(below) Edith Sarra and her husband, Michael Shoaf, in front of their 1850s home.
(right) The Millard Fillmore Wampler family, circa 1895. The Wamplers were the second family to own the house, which they kept for a century. This original photograph was given to Sarra by John Millard Wampler, grandson of the Wampler matriarch (seated, left) and patriarch (standing, rear).

ONE *Old House* + ONE DETERMINED WOMAN

A GREEN *Love* AFFAIR

BY **Nancy Hiller** PHOTOGRAPHY BY **Steve Raymer**

Who doesn't love an old house? The cozy familiarity of a '20s bungalow, the gingerbread of a carpenter-Gothic cottage, the artisan's elaborate spindle work on a Victorian painted lady are the stuff of dreams.

But old houses aren't equipped with modern green-building innovations, and those nostalgic dreams can quickly fade when homeowners are confronted by chilly drafts and high maintenance bills.

Still, old houses—and they number in the millions—cannot simply be replaced. Even if we could afford to raze them and build better-insulated versions from scratch using sustainably sourced materials, how responsible would it be to demolish tons of bricks, lumber, and metal, dump much of it in landfills, and start over with new materials?

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1. In this photograph, taken in August 1989, the house has the first of its new, handmade windows. Plastic covers the window openings of the upstairs room (top left) in which homeowners Edith Sarra and Robert Easley were camping during this period.

2. The north wall of the dining room in August 1989, shown from the same perspective as the view today, at right. The window visible here held the sole remaining original sash, on which the homeowners patterned their custom replacement sashes. The door frame had been torn out by vandals.

3. In November 1989, Sarra speaks on the phone from the couple's makeshift bedroom, where the temperature hovered about an almost-tolerable 43 degrees, thanks to a kerosene heater borrowed from friends.

The dining room still retains the home's central hearth, on which earlier families cooked most of their meals. Sarra painted the timeworn floorboards mustard yellow, having discovered traces of this color under layers of other finishes.

People fall in love with old structures because of the workmanship, the design, and the thoughtfulness they embody.

In the beginning...

Before energy from natural gas, petroleum, and other fossil sources became widely available in the 20th century, houses were designed around ways of living that were, for the most part, sustainable. Food, fuel, and building products came mainly from local suppliers. Most families who lived outside major urban centers had a kitchen garden, some chickens, and a few head of livestock for home-raised meat. Houses tended to be much smaller than today, so they required less fuel for winter heating, and families made do with considerably fewer possessions. What things they did have were well made, so they lasted and could be repaired, rather than replaced, when they broke.

Edith Sarra's house was built in the 1850s, for a family of means on a farmstead near Gosport, 17 miles northwest of Bloomington. Well before the age of electricity, running water, residential central-heating systems, and automobiles, the house was crafted of limestone dug from a nearby quarry, wood sawn from the property's own trees, and bricks fashioned from clay dug out of the earth and fired onsite. A well behind the house provided water for bathing and kitchen use. When the house was built, family members planted Norway spruces at its southern and western sides to create a source of shade in summer and a buffer against the worst of winter's winds.

The house was sited with its natural surroundings firmly in mind. The front faces west, so as to capture prevailing breezes in hot weather. A central hall runs from the front door to the back of the house, circulating air freely through the main rooms of the ground floor. Upstairs, a door leads out to a balcony; when opened, this door creates a chimney effect, drawing hot air upward and out of the house. Ten-foot ceilings and double-hung windows further promote the flow of air. The tall windows also illuminate the home's interior during the day, making electric light unnecessary.

Constructed of solid brick (three layers thick on the ground floor, and two upstairs), the house stays comfortably cool in summer, except on the hottest days. When it was first built, an interior stairway led from the pantry to the cellar, where the temperature hovers between 50 and 70 degrees all year, providing a cool place to store food from the garden. A small brick building away from the main house functioned as a "summer kitchen," keeping cooking heat out of the house in hot weather,

Today's wonder products, like those they replace, must be grown, mined, milled, manufactured, and transported to dealers and job sites. Sure, it makes sense to build green when you have to build new. But green building isn't just about the new. It's also about reducing, reusing, and recycling.

Aside from its focus on sustainable materials, the green-building movement has viewed houses primarily in terms of the energy they use for heating and cooling. But as the National Trust for Historic Preservation has recently pointed out, houses don't just use energy; they also embody it. "Embodied energy" refers to that invested in a house's manufacture and maintenance—the growing and milling, mining and manufacturing, travel, and transportation referred to above. So substantial is this energy investment that a 2008 British study concluded that "when embodied CO_2 is taken into account, new, energy-efficient homes recover the carbon expended in construction only after 35 to 50 years."

Bloomington contractor Chris Sturbaum, who has devoted his career to restoring old houses, states it simply: "Our existing infrastructure is where we have put much of the oil we burned in the twentieth century and where we have stored the human energy we expended to build our cities and towns. That energy is not replaceable. As we count our dwindling resources, these buildings right under our noses represent both the obvious and the only truly achievable way forward."

