply. The plan (below) shows the new Bratti arrangements and the added children's wing. The original floor of irregularly shaped pieces of waxed bluestone has been kept and extended into the addition. So has the wooden ceiling. The original fireplace and its surrounding fenestration remain intact as does the window wall with its elegantly displaced columns. These rigorous reminders of the Modernist esthetic, in juxtaposition to the newly soft interior, give the Bratti house its distinction.
Geometric volumes with crisp white surfaces may have gone a little out of fashion these days with some architects—but not with Whitton and the clients of this house. For them, such a precise design language has solved a number of unusual problems.

The one-acre site is separated from Biscayne Bay by a forest on a coastal strip of marshy wetland. To raise the major living spaces above the trees for a view, Whitton has designed a tall, sculptural form that maintains a graceful relationship with the landscape. Inside, there are three levels of living space with a screened pool terrace and a bedroom-level deck. The roof—covered with wood slats—becomes a fourth level.

Because Mr. Friedman is both a lawyer and an art dealer, an important requirement was that the house also function as a gallery to show large modern paintings to best advantage. The design language is especially effective in producing large and unbroken expanses of white walls that highlight the colorful canvases. And Whitton has produced an appropriate sense of scale for the artwork, together with an easy visual flow from one space to another. Inside the carefully controlled exterior walls, there are a minimum of partitions and each level opens to those above and below.

The second level is the main one, containing the living room, dining room, kitchen and a guest room. The living room rises through a third level of bedrooms and a study. In turn, both the living room and dining room open onto the first level which contains—besides the pool—a family living area and a studio for Mrs. Friedman, who is a fashion designer. A secluded room for two children is located over the guest room.

Whitton has created the extraordinary sculptural composition with a most economical construction system common in the area: White stucco covers concrete-block bearing walls, reinforced with concrete "tie" beams and columns. A separate system of supporting beams and columns cantilevers over the entry, spans largest openings. —C.K.H.

From the living room (large photos above), the view is up to a mezzanine containing Mr. Friedman's study and the master bedroom (small photo) and out across the tops of trees to the nearby bay. The dining room (photo far left) has a view over the pool area, which is covered by fiberglass screening stretched on stainless steel cables for maximum visibility. The master dressing area (photo right) opens to a small sun deck above the dining room.
In a recent issue of *Interview* magazine, architect Robert A.M. Stern was asked: "You're a little controversial aren't you?" He replied: "I'm a lot. I better be, otherwise I'll be very unhappy." Stern clearly revels in his position as architecture's in-house *enfant terrible*. An outspoken critic of "Modern" architecture, and a zealous proponent of "Post-Modern" architecture, Robert Stern has made sure that he's in the heat of the current architectural battle. But for a year-round vacation house on a craggy promontory jutting out from the shoreline of Maine's Mt. Desert Island, Stern displays a new (temporary?) conservatism.

Named "Points of View" by the client, and referred to as a "shingled cottage" by the architect, the house is surprisingly mild-mannered for Stern: "It's the first time I've tried to do a house in the tradition of the shingle style, where I didn't try to one-up the shingle style—but rather to take the shingle style on its own terms and to extend the vocabulary." In its plan, massing, and over-all proportions, "Points of View" is a modest
admixture of the vernacular and the classical—with only minor variations.

The site was made available after a fire destroyed an existing house, which Stern refers to as “belonging to the Vermont ski lodge school of architecture,” and dubs “aspirant triangles.” Unfortunately, the blaze also destroyed most of the trees on the property, and though “Points of View” is sited like “aspirant triangles,” the new house will continue to obtrude along the coastline—much to the neighbors’ dismay—until the newly planted trees are larger. Because of the sloping contours of the site, the house is below-grade from the driveway; consequently, approach is by descent. The double chimneys, however, add verticality to the low-lying house and, in addition, draw the eye upward as they frame the spectacular view. Sliding down in increments from the main mass of the house, a porch that the architect refers to as a porte-cochère (photos left), provides focus for the entrance.

Though the house is essentially a traditional box, Robert Stern—even in this mild-mannered incarnation—couldn’t be expected to resist the temptation to deviate from the accepted norm, or in his words, “to extend the vocabulary . . . to distort.” Acknowledging the impetus for these deviations, Stern points to the obvious mandate for accommodating “views and use.” But the simple fulfillment of programmatic requirements is not what this architect is about.

Of the vocabulary “extensions,” the most visible is the framed arch (photo right), partially infilled with lattice, which assumes the profile of an eyebrow dormer—a common detail of the classic 1880’s shingle style. A second referential gesture can be found in the elongation of the roof line that extends over an outdoor deck; this unexpected diagonal slope faintly echoes the bold diagonal roof planes of early McKim, Mead and White—most especially the 1887 Low House in Rhode Island. Additionally, “distortion” can be glimpsed in the maid’s quarters: a conspicuous appendage to the western corner of the box; its curved wall and low roof, sharply contrast with the two-story right-angles of the house proper. And along the seaside elevation, various porches and verandahs take a bite out of the main volume.

It is ironic and interesting that in 1981—when even mainline modernists are busy re-examining the boundaries of architecture—that the “controversial” Robert A.M. Stern offers the low-key “Points of View.” But as he says: “There are places in the world that have their own magic, every building program has a life of its own, and those are the things that should inform the architect . . . not some a priori notion of what a building should be.” Decidedly so.—C.K.C.

