First Look at Thirteen 1961 Cars — including two Brand New Compacts
Sun, Shade and Wind Where You Want Them

By Richard F. Dempewolf

Millions of words have been written about smart people who built new houses with an eye to "sunny orientation." If a house is scientifically positioned on the terrain it occupies, intelligently landscaped, has glass walls in the right places, and proper overhangs, then Nature will help make the place cool in summer and snug in winter. These are established facts and sound practices. If you plan to build a new home on a spacious acre or so.

But what if you, like most people, already have a house fully equipped with flush eaves, double-hung windows, and a conservatory—all squared off on an average lot with no particular reference to prevailing winds or where the sun rises and sets? Is there anything you can do to control the climate around the oldest house—besides saving up for air conditioning—while installing a bigger furnace? The answer is "yes," emphatically.

Clayton Stew, one of this country's out-there, when hot or full sun drops lower in sky, its says, "protective base branches, heating house in warmth during winter months. Deciduous trees are best to vote their leaves, thick in summer, shed in winter.
standing young landscape architect, has

devoted much of his career to correcting
the mistakes of builders who were not

duly oriented, wind oriented or terrain
oriented. There are, he points out, dozens
of simple and effective ways to make the
sun work for you instead of against you on
an average house lot. Certain types of

shrubs and trees planted in the right
places, an attractive pergola or covered
patio, a small pool in a hot corner, a scien-
tifically shaded terrace—any or all of these
things, strategically planted with the help of
a home-man or landscape expert—may
all it takes to make your home more

comfortable all year round no matter
where you live.

Intelligent planting alone around a poorly
situated house has been known to mod-
erate temperatures by as much as 20 to 40
degrees, offsetting the improvement cost in
fuel savings, and spelling the difference be-
tween comfort and misery. In homes with-
out shade during the hot summer months, air-conditioner manufacturers report that
their equipment must work as much as 40
percent harder. Temperatures of 100 de-
grees have been recorded on sun-baked
roofs.

"There are no hard and fast rules to
cover all situations," Eizen warns. "Every-
thing is qualified by a homeowner's par-
ticular situation, the requirements of his
family, what part of the country he lives in,
and what particular problem he wants to
solve. In chilly country, people may
want more summer sunshine, not less."

There are, however, some basic tricks
for solving common problems. Where you
go from there to increase the comfort and
enjoyment of your property, is up to you
and your budget.

In temperate zone summers, and souther-

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POPULAR MECHANICS
Two paths show sun's long and high arc during summer (top) and short and low arc during winter (bottom). Times worth more than diamonds. The trick is to capture them and put them where you want them when you want them there. "Breakfast on the terrace at a death when warm sun floods the table top," says Steen, "but you'd try on an unshaded terrace during a hot summer afternoon, and an unshaded house would, too. So, through the heat of the day, both terrace and house should be shaded. Offset that tendency like having your cake and eating it. But thanks to the earth's tilted axis, it is easily achieved with certain types of trees, properly located."

Covering some areas with north- and west-facing green leaves and southern breezes serves as windbreak in winter.
Flattened out house can be given attractive "plant awning" that will serve as solar overhang. Flowering vine such as wisteria can be trained to a trellis and cake window-sill support secured to edge of roof. Overhang will shade much from high-angle summer sun, but allow low-angle winter sun to penetrate.