Fortunately, many people fall in love with old structures because of the superior quality of the workmanship, the materials, the design, and the thoughtfulness they embody. Here is the story of one woman, Edith Sarra, and her house—how they met and fell in love, the obstacles they overcame, the compromises, and lessons learned—complete with happy ending.

and a north-facing side porch offered a shady place to rest. (Many houses built between the 1830s and 1930s, though not this particular one, were designed with sleeping porches for use on stifling summer nights.)

In winter the house was heated with wood from the surrounding forest. Although the very thought of solid brick construction makes many of us shiver, the thick walls create a thermal mass that modulates temperature fluctuation, helping to keep the interior cool in summer and warm well into fall. During much of the house's history, the parlors, bedrooms, and kitchen were equipped with wood stoves (an innovation for rural southern Indiana when this particular house was built, and one to which the original homeowner had access, thanks to a new railroad line that served nearby Stinesville and Gosport).

With just over 1,400 square feet, this house was relatively spacious for its time—though 19th-century households tended to be much larger than ours today, with more children, members of extended family, and often live-in help.

Sarra and her former husband, Robert Easley, bought the house in 1989. They'd been looking for an old house they could afford on Sarra's salary as a newly hired IU faculty member, as Easley was in graduate school. The place had been listed as farmland, with only incidental mention of a house—not surprising, given the building's severe dilapidation—and the price was correspondingly low.

"This could be the house of my dreams for $29,500!" Sarra remembers saying to the realtor after finding the listing. He just laughed when she asked for the key. There was none. "You're welcome to walk right in if you can get past the hole in the floor," he said.

First impressions

Sarra and Easley first visited the house in early May. She remembers driving up the narrow gravel lane and how, with the late-afternoon sun low in the sky illuminating the facade, the house looked both sad and magical. "It seemed to be sighing at us, still wistful and un-resigned to its own ruin," she says. The grass all around was knee high, rippling in the breeze.

"My first thought was a mix of pity and fear," Sarra recalls. "I thought the place was too far gone to be restored. I felt so sorry for it."

The hole in the floor was the least of the problems. The window openings had been


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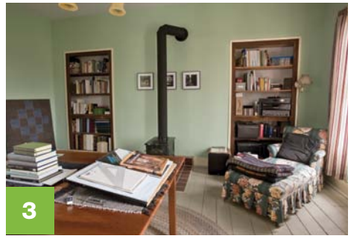
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1. Instead of creating a contemporary kitchen layout with built-in cabinets, Sarra paid homage to her house's 19th-century history by keeping furnishings sparse and reusing vintage finds. The gas stove is a 1955 Caloric. The double-drainboard sink was in the house when Sarra and Easley bought the house.

2. In winter, heavy velvet drapes augment the insulation provided by cellular window blinds. Sarra bought the old "roseback" side chair at a garage sale in Gosport.

3. Sarra and her new husband, Michael Shoaf, use the south upstairs bedroom as a study. They fitted the room with a wood stove for efficient, economical heat. The bookcases would originally have been fitted with doors and used for storing linens and clothes.

4. Sarra and Shoaf use the north parlor on the ground floor for their bedroom. The original fireplace still works, though they rarely use it. In summer, this room is a natural for sleeping, as ground floor rooms are cooler than those upstairs. In winter, when the thermostat is usually set between 50 and 55 degrees, a hot bath in the salvaged tub is a lifesaver at bedtime.

5. In the house's formal entry hall, sinuous decorative cutouts on the staircase skirt board are original, but other parts of the staircase are temporary stand-ins pending what Sarra calls "the right combination of carpenter and lathe."

'My sadness gave way to an almost elated determination to see this thing through.'

boarded up to keep rain out, and behind those boards all but one window had been destroyed. All of the interior doors had been stolen. The kitchen and pantry no longer had floorboards. The house needed to be rewired, reroofed, and re-plumbed. But even after more than 130 years, the basic structure was sound.

"It took about a week, but my sadness gave way to something even stronger than hope," says Sarra, describing "an almost elated determination to step in and see this thing through."

Friends said the house was too far out of town. Family warned of the financial risk. The previous owners had abandoned the house because of the strain it had put on their marriage. Sarra and Easley bought it anyway.

When they moved in that fall, the weather was still uncomfortably hot. They tacked up screening over the window openings and put up a temporary screen door to keep the mosquitoes out of the upstairs room where they camped for the fall semester. Birds, bats, and other creatures had laid claim to various corners, and groundhogs were living under the back porch's rotting floor.

Sarra's plan was to make the house livable by finishing three rooms to start—the kitchen, bathroom, and dining room, the last of which would serve as an all-purpose space for living and sleeping.

The couple hired Chris Sturbaum's company, Golden Hands Construction, to repair the roof and rewire the three rooms. Passionate about historical authenticity—the house is now on the National Register of Historic Places—they decided against installing commercial replacement windows; instead, they had new windows made following the pattern of the lone original survivor. They glazed the windows themselves, using wavy glass salvaged from a neighboring 19th-century house that had been torn down, and added storm windows for draft proofing and insulation. Golden Hands replaced the missing floors, installed salvaged interior doors, did extensive carpentry work, and oversaw plumbing and wiring.