Between design and construction, many of the non-essential elements—some decorative, others amenities—went unexecuted due to budgetary restraints. The two elevations shown here depict Stern's original scheme which included extensive latticework, stone chimneys, a roof oculus, and horizontal strips of "lancy butt" shingles that would have added stronger horizontal banding to the facades; a "widow's walk" type roof deck was also planned, with the false chimney housing the stairway.
The first floor plan (above left) shows the small "snaggery" off the main living area. This less public, more intimate room houses the family library and a second fireplace; an even smaller seating area is adjacent to the "snaggery," and takes the shape of a triangle in order to position the room for maximum views. The second floor plan (top left) is especially straightforward; according to the architect, "all we wanted to do was provide reasonable rooms, good closets, adequate bathrooms, and good ventilation."
A "central hall, typical of Georgian houses," served as the model for the main living area (photo above). In order to provide the necessary definition, Stern lowered the ceiling and employed four pairs of columns to articulate the essentially open space. Some—but not all—of the columns are structural. The massive fireplace with its grand stone-work further strengthens and anchors the room.
Designed for a family of four that includes two teenagers, this hillside house overlooks a placid cove on Long Island Sound, and offers sweeping water views through a wide visual arc. The spaces are sensibly organized to exploit this view. Living room, dining room, master and children’s bedrooms all open through glass window walls to vistas down the grassy slope, across massive stone retaining walls (the property was part of a large and grand estate) to the Sound some 50 yards away. All of these spaces are pivoted around a central circular stair that links the three levels of the house. The three-level solution not only adds drama to the views but allows an easy vertical zoning between sleeping spaces for the family’s two generations. The middle level contains the principal living spaces. These volumes have been so artfully joined that the eye passes from one to the next almost without interruption. The living room gives directly to the dining room with only the delicate modulation of ceiling heights, and the dining room opens to the kitchen with only a three-step change of level. This almost frictionless flow of space—so evident in the photos on the next pages—results in a lightness and openness that was one of the owner’s chief design requirements from the start. There is little doubt that it contributes enormously to the appeal of the design.

Because both the owners like to cook, and because the family tends to collect in this space, the kitchen received more design attention and more square footage than might be expected in a house of this size. In addition to the usual kitchen appointments, the architects added a fireplace, a television set, and built-in soft seating as part of a handsome and beautifully crafted counter.

The house is heated by an oil-fired, forced air system. It is fully insulated and makes abundant use of double glazing. The largest glass areas face south and are protected by broad overhangs. Operable vents admit summer breezes that, for all but the hottest mid-summer months, are sufficient to cool the house. The low winter sun is invited in and some of its heat is stored in the dark gray slate floors for radiation in the evening. Though probably modest in the amount of energy they conserve, these devices add to the comfort of the house at all seasons.

In the animation of its exteriors, in the rich texturing of its interior finishes, in the careful craftsmanship it exhibits throughout and, most assuredly, in the fine panoramic views it commands, the Strupp house bears the unmistakable stamp of design quality in its every part.

—B.C.

The various ceiling cut-outs (see photos) provide not only a visual release, but the opportunity to bring daylight deep into the interiors. Only the master bath (photo right) is developed with any sense of sybaritic delight. The other spaces make quieter claims on our attention and achieve their interest through the manipulation of space and the appropriate use of fine materials.
Architects have always been challenged to deal creatively and economically with the design of simple "box" structures. And houses as a building type are prime ground for such experimentation. This house by Los Angeles architect Michael Franklin Ross for his parents on Long Island is what he describes as an "eroded box to achieve open interior spaces." This erosion is most dramatically exhibited at the southeast corner (above) where a curved two-story-high window (of curtainwall construction) slices behind a corner column. There are two other deviations from a flat facade—a major one on the western elevation done to save a large copper beech tree (bottom right), and the other at the entrance. All of these expressions are cut into the house and each has a curved surface. The only protrusion, aside from the attached garage, is a small balcony located on the southern elevation (top right). The interior spaces play a different variation on the box theme. They are rotated 15 degrees in relation to the exterior walls orienting the user to views of a broad meadow to the southeast. This internal geometric shift also creates an unexpected sequence of spaces and striking room shapes. Even though the house is situated on a plateau in the middle of a two-acre site, Ross decided to accentuate the 10 per cent grade change in the interiors of the first floor by creating four levels, each separated by a few steps. A central corridor, with slight jogs to give the impression of a rambling hallway, leads from the entrance to the two-story living room. Almost every room has access to an outdoor space, a result of either the protruding balcony or open decks on the second floor or a large outdoor patio on the
western elevation. The house is sheathed in cedar siding to correspond to its heavily wooded site. —J.N.

The interiors of this house were purposely set askew to the exterior walls to capitalize on views and to add an element of surprise. The most glorious view is seen through a two-story-high curved glass wall in the living room (left and below right); this curve is reflected in several other walls, most notably in the kitchen (middle right). A painting studio (top right) receives northern light through a skylight, and is positioned to have a "line of sight" to the major first floor living spaces and driveway; this also permits easy transportation of supplies and paintings from the car park. A custom rug in the living room is designed by Michael Franklin Ross and woven in Mexico by a college classmate James Mac Williams.
A mile-long private road lined with large houses leads to both this site and this design solution. Because most of the houses are period designs—and owned by families who wanted the historic character of their neighborhood preserved—Jacobsen borrowed traditional themes from the surrounding Central Pennsylvania region, especially from one of the utopian communities that gathered in the area more than a century ago. Chief among these is the telescoping plan in which increments were added by tradition as families grew until they became extended families that spanned several generations. Each successive addition was made to the gable end of the last and was similarly proportioned but diminished in size.

Jacobsen seized on this theme, enjoyed it, and pushed it almost to the point of caricature. The seven-unit massing, for example, houses space for a family of only three. There is a partial basement under the center sections of the house, but the basement windows at far left in the photo above, occur just above the finished floor of the living room. Other things that are not quite what they seem include upper level windows that gradually disappear under the eaves as the roof sections step down. (The sill heights are uniform across the entire length of the facade, but the head sections are successively lowered).

