

FOR THE HISTORY BOOKS

NATURALLY COOL

Life in South Florida without AC really is possible BY JULIET GUILBERT



BEFORE THERE WAS AC
Janet and William Eaglestein's 1935
home is built to catch the trade winds.

Janet Eaglestein never turns on her air conditioning. A former international banker, Eaglestein and her husband, William, chairman emeritus of the University of Miami dermatology department, have lived without air conditioning since 1986 in a bungalow that is filled with contemporary art, surrounded by tropical greenery and nearly always thrown completely open to its tranquil, breezy Biscayne Bay frontage. Even in August.

"People are stunned when they come to visit us from their air-conditioned condos," she said. "They think they're going to die in the heat. Nobody can believe it, but it works."

What works is a concatenation of climatological factors and traditional Florida building techniques that cool the Eaglesteins' 1935 house naturally. The narrow bungalow—at its widest, it is a mere two rooms deep—is situated on a wedge-shaped lot with its long edge facing east, toward the water. A central entry hall connects the front door to the living area, where French doors open onto the bay. When the front and back doors are open, balmy breezes blow right through the shallow space. Upstairs, the bedrooms are ventilated by awning windows and shaded by canopies. Poincianas, avocados and shrubs shade the westward-facing entry court from the fierce afternoon sun.

"When we bought the house, it never occurred to me that we would not use our AC," Janet Eaglestein said. "I had lived in South Florida before, and I had always used it." Now, she said, she only turns it on when the shutters are up for a storm.

In the days before every building was air conditioned, natural cooling was a basic necessity, nearly as important in the tropics as heating is in colder climes. From the time of the traditional "cracker" houses, with their wood frames and wide porches, to the post-war era of modernist architecture, just before air conditioning became widespread, certain rules were followed to make a building habitable in warm weather. Siting, cross-ventilation, and shade (from both architectural elements and landscaping) were necessary when planning a house.

"Natural ventilation was a requirement of living, more than a nicety," said Michael Epstein, an architect at SeibertArchitects PA in Sarasota, a firm founded by the modernist architect Tim Seibert. "A house would be lifted up off the ground and constructed as lightly as possible so that the heat could dissipate and cooler air could pass through—as opposed to the heavyweight Mediterranean Revival style, which serves to capture heat and hold onto it."

Although the Mediterranean style has gained great popularity, Epstein said, "it is not exactly suitable to the region."

Other techniques for encouraging passive cooling included sheltering roof overhangs and reflective roofing materials, louvered shutters and jalousie or awning windows, and orienting buildings toward the southeast to catch the tropical trade winds that blow off the ocean. Houses designed before air conditioning often blurred the boundaries between indoor and outdoor space with walls that opened up to merge indoor living areas with screened patios, the precursors to the now-ubiquitous Florida room.

During the nineteenth and early twentieth centuries, traditional wooden building styles prevailed, such as the raised dogtrot house, a design where two separate wings are linked—and cooled—by a central breezeway. But with the post-World War II arrival of modernist architecture, Florida architects began adapting the International Style to the local climate. (Since air conditioning was still far from common, except in movie theaters, they had little choice.)

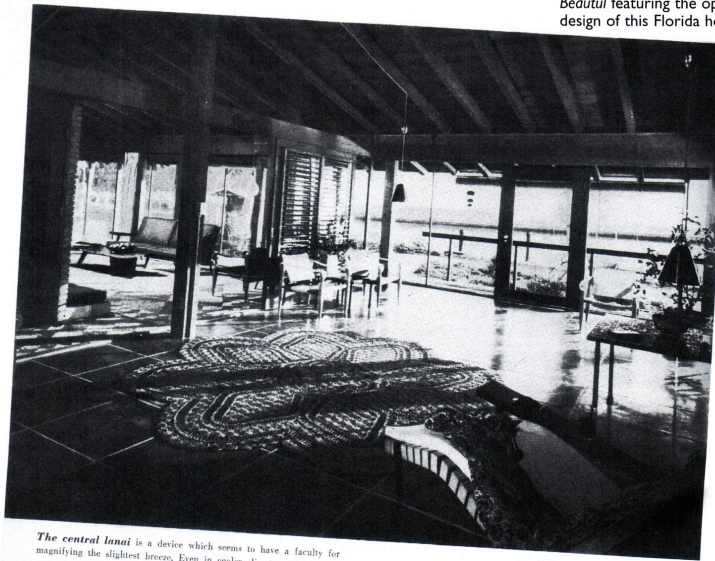
In Florida at that time there were two branches of modernism. In Sarasota, Paul Rudolph, Seibert and others of the Sarasota School adapted a Miesian modernism of pure, unadorned geometries to the subtropical climate. In Miami, the Coconut Grove School cast its allegiance with the "organic architecture" of Frank Lloyd Wright, who sought to create buildings that harmonized with their environments.

