COMPLETE GUIDE TO A HEALTHY BEDROOM

Living Green
Living Well

Manhattan Makeover
Going Green after 9/11

A "Less is More"
Holiday Season

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DESER T  S E R E N I T Y

This bed—carved out of one piece of wood—came from the Ivory Coast.

JOYANNA LAUGHLIN

PHOTOGRAPHY BY TERRENCE MOORE

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A sustainability pioneer apprentices with an Egyptian architect who championed safe, low-cost housing. Now she’s building adobe homes in the Texas desert and has founded a nonprofit to teach others how.

In 1972 during a Paris dinner party, a friend told Simone Swan to read Architecture for the Poor by Egyptian architect Hassan Fathy. The book changed her life. Deeply moved by Fathy’s philosophy, Simone went to Egypt, where she apprenticed with Fathy, then went on to build adobe houses in the west Texas desert using knowledge she gained half a world away. She also founded a nonprofit—the Adobe Alliance (AdobeAlliance.org)—to carry out experiments in adobe building methods, including developing plasters that breathe. The Alliance schedules at least one workshop a year on how to build healthy, beautiful, and affordable homes.

In the 1960s and early 1970s Simone founded and ran Withers Swan, a unique public relations agency in New York that specialized in art and the environment and whose clients included museums and universities. Later she served as executive vice president of the Menil Foundation, a philanthropic organization. In 1972 when she read Fathy’s book in French (the French title...
translates as *Building with the People*) and was transformed by the architect’s vision of a sustainable society in which people in need of housing gained health, pride, and inspiration by cooperatively building their own beautiful homes from native materials such as earth. Simone studied architecture with Fathy, visited his projects, assisted him with translations, and helped develop an institute to educate people about Fathy’s vision for low-income housing. By the time he died in 1989, Simone was determined to carry on his ideas.

**Common ground**

What do the pyramids and sand dunes of Egypt have in common with west Texas? More than you might think, according to Simone. Both are fertile river valleys located in deserts, and even the climate and birds are similar. Egyptian culture centers around the Nile Valley, and Presidio, Texas—where Simone designs and builds adobe houses—is located at the confluence of the Rio Conchos and Rio Grande rivers (creating a fertile agricultural region) in the northeast corner of the Chihuahuan desert, about fifty miles west of Big Bend National Park. Like far away Egypt, agriculture was once a mainstay of Presidio’s economy.
In the gallery, twenty-inch-thick adobe walls plastered with earth and water glow softly as light streams in from the French doors on three sides and from the clerestory windows on the east wall. Peeled vigas (beams) support the roof—topped by an observation deck—while multiple coats of turpentine and linseed oil bring a soft matte finish to the smooth adobe floors. Arden Scott's Spirit Boat sculpture hangs from the ceiling. On either side of the gallery are patios used as roofless rooms.
Cozy Chat with Simone Swan

What's your favorite room in the house?
It depends on the time of day. I love to wake up in my adobe bed and look through the French doors and the patio onto six tiers of the Mexican Sierras. Then the lavender blue dome room is a favorite—it's a sanctuary, like being enveloped in a womb. And wherever I am, I love a kitchen. Mine looks over the eastern patio, and from the window I can see birds, wildlife, clouds. I also like the coziness of the TV room.

What would you do differently?
I would replace the flush toilets with Sun-Mar composting toilets; I opted for a septic tank while distracted. The metal French doors and the windows I'd keep, but I'd choose less glazed space and better quality glass. I would build a masonry staircase instead of a wooden one up to the observation deck and sleeping porch because wood dries or cracks in the desert. Also, the saltillo tile floors are too hard—I'd replace them with adobe—and I might make adobe countertops and tabletops waterproofed with beeswax, an enhancement I learned recently.

Were there any surprise expenditures or savings?
Labor cost more than I thought when paid by the hour as is the custom here on the border. And I was surprised at how inexpensive the solar system was.

What do you want to do in the future?
I still plan to work with people to help them attain healthy, beautiful, inexpensive housing.

Common Threads

EGYPT
Geography A vast desert plateau that contains the Nile Delta

PRESIDIO, TEXAS
Geography Located at the confluence of the Rio Grande and Rio Grande rivers in the northeast corner of the Chihuahuan desert in west Texas

Climate Hot, dry summers with temperate winters

Climate Hot, dry summers with temperate winters

Economic Facts Population of 76 million
9.9 percent unemployment rate
16.7 percent live below the poverty line

Economic Facts Population of 4,173
40 percent unemployment rate
56 percent live below the poverty line
As morning light dances in through the filmy muslin curtains, Simone delights in waking up in her adobe bed and looking out through the French doors to the Mexican Sierra mountains. The ceiling is fourteen feet high and ten feet wide. The bed is made of adobe bricks topped with a one-inch wooden platform and a magnet mattress. Simple furnishings allow the strength of the architecture to take center stage throughout the house.
This covered porch or terrace, called a *ramada*, features a thatched roof that the work crew built from ocotillo cactus harvested from Simone's 500-acre property. The *ramada* provides shade for the home's south facade, and much time is spent here. Otherwise the house offers four dining spaces—three outdoors and one indoors.