These are just the first in a mounting series of surprises. As the units are graduated down in size, the exposed gable edges are filled with glass strips (see photos at right). By this device, the idea of the telescope is reinforced at the same time that daylight can be introduced high in the tall spaces. Without this high light source, the high spaces would become somewhat gloomy. The largest gable end (see cover and photos next pages) is completely glazed. A heavy wood frame, stiffened with steel, compensates for the absence of either sheathing or diagonal bracing on this elevation. When lighted from without, like a theater scrim, the glass wall is almost totally reflective. At night, however, it is almost completely transparent so, for future privacy, the architect has planted the area in front of the glass wall with an orchard of 34 dogwood trees.

At the rear of the house (see photo far right) historicism is not maintained with any stringency, and inside it is dropped altogether. The interiors are developed in the now familiar Jacobsen idiom and palette of...
materials: gray slate under thick carpet, white painted gypsum board that unfolds in broad, uninterrupted, origami-like wall and ceiling surfaces, pendant light cans, and building details of near miraculous simplicity.

There is a grace in the proportions and a lively sense of invention in the massing. Jacobsen has borrowed from a regional vernacular as it suited his or his client's purposes, but abandoned it quickly when it no longer served. The final result, therefore, is a composite of many ideas all masterfully integrated into a handsome and united whole—into a house that looks comfortable and uncommonly inviting. —B.G.

The glazed surfaces (photo below) mirror the siding and brickwork on the historic side of the house, and are inset with a minimum of detail. At far right (below) is a library which offers narrow glimpses back out through these same glazed surfaces to the site.
Destined to become, in the final phase of a three-phase development plan, a permanent working ranch, this weekend house on the rolling plains of central Texas announces its future function in a visual dialect so broad it invites a grin. But the architect-owner’s outspoken use of the vernacular of the rural Southwest—outbuildings and verandas, rough wood framing and tin roofs—is tempered by more sophisticated references, establishing through a series of metaphors and contrasting statements a controlled dia-
ouge on the architecture of country living.

With its shed-like form and a planar arcade that reads almost as an Old West false front, the house suggests an organic functionalism that is belied by its formal siting. Fronting on a large auto forecourt, the main building is flanked on the west by a garage that repeats in small its shed configuration and on the east by a row of trees to frame a special view. As yet only sketched by saplings planted in the first development phase, the closure of the forecourt will, as the trees mature, be completed by additional landscaping and a formal drive on the south, boxing a composed square both oasis and landmark in the ranch’s largely treeless setting.

To gain cross ventilation from strong prevailing southern winds and capitalize on views across the valley sloping to the north, the house is oriented east–west. Outlined by conventional stud framing and 20-foot clear span timber beams and trusses, its long rectangular plan is staunchly symmetrical, centering on a two-story living-dining space divided by a freestanding double-sided fireplace whose bulk also hints at an entry hall.

Flanking this common area and separated from it by stairs and service cores are more private quarters: master bedroom and guest suites opening to stacked verandas on the east; kitchen and family room and children’s bedrooms (now truncated to kitchenette and bunkroom) on the west.

This studied symmetry of plan, however, is denied in elevations pierced by small square windows whose random rhythm is
counterpointed by the regular spacing of attic ventilators. With the added accent of deep offset porches, the fenestration of the house, like its siting, sets up a play of contradiction between plan and volume that sounds in this unpretentious but thoughtfully made ranch-stead a unifying note. —M.F.G.


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The Cannady ranch speaks clearly of its place—expanse of land, constraints of climate and local resource—through simple forms and homespun materials assembled with respectful skill. The weathered exteriors, though rough in finish, are cleanly framed by exposed structural members and carefully detailed, modulating on the interior to smooth stained pine paneling and crisp trim. The effect overall is one of warmth and welcome expressed with the natural dignity of a dwelling indigenous but not ingenuous.
This small house fulfills a very wide range of program requirements: not just functional requirements, but requirements of image—and of illusion. The owner is a bachelor professor of English with strong interests in the classics, history, and the theater; and a gourmet cook who enjoys entertaining large groups. Despite a modest budget, he hoped for a house that would be formal, imposing, and indeed a little grand. To an extraordinary extent, the architects succeeded.

The house is set in a ravine overlooking a meadow soon to be an orchard, and beyond, the lights of Los Angeles. The major facade, seen as one drives in alongside the orchard (left in site plan), clearly has strong Palladian roots. But with its symmetry and curving forms, it can also be read as a proscenium for performances by theater groups visiting the client's university—with the oval patio (photo below) serving as stage while guests sit at the edge of the orange grove on "the remains of a grand Baroque stair" designed as an integral part of the house (see site plan) but not yet built. When complete, the composition of terrace and steps and trees should add to the hoped-for illusion that this house is but a small pavilion at the end of a grand procession, a small pavilion that is part of some grand estate.

Inside, the house is dominated by the large, two-story-high living room (see plan and photos next pages). This room, with its concave end walls, is treated as an extension of the patio (the stage). This imagery is heightened by a vestigial truss (top left photo, next pages), which acts as an armature for theatrical lighting instruments. (This pipe form is a vestige of an earlier construction scheme. The meadow on which the house sits is loose fill, and the first scheme was to span between the ravine walls with three trusses piercing in turn the curved facade, the inner wall of the living room, and the rear facade. This system proved too expensive, and the house in fact rests on a buried bridge of caissons and grade beams. But both owner and architects so enjoyed the play of straight trusses and curved wall that the truss is recollected in the lighting armature, extended outdoors as trellises.)

The octagonal-shaped dining room behind the fireplace is two stories high, and overlooks a smaller, very private patio (photo lower right). A large kitchen, handsomely finished and tiled, opens off the dining room to the left. Beyond it is a well-finished utility room with a door to the carport which serves as the owner's usual entrance. (The "formal entry" for guests is the central door in the curved facade.) The owner chose to use a small alcove off the dining room as "the master bedroom." Beyond it is a truly grand master bath—two stories (some 25 feet) high, with two curved walls, lit by windows up at the second level, and with a door opening from the shower to a covered patio behind the trellis at the right in the photos.