Where do you put shady trees, and why?
The summer-sun solar diagram on page 187, provides the clue. Along the 40th latitude, which places the United States almost in half between Red Bluff, Cal. and Philadelphia Pa., the summer sun rises in the northeast sky, and sets in the northwest. South of that latitude the setting sun is more westerly; north of latitude 40 it is more northerly. "The hottest part of the summer day," Steen wrote out, "is early afternoon—from about 2 to 5 p.m.—when the sun sweeps the southern sky and heads for the northwest horizon. So, generally speaking, the trick is to place fast-growing shade trees so that, when full grown, they will cast shadows across the roof and wall only during those hours. In most places this will mean perhaps one tall, high-crowned tree on the south side, to act as a parapet against the steep rays of early afternoon sun. A smaller tree with low branches, on the west side, will stop the"

(Continued on page 264)

Shaded terrace should have light-colored finish for cool, clean look. In winter it will then reflect low rays through window, raising warmth. One antiseptically treated, however, knight painting would have unfortunate gloss. Such a pattara, call for sealing limits, around seven or dark painting for best results.
California-style ranch houses urge the use of white Because their white appearance tends to shade calorically to create a cool, restful environment. This is achieved through the use of awnings, shutters, and trellises. White awnings are especially effective in reducing heat gain in summer months. The effective use of awnings and shutters is crucial in achieving a comfortable indoor environment.

White concrete walls or terraces in open view, adjacent to houses, can reflect considerable solar heat through windows. Reflective heat is partially absorbed by thick, heavy planting of generous size along foundations, which can help reduce indoor heat gain. This reflective and functional design feature is particularly effective in warm climates.

A small pool is a great addition to outdoor living areas. Attractive pool designs can be integrated into the overall landscape, creating a seamless transition between the indoor and outdoor spaces. The presence of water can significantly reduce the amount of heat absorbed by the surrounding area, making outdoor living spaces more comfortable and enjoyable.

The use of awnings, shutters, and trellises, along with the strategic placement of outdoor structures, can greatly enhance the comfort and appeal of outdoor living spaces. These design elements not only provide shelter and shade but also contribute to a more aesthetically pleasing environment.
Sun, Shade and Wind Where You Want Them

(Continued from page 189)

blazing glare of the late, lowering sun so it won't pierce beneath the foliage and baste the west wall in heat. Depending on the way your house sits on the property, or if you have a terrace on the south side, it may be advisable to spot to spot a small shade tree in the southeast quadrant to catch the morning sun at about 10 o'clock when it begins to heat things up.

Use Tall Trees for Summer

There are good reasons for using tall high-crowned trees on the south side. The high angle of summer sun varies from about 73 degrees on June 21 to 50 degrees as the season wanes. So, south-side shade trees are most effective if their high canopies overhang the roof. As summer fades, days grow cooler, and the sun creeps further south in the sky, you'll want some warmth. If trees have high crowns, then the lower late-season sun will shoot in under the branches and flood the house. For the same reason, high shrubs should not be used near the south-side of the house.

What kind of trees are best for shade? Local nursery men and landscape experts can tell you which do well in your area. In most cases, however, shade trees should be deciduous varieties. They are trees that shed their leaves each fall, allowing winter sunshine to filter through bare branches and help warm the house. Steen has a few words of sound advice regarding varieties:

"The Norway maple, while beautiful and hardy," he says, "should not be used where you want a low, dense screen, or have any important building, such as a garage, inside of its canopy. Young trees may be a pretty sight, but the canopy in a few years will form an open, sprawling mass that will eventually block the sun from your house."

"Tall evergreens are not a good solution here," Steen continues. "If you want evergreen, choose the boxwood or the arborvitae, which are smaller and slower growing than the evergreen pines."

"Tall, open varieties are best. Black Walnut is a favorite."

SHADE TREES

Eastern Areas
American Beech
Linden (shrub and pillar varieties)
Sugar Maple
Pin Oak
Tulip Tree

Southern Areas
Magnolia
American Beech
Linden (shrub and pillar varieties)
Sugar Maple
Pin Oak
Tulip Tree

Western Areas

義務

Magnolia

Although other trees will thrive in specific local conditions, the above are the best varieties. With trees that are too tall, too dense, or too bushy such as Chinese elm or soft maples, you may run into too much shade, too much darkness, too much shade, unless you plant a few evergreens, such as boxwood or arborvitae, to open up the view. In any case, the rule is to avoid trees that will crowd the house, as they will crowd you."