However, landowners sold their water rights to El Paso, so Presidio now, like Egypt, experiences high unemployment and significant poverty. Both regions have traditions of building homes out of the earth.

While visiting Big Bend National Park in 1991, Simone decided on a whim to assist with the restoration of a seventeenth-century *hacienda* that was named Fort Leaton when it became a fortified trading post in 1830. Simone thought that in Presidio she could carry on Fathy's work. To this end, she founded the nonprofit Adobe Alliance in the mid 1990s. Her goal is to build low-cost, energy-efficient housing that is climatically and environmentally compatible with desert environments. The people who attend Adobe Alliance workshops are inherently interested in, and attracted by, earth architecture.

A sheltering oasis

Simone's home—Swan House—offers a sheltering oasis, and the curvaceous adobe roofing adds a touch of Islamic influence to this open Texas mesa dotted with stands of whip-like ocotillo and bushy creosote. Much of Simone's design is based on what she learned from her mentor, and his influence is seen clearly in the courtyards and the roofline: five vaulted roofs and one dome.

Simone's house, which she designed in an H shape, features two courtyards—one on each end of the H—that function as cooling devices and outdoor rooms in which to enjoy meals amidst blooming bougainvil-

lea and a splashing fountain (see “Courtyard As Air Conditioner,” page 95). A *ramada* (a wooden structure supported by posts) made of ocotillo harvested from the property offers another delightful space for relaxing or eating and provides shade for the home's south facade.

Twenty-inch-thick walls made of adobe bricks constructed on site (with manure added for viscosity and straw for structure) give Swan House its strength and stability. Because the onsite soil was caliche (a crust of calcium carbonate that forms on the stony soil of arid regions), it was necessary to bring in clayey soil to make the adobe. All of the rooms feature clay saltillo tile floors that provide a counterpoint for the adobe walls, except for the gallery, where smooth adobe floors are sealed with turpentine and linseed oil.

The H-shaped design divides the home into public and private spaces. One arm of the H holds the kitchen and dining room; the other contains two bedrooms, each with its own bathroom. One of these bedrooms also serves as the TV room where Simone watches news from around the world. Simone enjoys working in her home's long gallery—lit by four clerestory windows—that connects the two wings. The total living space, which includes the main house and separate guest quarters, is 1,600 square feet.

Swan House is off the grid. The lights, TV, DC electric refrigerator, well pump, swamp cooler/wall fan, telephone, and computer are powered by a twelve-panel solar photovoltaic system and a wind turbine (see “Swan House from the Ground Up,” page 95). While Simone cooks with propane and uses it to heat hot water on demand, Swan House has no heat source other than passive solar. During the rare cold spell, she shrinks her needs and lives primarily in the TV room, which she heats with a propane gas heater.

"My house is a prototype," Simone says. "We experimented as we went along. I went ahead on the strength of having studied with Hassan Fathy and built this house by the seat of my pants. I did it because I had to, which means anyone can." Is she happy with the outcome? "I'm spoiled by living in an adobe house," Simone says. "When you build a natural home, you can't stand to live in anything else unless it's an old, well-designed building or a new, well-built one."
Swan House from the Ground Up

House construction:
- Adobe bricks (with manure added for viscosity) made by hand in Ojinaga, Mexico

Cost to Build:
- $30 per square foot in 1998 with time spent doing experiments

Energy System:
- A 2.2 kilowatt photovoltaic (PV) system with a Xantrex inverter, twelve eighty-five-watt BF Solar PV panels, and twelve Trojan 103 225-amp-hour batteries
- An Air X 400-watt wind turbine serves as a backup generator

Cost to Purchase Energy System:
- $12,000 in 1998; purchased from Backwoods Solar Electric Systems, Sandpoint, Idaho

Below: In the domed guest room, the roof is supported at each corner by an arched squinch. Recycled railroad ties form the lintels.

Courtyard As Air Conditioner

“I wanted the house to have sheltered spaces as well as two roofless spaces because a courtyard in the desert is like an air conditioner,” says homeowner and designer Simone Swan.

Cool air sinks into the courtyards at night, and when the sun hits their walls in the morning, the contrast between warmth and cold creates eddies that move cool air into the house through French doors. Shut the doors and windows and wait, the cool air stays in the house during the day.

“This only works when adobe walls are plastered with a material that breathes, such as lime or a mud plaster,” says Simone. Don’t stabilize adobe walls with cement or paint them with latex paint, both of which make the adobe unable to breathe and stop the natural air conditioning process.