Upstairs is a guest suite and, across a bridge at the fireplace, a book-lined den. A hidden door in the bookshelves opens to a storeroom.

Color was worked out in intricate detail. The exterior stucco is a soft gray, with beige trim and pale blue doors—all soon to be set off by greenery on the trellises. Inside (see photos and caption next pages) the color palette is subtle, effective, and beautiful.

In all, this house is a stage for a very graceful way of living. —W.W.

The living room dominates the interior of the small house. Its colors are worked out in the same detail as the design, with the changing planes picked out in off-white, a range of grays, soft apricot on the concave end walls, very pale blue for the ceiling. In most other rooms, a palette of cool blues and greens is used, though the master bedroom alcove (photo above) is in raspberry. A bridge (photos below) separates the two-story living and dining rooms; upstairs it links a guest suite and the owner’s book-lined den. Skylights down the centerline of the roof wash all the major walls.
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The answer includes passive solar controls, triple glazing and a butterfly roof with thirty-three solar collectors to supply basic heating, cooling and domestic hot water.

A 1200-gallon storage tank in the cellar feeds this system.

And, it’s backed-up by a heat pump working off the night power grid.

Obviously, these active and passive solar systems require massive insulation to maintain their input of energy. The choice? Dryvit System Outsulation for exterior walls.

And while Outsulation provides massive insulation, it also presents a beautiful exterior surface.

A permanent surface that resists cracking and fading. A true wall system that seals thermal bridges, minimizes thermal shock and prevents the damage of water penetration.

Outsulation works in the Reid solar home. Not surprising since it is backed by thirty years of success in schools, high rises, industrial and commercial complexes.

Let us prove it can work for you. Call or write, stating your application: new construction or retrofit.
BASEBOARD HEATERS / The Intertherm line of residential and commercial electric hot-water baseboard heaters is shown in a 12-page color catalog. Each product is pictured in an actual situation, and controls and accessories are illustrated and explained. • Intertherm, St. Louis, Mo. circle 410 on inquiry card

MAJOR APPLIANCES / A sampler catalog features washers and dryers, including the "Space Mates" compact units; gas and electric ranges; refrigerators; through-wall air conditioners; electric water heater; and commercial laundry products. • White-Westinghouse Appliance Co., Pittsburgh, Pa. circle 411 on inquiry card

OPEN A NEW DOOR
New to the USA, but they've been hanging around Europe since 1947, today they've got that market practically locked up. These ready-fitted, fully finished, solid-core doors, fully guaranteed against warping, are available in oak and pine, with frames and simple, elegant, lever-handle hardware—all for about $400.

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Circle 33 on inquiry card

CEILING FANS / A 16-page brochure on "The Original Hunter Olde Tyme Ceiling Fan" illustrates many models, styles, colors, decorating ideas, accessories, and blade and control options. Installation tips are included. • Robbins & Myers, Inc., Memphis, Tenn. circle 412 on inquiry card

SLIDING DOOR / A descriptive brochure on "Series 5000" residential sliding glass doors discusses ten features which demonstrate the value, reliability, security and energy savings built into this Howmet door. • Howmet Aluminum Corp., Terrell, Texas. circle 413 on inquiry card

OFFICE TRADITIONAL / R-Way's "Magstrate" catalog shows desks, modular credenzas, bookcases, seating and tables of traditional Chippendale design. • R-Way Furniture Co., Sheboygan, Wis. circle 414 on inquiry card

WOOD STAIRWAYS / Hand-turned balusters and newel posts form part of the custom-installed Challs stairway. Free-standing and suspended stairs with circular and straight railings are illustrated in a color brochure. • Challs Stairways, Salt Lake City, Utah. circle 415 on inquiry card

HARDWOOD ACCESSORIES / Nanik's new line of hand-finished base-wood accessories for home and office use is illustrated in a color catalog. Items offered include a hamper, shelf with towel bar, tissue holder, tray organizer and waste basket, all available in a choice of seven natural hues. • Nanik, Wausau, Wisc. circle 416 on inquiry card

CONTRACT CARPETING / Sample folders on the entire range of Mohawk-contract carpeting are available to architects, designers and end users. Books contain carpet specifications and swatches showing the full color line offered. • Mohawk Carpet, Amsterdam, N.Y. circle 417 on inquiry card

CONCRETE PAVING / A color brochure describes three different paving systems: Bomacron colored, imprinted concrete; Bomacron colored, textured concrete; and Grasscrete structural grass/concrete. All three have wide architectural, landscape and urban renewal applications. • Bomacron Corp., Palo Alto, Calif. circle 418 on inquiry card

SPAS/HOT TUBS / Indoor and outdoor units from several manufacturers are featured in a Bicknell brochure. New products include low maintenance Jacuzzi Quanta and Circare tubs, and Baker "Hydro-touch" digital command center spa packages. All models are shipped from stock, pre-plumbed and ready for installation. • Bicknell, Inc., Framingham, Mass. circle 419 on inquiry card

TEXTILE WALLCOVERINGS / Seventy-five patterns of contract wallcoverings are shown in the newest Tekura catalog. Textiles used range from wools, linens, silks, and flannels to suedes. • Tekura, Houston, Texas. circle 420 on inquiry card

more literature on page 135
LOW ENERGY MAGIC...

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REMODELING DOOR / Designed for easy installation within an existing frame, the Benchmark steel insulated door and frame increases security and thermal efficiency. A color brochure features cutaway illustrations of energy saving advantages, and pictures of the available door styles. 
- General Products Co., Fredericksburg, Va.
  circle 421 on inquiry card

SHUTTERS & BLINDS / A 240-page "encyclopedia" catalog includes shutter drapes, wood Venetian blinds, shutter and Shoji panels, metal and hand-carved doors, tin ceiling panels, and wrought iron products. 
- Pinecrest, Minneapolis, Minn.
  circle 422 on inquiry card

RESTORATION DIRECTORY / The 1981 edition of "The Old House Journal Catalog" lists over 1,100 firms involved in the sale of products and services to those interested in the restoration or recreation of pre-1920 houses. There are classified groupings of products, and an alphabetized listing for each company giving complete address, phone number, literature offerings, and a description of the items available. The 142-page catalog may be ordered for $9.95, plus $1 postage, from The Old-House Journal, 69A Seventh Ave., Brooklyn, N.Y. 11217.