SOME PLANTS THAT WILL thrive in specific local conditions are:

White Tree (American beech)
Chinese elm
Black Walnut
Boxwood
Arborvitae
Evergreen pine

But if you have a large yard, or if you want to plant a large tree, you may want to consider using the following:

Navajo Pine
Ponderosa Pine
Douglas Fir
Balsam Fir

Western Areas

Magnolia

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As you can see, there are many options for creating shade in your yard. Whether you choose a tall evergreen or a deciduous tree, the key is to consider the specific conditions of your yard and make a decision based on those factors. By choosing the right tree, you can create a beautiful and functional outdoor space that is enjoyable throughout the year. Whether you want to create a cool and shady area for relaxation or a sunny spot for outdoor activities, there is a tree that can help you achieve your goals. So, get inspired and start planning your shade garden today!
signed, they are the hottest place in the house because they are perfect traps for the blazing afternoon sun. Even blinds don’t help because they block the breezes. The hot walls and flat roof of the typical sun porch make an oven of the place.

This is where a vine-covered arbor or pergola, simply constructed against the sunken sun porch wall with framing lumber and open-work lath, can work miracles. And if you build a flagstone, brick or concrete pad under the pergola, you will have enhanced your home with a high usable, semienclosed terrace for outdoor eating. Arbors don’t have to be green tunnels, either. Framing and lath can be worked into patios and designs that cast enough shadows themselves to provide dappled shade. Side walls can be braced. Varied textures in design can be effected to match your taste and the style of your home.

Sun room or sun room, the “hot spot” for most homes in the wall facing most nearly southwest or west. This wall can absorb a phenomenal amount of heat during late afternoon in summer if no shade trees protect it. All night long, the stored-up heat is radiated to the rooms inside. The entire wall becomes, in fact, a radiant heat panel. If a pergola or structural sunshade would spoil the lines of the house, or isn’t feasible for other reasons, there still are tricks you can try. Ivy, evergreen brick, stones or stone will cut wall temperatures as much as 30 percent. Some vines tend to creep up under shingles and clapboard, ivy won’t do on such homes. For those, trellises of lath or metal placed a few inches from the bare outside walls will readily support sun-growing climbing plants such as roses. Leafy barriers like vines and climbers not only shade the walls, but also transpire to the air around them. Evaporation of this moisture uses up considerable heat, and you’ll usually find that a roof pocket between a trellis and a house wall is several degrees cooler than the general outdoors.

If you have a green thumb and love to work at grafting and pruning, a spectacular wall could be achieved with a man-made, artificial espaliered wall. Usually slowly-growing varieties of fruit trees, these decorative plants are carefully cut back each year. Only the shoots that extend in the pattern desired are left and trained to be toehold windows or arches over doors and windows. The branches of an espaliered tree, grown flat against a house wall or framed and trained to be toehold windows or arch over doors and windows, are graceful, beautiful and economical.

Both plantings can provide your home with a decorative, pictorial effect, to eliminate the severe look of bare expanses of bare wall and, most important, give needed protection against merciless summer suns.

"Arbors, plant awnings and other plantings that overhang windows and doors, Screen points out, "have the added advantage of protecting delicate fabrics, carpets and furniture upholstery from fading and deterioration due to strong sunlight. But there’s something to remember about wall climbers. On a wood-shingle or clapboard house, you will be faced with the problem of a painted job. Espaliered trees, trellis climbers and vines are a pain in the neck and almost painted walls when painting time arrives. For natural-colored, masonry all right. But," he adds, "if flowering climbers or trees are used against the house, you give some thought to how the color of the blossoms will look beside the wall colors. You can achieve some effect by using magenta blossoms against red brick, for instance." Not everyone wants to block out sun and loosen up foliage so breezes can drift through. "In North Dakota, where I grew up," says Sioux, "people are more interested in shelter belts to break the winter, Prairie gales and summer winds than they are in shade. And in the chilly North West, it may be desirable to soak up sunlight in traps during the best of the day, so outdoor areas are comfortable for evening cookouts.