"We didn't have air conditioning when I began to practice," said Alfred Browning Parker, the Wright disciple and leading light of the Coconut Grove School, who at 90 is still teaching and designing. "So it was very important for me to face a house to pick up the sea breezes in the tropics, and then to carry that air through the house. I'd bring it in big through large windows and then take it out small. It increases the velocity of the air—that's a technique that airplane designers know well."

Indeed, Parker said that when his Coconut Grove home was chosen as the House Beautiful Pacesetter House for 1954, the magazine sent an expert on aeronautics to test interior air flow with an anemometer. "It worked exactly like I said it did," he reported with satisfaction.

A look at Parker's house demonstrates just how close to nature people were living in South Florida as recently as the 1950s. When its two stories of mahogany shutters are open, there is virtually no distinction between the porches (which are shaded by a deep roof overhang) and the living areas, which were all finished to be as weather-resistant as possible, with terrazzo floors, ashlar stone walls and built-in mahogany furniture. The flat roof is surfaced with white reflective tile to insulate the interior (it also serves as a sun deck and what he calls a "starlight terrace" for dancing). Even the closets are carefully ventilated with rows of clerestory louvered windows above the doors.

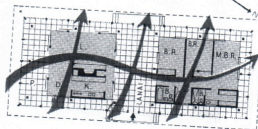
COOL COMFORT
A 1958 issue of *House Beautiful* featuring the open design of this Florida home.



The central lanai is a device which seems to have a faculty for magnifying the slightest breeze. Even in cooler climates, with temporary winter enclosure, it could be a usable all-year, outdoor living area.

The whole house is a breezeway

The principles built into this house can help make life comfortable in hot humid weather, wherever you may happen to live



House Beautiful, April, 1958



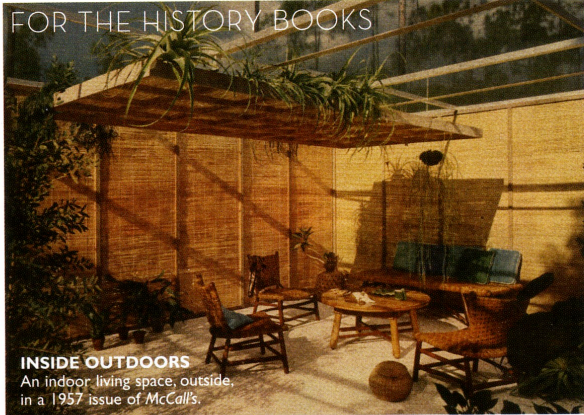
Modern man need not "go native" in order to live comfortably wherever he may build, but if he understands and applies basic principles which have been built into structures indigenous to that region he will be much better prepared to contend with the problems of climate. The "native" builder may not be scientific in his approach, but he does build from an accumulative experience, a kind of weather wisdom. The winter residence which Robert B. Browne, architect, designed for Mr. and Mrs. Kenneth McClave is based upon three essentials to comfort in hot humid climates: that the living areas be as open on the sides as possible to permit movement of air through and under the structure; that it be well sheltered overhead from sun and rain; and that it be raised above the ground for protection from both bugs and moisture, due either to ground dampness or slow runoff of water in sudden, heavy storms.

(Please turn the page)

Throughout the '40s and '50s, similar cooling strategies were being used all over Florida to adapt modernism to the climate. Paul Rudolph's acclaimed Umbrella House in Sarasota employed a sheltering roof trellis, a facade of jalousie glass and an open floor plan that allows for the free flow of air. Igor Polevitzky took a more radical approach with his Birdcage House on Biscayne Island: the home is essentially one enormous Florida room, a series of multilevel screened concrete decks that enclose the pool and a tree.

At the same time, Polevitzky's screened cage—writ small—was popping up all over the state in less dramatic forms. "The key for these screened areas was that they were an integral part of the design, not just added onto the house as if it were done later," Epstein said. Early screen rooms were part of the home's overall cooling strategy, whereas contemporary Florida rooms are usually separate from interior spaces, which are kept air conditioned.