VENEER BRICK / The Facex exterior veneer brick system provides a finished brick and mortar installation without the labor and cost disadvantages of grouting. A product brochure describes how the Facex system can be applied to most dry, stable, sound substrates with Z-ment exterior acrylic adhesive. 
- Z-Brick Co., Woodinville, Wash.
  circle 423 on inquiry card

KITCHEN CABINETS / A full selection of work-saving Long-Bell cabinet fittings are shown in a color brochure. Over 40 convenient accessories, such as fold-out trays for sink front and cook top storage, wire racks, fold-down cookbook racks and lazy susan cabinets, are included. 
- International Paper Cabinet Div., Portland, Ore.
  circle 424 on inquiry card

STAINLESS STEEL SINKS / A 12-page brochure contains detailed information on the complete line of Quality-Craft nickel bearing, stainless steel sinks in four price series for residential and commercial builders. 
- Brass-Craft, Detroit, Mich.
  circle 425 on inquiry card

NEW NRCA ROOFING MANUAL Helps Protect your Reputation & Investment!

Just off the press, prepared by the National Roofing Contractors Association in cooperation with major associations, architects, engineers, specification writers, government agencies, university and manufacturer research departments. Making it the State-Of-The-Art Authority for ALL types of roofing and waterproofing practice that everyone concerned with protecting valuable buildings and their contents with the best roofing possible should have in their reference library.

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Circle 35 on inquiry card
the plastic-domed ventilating skylight

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Circle 36 on inquiry card
Sophisticated designs for faucets

Since good design includes paying as much attention to detail as to the over-all concept, the four products shown to the left represent some of the more striking designs for faucet handles for the bath. Sherle Wagner International, Inc. (circle no. 300) based the design of their new bath accessories on contemporary art, and elegantly defined them in polished chrome and semi-precious stones. Shown in the photo far left are three different towel bars, a hook, a square soap dish, a glass holder and a square towel ring in polished chrome with tiger-eye inserts. The same designs may be ordered with gold finish, malachite, or all metal. Artistic Brass (circle no. 301) has just announced its 1981 “Reflections” line of faucets and accessories. The high-styled collection features widespread and centerset lavatory faucets, shower sets, tub sets with optional Roman tub spout, tank and bidet fittings, and matching accessories, including towel bars and rings, tissue holders and robe hooks—all in chrome and Lucite. American-Standard (circle no. 302) has introduced an entirely new line of deluxe residential plumbing fittings, called the Roma Lavatory Faucet, designed to be complementary to the Roma Suite line of lavatories, toilets, whirlpool baths and bidet. The square base is solid brass and finished with chrome. The lever handles are 4-by 1-by 1-in. and are available in green, brown or ivory onyx, and clear acrylic. The units have Aquaseal valving, and an aerator having 2.5 gpm water flow restrictor. Kohler Company (circle no. 303) is exhibiting the “Alterna Crystal Water-Guard” faucet line, which features cube-like handles of solid brass encased in crystalline acrylic. The faucets offer water-saving flow control, and are available in brushed or polished chrome, and brushed or polished 24-carat gold finishes.

Kohler Co., circle no. 303
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STUD INSULATION / Said to be the only steel-stud fire-rated assembly incorporating rigid foam insulation available, Foamular polystyrene sheathing panels achieve a one-hour fire rating under ASTM E119 fire exposure and hose stream test conditions. The steel-frame exterior wall for residential and low-rise construction has an R rating of 17, and provides strength, rigidity and exceptional water resistance. • UC Industries, Parsippany, N.J. Circle 304 on inquiry card

DROP-IN LAVATORIES / A new shape in the Corian basin line, model "821" is a contemporary, rectangular shape offered with 4- or 8-in. faucet holes. Non-porous, homogeneous Corian is solid color clear through; the surface cleans easily, does not water spot, and resists abrasive household cleansers. • Du Pont Co., Wilmington, Del. Circle 305 on inquiry card

SOLAR SCREENS / KoolShade solar screens are estimated to block out up to 85 per cent of the solar heat-gain that enters a building through glazed openings, lowering room temperatures by as much as 20 F. The photo illustrates the outward visibility through the KoolShade screen, which allows diffused daylight to enter, saving on costs of artificial lighting. • KoolShade Corp., Solano Beach, Calif. Circle 306 on inquiry card

REPLACEMENT WINDOW / The Vinyl-Matic residential window combines the structural strength of aluminum with the thermal advantages of vinyl. The interior of the frame is vinyl-clad, and the sashes are extruded solid vinyl. Available in double-hung (shown) and slider versions, the Vinyl-Matic window features tilt-in sash, double-glazing, extruded lift handles, and a positive interlock at the meeting rails. • Air Master Sales Co., Bensalem, Pa. Circle 307 on inquiry card

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Circle 39 on inquiry card

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Desk by Dexter Design, Inc., New York
EXTERIOR PANEL / A color-coated, aluminum-faced plywood panel, Al­tex-20 has a Class A flame spread rating, and is used for facades, fascia­s, soffits, mansard roofs, dividers and other architectural facing applications. The stucco-embossed alumi­num has a polyester melamine finish guaranteed for 20 years, and is available on one or both faces of the structural plywood core. The Al­tex-20 system includes a range of color matched, extruded and roll-formed aluminum moldings, nails and touch­up paint. • Gill Corp., Reading, Pa.