Many people think of windbreaks as long, straight rows of trees or high slatted fences. This is hardly necessary, or at worst, good. In most areas, cold winds blow in from the north, northwest or northeast, warm,comfortable summer breezes blow from the south, southwest and west. If a wind fence, or a high hedge of dense evergreens and shrubs—such as hemlock and arborvitae—were constructed so that it curved around the northeaster and easterly sides of your home, it would block the breezes throughout the winter, deflecting them from your house and Sterne’s same curved hedge, however, being open to south and west, will scoop up summer breezes and guide them in toward the house and across any patio enclosed by it. If the curving line of the hedge is done, the north or western face of the house will be on the wind. Then you will have the breezes through the butte, increasing air movement across the area beyond the patio. A patio or terrace located there would be noticeably cooler than any other area.

If your area differs from the norm, the same idea can be adapted to accommodate any conditions of prevailing wind. And it will pay off absolutely. According to controlled tests, such a wind buffer, if it drops a winter blast from 12 to 3 miles an hour..."
when the temperature is 32 degrees, will cut fuel consumption for that day precisely in half. Properly built and located windbreaks have reduced annual fuel costs by nearly 20 percent at government agricultural experiment stations.

When it comes to terraces and "outdoor living rooms," Clayton Sloan is at his best. "This is where you want real comfort," he says. "Sun and shade must be in the right places at the right times. For the kids, the sandbox calls for sun during sandbox time, the playhouse should be shaded from hot afternoon sun. The terrace must be sheltered from cold wind, but should have enough evening breezes to give it some air. It should be supplied with warm sunlight on a summer morning if the family likes to breakfast outdoors. Everything, besides being pleasant and decorative, must be geared to the use that the family will make of it. It's a family affair."

To achieve desired effects, Sloan has a dozen of ingenious tricks up his sleeves. On a cold, windy hill overlooking a broad sweep of valley or lake where winds build up, his circular terraces may be dropped below grade, with a curved windbreak hedge or sapling fencerow on the windward side. In this way, the sun's warmth collects in the pocket during summer afternoons, and radiates gently during chilly evenings without being blown away by draft breezes off the water. "Such an arrangement allows the terrace to be used much earlier in spring, and late into fall," he says.

Suppose the view is on the wooded side? A curving fence or hedge can be built around a glass window frame of the same height with considerable effect.

"Today," Sloan points out, "you can get good looking_leaved fences in wood or aluminum, and arrange the spaces so that they break unwanted wind, but catch desired breezes during hot periods and swirl them around the entire area.

The low-slope export has used fish-shaped "vines" covered with plastic panels to shield particular parts of a terrace from unwanted sun. "One spot can be warming up while another corner is cooling, by applying these like this in combination with plantings," he says.

Small pools can do a great deal to cool a protected corner of a terrace, and all good landscape architects use them effectively. It takes a tremendous amount of heat to evaporate water, and cool air around an attractive pool is almost always present if you can box it in with dense plantings so it doesn't dissipate too quickly.

"Even the cool "feel" of a pool is a pay-off."

(Continued on page 279)

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Powdered Paint by dry spraying powdered paint onto a surface for instant drying—now is being developed to replace liquid spraying as an application. It explains the process; Joseph Gaynor, a process engineer for General Electric, said that a constant injection of air or pressure against the particles into an automobile-body-painting unit, for example, thus eliminates the need for a solvent. Applying the dry paint to the parts can be done by heating the metal just above the melting point of the paint particles to that they melt and flow into a smooth coating on the parts. Applying glue or a tacky substance to the metal before the paint is applied will cause the paint stick until it is baked.

"The whole thing is a matter of fitness and common sense."