FOR THE HISTORY BOOKS



INSIDE OUTDOORS
An indoor living space, outside,
in a 1957 issue of *McCall's*.



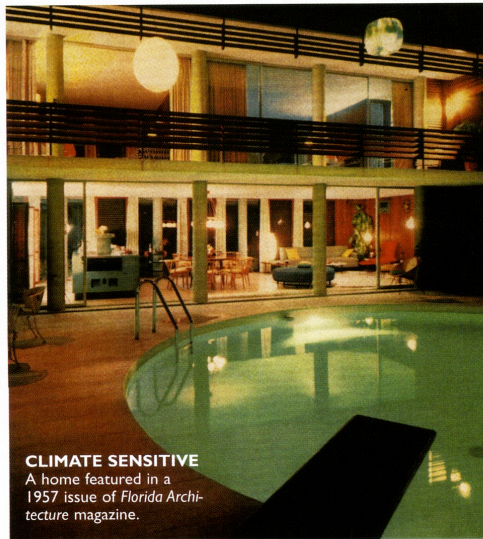
ROOM TO ROMP
A screened-in pool area fea-
tured in *McCall's* in 1957.

South Floridians lived close to nature in the '50s.

Fifty years later, though the Florida room lingers on in name, most traditional cooling strategies are about as familiar to builders as Babylonian zigurats. Florida houses are usually built with the assumption that the AC will be on nearly all the time. Just down the block from the Eaglesteins' Venetian Isles bungalow, a large, half-built Mediterranean presents its short edge to the bay—the opposite of how a climate-sensitive house sits. A terrace on the Mediterranean's second story faces west, and so will probably be too hot to use, particularly since the lot has been thoroughly cleared of vegetation. Most remarkably, the house greets the southeast trade winds off the bay with a row of inoperable windows.

Susan Szenasy, editor-in-chief of *Metropolis* magazine, calls such environmentally insensitive house designs "criminal and offensive." In February, Szenasy, along with the Miami architect Bernard Zyscovich and an array of local groups and businesses, will have a conference on eco-friendly design for the tropics, dubbed "Tropical Green" (www.metropolismag.com/tropicalgreen). She hopes the gathering will help steer Florida's massive building boom toward more a more sustainable model. The idea came to Szenasy during a visit to Miami a few years ago.

"I was in Miami in the winter, and it was one of those beautiful, incredible days when the sun was shining, but it was warm and pleasant," she said. "And everywhere I went, the air conditioners were humming. Everything was turned on, as if this incredible resource from the outside was to be ignored." She was infuriated, she said. And then she went for a drive. "All I could see were these high rises looming like mountains on the shore and blocking the breezes that come from the ocean and are natural coolants for the area."



CLIMATE SENSITIVE
A home featured in a
1957 issue of *Florida Archi-
tecture* magazine.

Szenasy said that building without regard for local conditions is costly—and not just in terms of rising energy bills. "I think the costs are not just in dollars but in health," she said. "Some of the materials or processes poison our water supply, our air, and it's quality-of-life costs."

One speaker at Tropical Green will be Guy Battle, an environmental engineer whose recent projects include a university in Luanda, Angola, where he worked with the architecture firm Perkins+Will to create a four-million-square-foot campus that is 75 percent naturally cooled. Luanda's climate is not unlike that of South Florida, and Battle used many of the techniques familiar to architects like Parker and Rudolph: lightweight construction, cross-ventilation and shade.

"Every building has an umbrella shade that shades the walls and roof,"

Battle said. "They also act as wind scoops, reaching up toward the sky like hands and driving the wind down toward the building. At the back of the building, you have wind accelerators like you might see on the back of a Formula One race car."

The Miami skyline has a few bright spots. One of them is the Boulevard Building, a 16-story condominium on Biscayne Boulevard designed by Bernard Zyscovich and set for completion in 2007. The Boulevard will offer an updated version of the traditional Florida room: each unit will open onto a screened lanai that, unlike the hot terraces on most high-rise buildings, will be recessed into the building form and thus shaded. Larger units will have cross-ventilation.

"What we've tried to create is the idea of a Florida room in the way that those of us who still think about the early Florida architecture remember it," Zyscovich said. ▀