TAILORED SOFA / The “Stratum Sofa” uses a series of cushions with varied densities for firm support. It is also available with cushioned arms and concealed lighting from beneath. Other “Stratum” pieces include a multi-level sofa, corner units, and a loveseat. • Vladimir Kagan Designs, Inc., New York, N.Y.

KING-SIZE BED / Designed by Vlad­imir Kagan to be placed in the center of the room, this “Lands­caped Bedroom” unit incorporates a king­size bed with two illuminated night tables, twin chest of drawers, a lighted vanity and dressing table (shown opened in the photo), a bookcase area that can also house a radio, telephone and display, and an upholstered footboard that serves as a hassock for dressing. Finish options include a number of wood species and custom colored lacquers. • Vladimir Kagan Designs, Inc., New York, N.Y.

GRILL/GRIDDLE RANGE / A plug-in convertible grill and griddle module is offered with this self-cleaning 30-in. electric range. Smoke can be vented through the companion hood, which has an exhaust capacity of 460 cu ft per minute. • General Electric Co., Louisville, Ky.

ENTRY PHONE / An entry phone for apartments and other multi-family units, the Identifone uses existing telephone lines to identify callers to occupants and open doors. Phone and computer components are separ­ated: the handset in front of the locked doors, and the control unit located in the manager’s office, a closet, etc. The security system can be installed in existing buildings in a few hours, and is said to be economi­cally priced. • Digital Instruments, Inc., North Hollywood, Calif.

SOLAR GREENHOUSE / Solar radia­tion entering the Garden Way green­house is captured by a thermal stor­age system which retains heat all day and releases it slowly at night. Insu­lated glazing and sidewalls, a masonry foundation, plus a reflective night curtain, greatly reduce night-time heat loss. Curved top glazing is Exo­lite, the aluminum-framed structure will resist heavy snow and wind loads. • Garden Way Solar Green­house, Charlotte, Vt.

STAFF presents organic configu­rations, the first Modular Outdoor Lighting Systems inspired by nature’s buds, fruits, branches and trees to compliment the natural environment as well as the surrounding architecture.

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FLUORESCENT LAMP / A functional task light for home or office, "Circulo" stands 13½-in. high and has a 12-in. diameter polished aluminum or brass shade. Designed by Peter Hamburger, "Circulo" lamp takes a 32-W Circline fluorescent bulb. Koch + Lowy, Long Island City, N.Y. circle 314 on inquiry card

SHELVING SYSTEM / Whether fit into a closet or freestanding along a wall, the Swedish-made "Pellsysystem" provides versatile, decorative storage and display for home, office, or workroom. The system uses steel standards and brackets, and Melamine foil-finished wood shelves and cabinets. Accessories include wire baskets and shelves, lamps, bottle racks, tool boards, floor stands, etc. ELFA Corp. of America, Norcross, Ga. circle 317 on inquiry card

KITCHEN CASEWORK / A new Tri-Pac cabinet line, "Warwick" features solid raised panel oak doors, with brass finish door and drawer pulls. The natural finish protects the wood from most household chemicals, while showing off the oak grain pattern. "Warwick" cabinetry is also available in matching vanities, medicine cabinets, hutches, and wall systems. Triangle Pacific Corp., Dallas, Texas circle 315 on inquiry card

CEILING FAN / The "Bentley" fan is said to operate with virtually no vibration or residual noise. Fan blades are hand-finished solid wood, in either 46- or 52-in. lengths. Options include a wall-operated light, and a reversible control to produce either updraft or downdraft. A&G Machinery Corp., Bay Shore, N.Y. circle 318 on inquiry card

KITCHEN ACCESSORY / A new product in the Merilat cabinet line, this "appliance garage" fits under corner wall cabinets and provides countertop, out-of-sight storage for toasters, mixers, blenders and other small kitchen machines. The roll-up tumbour door matches the light or dark wood tones of the cabinets. Merilat Industries, Inc., Adrian, Mich. circle 319 on inquiry card

TRIPLE-GLAZED DOORS / Now offered as an option on all vinyl-sheathed Perma-Shield sliding doors, triple-pane insulating glass consists of three panes of tempered glass separated by two ¼-in. air spaces. Glazing is factory-sealed with tape and silicone spacers for minimum heat loss. Glass may be ordered clear, or tinted gray or bronze. Andersen Corp., Bayport, Minn. circle 316 on inquiry card

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Cedar endures.
If man in the beginning had sought the perfect material for aesthetic and practical needs, a compliant God could have offered nothing better. Reddish brown when new, silvery grey when old.
Homogeneous with nature.
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A superior insulator against the elements.
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VINYL MOLDINGS / Gosser cellular vinyl moldings bend without breaking, and saw and miter without chipping or splintering. Embossed wall and door moldings are available in various wood-look grains, and a number of low-gloss solid colors. * Gosser Co., Milwaukee.

circle 320 on inquiry card

DAMP-PROOF FLOORING / Made of flexible polyethylene in a flow-through honeycomb pattern, interlocking Materflex squares are especially suitable for such residential areas as damp basements, laundry rooms, decks and porches. Tiles are offered in nine colors, and may be assembled in solid colors, or mixed to form weaves, stripes, and other patterns. A beveled edging prevents tripping. * Materflex/Mateflex Mfg. Co., Utica, N.Y.

circle 321 on inquiry card

MICROWAVE OVEN / Magic Chef's "Microwave ventilation product" replaces the conventional over-the-range hood with a full-size, 1.1 cu ft microwave oven and two-speed ventilation system. Three oven models are offered, all 30-in. wide in a black, textured-steel housing. Fluorescent work light is included. * Magic Chef, Inc., Cleveland, Tenn.

circle 324 on inquiry card

MULTI-UNIT HEAT PUMPS / Efficient Zoneline III extended range heat pumps are said to be ideal for condominiums and apartments where residents pay their own hvac costs. Through-the-wall units are easy to install, with no extensive ductwork required. Separate controls allow precise, individual temperature adjustments. Four sizes are offered in the 230-V line; options include remote control and freeze sentinel. * General Electric Co., Louisville.

circle 322 on inquiry card

ROOM AIR CONDITIONERS / An expanded product line includes 41 units in sizes ranging from 5,000 to 27,500 Btu, many of which operate on 115-V power. Control panel features a power saver range indicator that acts as a visual reminder to help conserve energy. * White-Westinghouse Appliance Co., Pittsburgh.

circle 323 on inquiry card

TASK LIGHTING / Offered in both clamp-on and table models, the "Era- zio" lamp features a fully articulated arm that can be moved in every direction, and will stay in that position without springs. Lamps range from about 15-in. to 38-in. over-all height, and are finished in either black or white with rubber detailing on the shades. * Koch + Lowy, Long Island City, N.Y.

circle 325 on inquiry card

Nothing matches the quality, feel and look of solid metal. And, because METTLE MICA™ is anodized aluminum, it gives you a solid edge over foil laminates. METTLE MICA is available in a variety of beautifully polished and brushed anodized finishes that are not flammable and won't chip or peel. METTLE MICA has no unsightly edge lines, won't pit or deteriorate and is impervious to water, alcohol and cigarettes. Although METTLE MICA is solid metal, it can be worked with standard woodworking tools, easily conforms to radius corners and can be applied with standard cements or adhesives. Best of all, METTLE MICA gives you a competitive edge on price - it's one of the most economical laminating materials available. So get a solid edge by specifying METTLE MICA. Call or write for additional information, samples and the name of your local distributor.

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ARCHITECTURAL RECORD HOUSES OF 1981 145
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Circle 45 on inquiry card
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VANDAL RESISTANT / A fire alarm/extinguisher system for apartments, offices, hotels, etc., the "Fyre Call" unit sounds a continuous alarm as soon as its extinguisher is removed from the panel. Besides deterring vandals, this ensures that a fire will not go unnoticed by other occupants of the building. A local fire station pull-box is included in the system.
- The Nor'Easter Group, Inc., Manchester, N.H.

circle 332 on inquiry card

WHOLE-HOUSE VENTILATOR / With an extra-deep steel self-framing housing to accommodate deeper attic insulation, the "WHV-20" ventilator comes equipped with white-painted automatic louvers. The 3/4-hp direct-drive motor, isolated with a rubber mount for quiet operation, uses only 8.2 amps. • NuTone, Div. of Scovill, Cincinnati, Ohio.

circle 333 on inquiry card

NO-PATTERN PATTERN / "Sierr. Mesa" Antron III carpeting has a cut-villinear design which gives the effect of a range of mountains or a flowing sea in subtle self-tone colorings, can be used with plain or patterned fabrics. Carpet is available in 25 colorways, at a suggested retail price of $34.00 a square yard. • Karastan Ru Mills, New York City.

circle 337 on inquiry card

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circle 337 on inquiry card

DEEP CUSHIONED SOFA / Fully upholstered in a choice of fabric and leathers, the "Premier" sofa has a hand-tailored seat and back for correct lumbar support. Wedge-shaped arm rests have a standing seam edge detail. • Brayton International Collection, High Point, N.C.

circle 334 on inquiry card

HANDMADE RUGS / The "Summi Sino" line of all-wool handmade rug from China is now available in stock in sizes ranging from 2- by 4-ft to 9-10-in. by 14-ft. Pictured here is the "Beige Peking" design, one of two Peking patterns; an Aubusson rug also offered in the initial group.
- Couristan, New York City.

circle 335 on inquiry card

GEOMETRIC FAUCET / Winner of Resource Council, Inc. Design Award. Stanley Paul's "Jet Set" faucet combines handles and tub spout into an integrated geometric pattern. Fitting is available in polished chrome and a number of other finishes.
- Paul Associates, New York City.

circle 336 on inquiry card

The beautiful look in home refrigeration.
Elegant yet versatile, the all refrigerator and all freezer Sub-Zero models featured above are true built-ins that fit flush with base cabinets. Providing a combined storage capacity of 41 cu. ft., these like all Sub-Zero built-in units will blend with any interior by accepting front and side panels to complement any decor. Other combination models, up to 31 cubic feet, are available including slide-by-side, over-n-under in widths of 30" to 48". Sub-Zero also offers several undercounter models and toe-makers. All units are factory tested for total performance. Available in Canada.

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PRODUCT REPORTS continued from page 146
The new steel door from Raynor for the 80's and beyond

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CIRCLE 50 ON INQUIRY CARD

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PRODUCT REPORTS continued from page 148

PATTERNED CARPET / A bold plaid, “Mcintosh” heavy-traffic commercial carpeting is made on the Graphics tufting machine, which can produce patterns previously available only in more costly woven products. The carpet is constructed of wool-like stock-dyed Zeltron nylon yarn, patterned through the back and available in 10 colorways. “Mcintosh” is one of three new “Ultra-Graphics” contract styles, all anti-static and guaranteed for five years. • Charles-ton Carpets, Div. Welco Carpet Corp., Calhoun, Ga.
CIRCLE 341 ON INQUIRY CARD

TEXTURED WEAVER FABRIC / Called “Wunderbar,” this textured weave is now shown in three new color combinations—beige/brick, gray-beige/evergreen and gray/plum. It meets the requirements for the FAA 25.853(b) vertical flame code, and is intended for both residential and corporate applications. It will be exhibited in the Donghia, Inc. showroom. • Gretchen Bellinger Inc., New York City.
CIRCLE 342 ON INQUIRY CARD

NEW CARPET FIBERS / The Du Pont company will introduce reduced surface area carpet fibers in its newly redesigned showroom. The new fibers are available in both continuous filament and staple forms, as the latest development of “Antron” nylon for commercial contract purposes. • Du Pont Company, New York City.
CIRCLE 343 ON INQUIRY CARD

Continued on page 154
Wood and Cabot’s Stains...made for each other

Cabot’s STAINS

Here is a wood at its wonderful best. The architect, in specifying a finish for this home, sought beauty and more...a finish that would stand up to summer sun and winter cold, that would require minimum maintenance while protecting the wood for a long, trouble-free life. His choice: Cabot’s Stains.

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Circle 53 on inquiry card
The Helena Chair. A collection of office seating designed to be comfortable and responsive with quality and simple elegance. Niels Diffrient for Sunar. See them at Neocon.
AREA RUG / Manufactured by Customweave Carpets, Inc., the "Tiffany" pattern has a hand-carved floral-motif border. Deep plush carpet is available in a choice of sizes and colors. Customweave Carpets, Inc., Fountain Valley, Calif., circle 344 on inquiry card

RESIDENTIAL SMOKE DETECTOR / The "Model 7078" is a competitively priced ionization-type smoke detector for the residential market. The battery-powered, dual-chamber unit is UL-listed, with a test circuit and a flashing LED that indicates proper operation. Chloride Pyrotector, Hingham, Mass., circle 347 on inquiry card

TABLE SERIES / A solid oak faceted and rounded edge defines the "Prow Edge" series of desks and tables. The desks are offered in executive and secretarial versions with floor pedestals. Both circular and rectangular parquet tops are available for the tables, which rest on oak-edged bases. Harvey Prober, Fall River, Mass., circle 348 on inquiry card

DISHWASHERS / Six energy-saving automatic dishwashers, including five that heat their own water, are offered by White-Westinghouse. All models feature a switch that allows the user to dry dishes without additional heat, saving about 30 per cent in electricity costs per normal cycle. White-Westinghouse Appliance Co., Pittsburgh, Pa., circle 349 on inquiry card

FRENCH FABRICS / New cotton prints from Boussac include large-scale Art Deco, small-scale country and petite geometric designs. Fabrics pictured are "Jerry," with Art Deco semi-circles in an all-cotton chintz, and "Artigny," a cotton ottoman in 81 colors. Boussac of France, Inc., New York City, circle 346 on inquiry card

WASHABLE FABRIC / Woven in Norway in 36-in.-wide bolts, the "Get Acquainted" line of natural fabric wallcovering has a layer of polyethylene laminated between the fabric and the paper backing, and can be washed with soap and water to remove normal soiling. Available in eight colors, the fabric wallcovering has a Class A flame spread rating. Gifford Inc., New York City, circle 345 on inquiry card

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WATER-SAVING TOILET / Made of Azurite honeycomb plastic material, the Delta 4000 water closet weighs 29 lb, and uses only 3.5 gal. of water per flush. It is made as an integral one-piece bowl and trapway with no joints, glues or welds, and is impervious to household cleaners. Priced to retail for about $250, the Delta 4000 toilet has a pushbutton flush, low profile, and smooth-mounting bolt covers. • Delta Faucet Co., Indianapolis, Ind.

OFFICE CHAIR / A concealed spring mechanism buried within the “Task Chair” gives flexibility to the one-piece urethane foam and integral sprung steel frame seat and back assembly. It is offered with and without arms. • Harvey Probber, Fall River, Mass.

JACQUARD FABRIC / “Alma” is one of four miniature geometric patterns in a jacquard weave featuring intricate texture and a wide range of colors. This matelasse is a blend of rayon and cotton, 51 in. wide. • Manuel Canovas, New York, N.Y.

TRUE-WHITE TILE / A recent addition to the “Primitive Encore” line of ceramic tile, “Glacier” is a true-white, matte-glazed unit recommended for counter and vanity tops, interior and exterior walls, and moderate-use residential and commercial floors, including malls. Various sizes of 1/4-in.-thick tile may be used independently or combined; “Glacier” is slip- and stain-resistant. • American Olean Tile Co., Lansdale, Pa.

BERBER CARPET / Joining the growing family of contract Berber carpets is “Regimental Rib”—from Downs Carpet Mills—a stock-dyed acrylic berber ZEFRA® yarn from Basische Corp. Prominently ribbed, the 38 oz per sq yd textured loop fabric is intended to coordinate with “Grenadier Hall” berber, another in the line. • Badische Corp., Williamsburg, Pa.

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"Set this siding off with a Redwood deck or trim and nothing comes close to the look. I'm convinced that dollar for dollar, no other building material can match the beauty, performance and prestige of Simpson Ruf-Sawn Redwood. Or deliver the results."

For complete design information write Simpson Timber Company, 900 Fourth Avenue, Seattle, WA 98164.
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The best framework for savings is smart specifying. And that means your specs should name Wheeling Steel Framing Systems for wall, roof and floor construction.

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Finally, Wheeling Steel Framing works with just about any

Wheeling Steel Framing helped reduce the cost of this 17-story office building. Complete exterior curtain wall panels using steel framing and brick were fabricated and shipped to the job site ready for erection.
exterior or interior wall of facade material: brick, wood, stucco, dry wall. So you can use it for any kind of building up to four floors: apartments, schools, townhouses, nursing homes, shopping centers, etc.

So Wheeling gives you the framework you need to save money on practically any job.

For detailed information, send for our new brochure, WC 608-R-5. Write Wheeling Corrugating Company, Division of Wheeling-Pittsburgh Steel Corporation, Dept. GC-16, Four Gateway Center, Pittsburgh PA 15230.

Wheeling Steel Framing

Circle 70 on inquiry card

The strength and versatility of Wheeling Steel Framing Systems provide many design options. Here's one example: the unique shape of this 2-story office building complex.

Ease of handling of Wheeling Steel framed assemblies meant shorter construction time and a corresponding cut in labor costs on this low rise senior citizen nursing care facility.
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