Brrrrrrrrr...

As winter approached, Sarra and Easley were still living without a regular source of warmth, relying on a borrowed kerosene heater to keep the temperature above freezing in their sleeping area. Meanwhile, they worked on the three-room restoration after school and on weekends. It was crucial to finish removing the flaking lead paint before installing a furnace, so in the late afternoons, before heading to dinner at a nearby country diner, they donned respirators and bore down on the woodwork with heat guns and scraping tools. They did their schoolwork at night, huddled in bed under heavy blankets. Mornings, they showered at on-campus facilities.

As part of the restoration, they had the limestone foundation and the brick in the crawlspace at the front of the house tuckpointed, which made a huge difference to winter temperatures in the parlors, one of which they had turned into their bedroom. They insulated both of the home's attic spaces with fiberglass and installed dampers in the chimneys to minimize heat loss. (Today, Sturbaum points out, open-cell polyurethane foam can be sprayed onto the underside of a roof deck to create a seamless, condensation-proof insulating barrier between the attic space and the roof exterior. This transforms the attic into a conditioned space, significantly increasing the efficacy of heating and cooling systems in the living spaces below.)

A life change

In 1992, three years after purchasing the house, with much of the work on the structure and systems completed and with three of the house's seven rooms made livable, Sarra and Easley broke up. Unlike the previous occupants, the demands of the house had nothing to do with their difficulties—in fact their devotion to the house may have actually prolonged their union. Easley moved away and, with divorce imminent, they put the house up for sale.

Not much changed over the next three years, although the two did continue to work

Despite living alone in an isolated old house, Sarra's feelings for the place had been deepening.

With her enhanced job security, she could afford to keep the house. And although she was alone, the house brought other people into her life; its historic architecture, coupled with its remote location, exerted a curious draw on acquaintances and friends who lived in town.

In the summer of 1996, she adopted a Belgian Tervuren puppy, whom she named Genji after a princely character in a classical Japanese tale. The two became inseparable. They took long walks together through the fields and forest around their home. Evenings, they sat in the open front door and let their yips and howls echo up the stairwell and out across the hayfield, sometimes provoking, to their delight, a crazy call-and-response from neighboring coyotes.

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on the restoration together, whenever Easley visited Bloomington. During this period, Sarra was granted tenure. A year later they received their only serious offer for the house, but that fell through.

Which was a good thing, as it turned out, because despite the impracticality of a single woman living alone in an isolated old house, Sarra's feelings for the place had been deepening.

And in one magical moment, she remembers, those feelings crystallized. "I was weeding the back garden on a dreamy, rain-washed April afternoon, and a trio of deer emerged from the woods, bowing their heads and peering at me, advancing one tentative step at a time into the garden. I was here to stay."

At night the rural sky was filled with stars. In winter, Sarra returned home after work to build a fire in the same hearth around which earlier families had cooked suppers in a great black pot suspended from a hook still embedded in the fireplace bricks. On snow-bound days, the farmer down the road would clear her lane with his tractor, a kindness offered without her asking.

Over the next few years, Sarra continued to make slow progress on her home's restoration. By 2002, the remaining four rooms, two chimneys, and ruined staircase had all been restored.

Among the restoration basics, Sarra and her new husband, Michael Shoaf, have carried out extensive weatherization. Shoaf, a professional builder and designer, crafted storm windows for the portico façade and added weatherstripping around the doors. He sealed the seams between the house's baseboards and old floorboards, which have settled over the years, with shoe molding and caulk. He also caulked the joints where doorframes meet the brick walls. On winter nights, Sarra closes insulated blinds and draws heavy drapes over the windows. Wood stoves in the study and kitchen provide the home's secondary source of heat; unlike the wood stoves popular in the '70s, those sold commercially in the U.S. today conform to EPA standards for clean, efficient burning.

Life, the old-fashioned way

Many green-building innovations are designed to let us continue living in the style to which we've become accustomed. An Energy Star dryer still gets your clothes ready to wear in about an hour. A super-insulated house can allow you to feel virtuous about keeping your thermostat at 70 degrees all year. A low-flow showerhead permits you to enjoy long showers while reducing water consumption.

Some of these innovations are unavailable, whether because of structural, aesthetic, or financial limitations, to those who live in old houses. Those who are serious about conserving resources alter their behavior, following the lead of their predecessors who lived before the age of cheap energy.

"We occupy the house differently depending on the season," reports Sarra. Because the house does not have air conditioning, the two spend much of their spare time from spring through fall on the screened side porch. Inside the house, closing the insulated blinds on sunny days dramatically reduces solar gain, and screens on doors and windows allow breezes to circulate. On days they spend at home, Sarra and Shoaf follow the course of the sun, opening windows on their home's west side in the morning as they draw the blinds to the east against the rising sun; later, they open the eastern windows and close the blinds to the west against the fiery heat of late afternoon.

In winter, they reconfigure the living room furniture around the fireplace for cozy evenings at home. They shut off unused rooms to minimize the volume of space they have to heat, and—just as Grandma told us to do!—they put on sweaters. The thermostat stays at 50 degrees during the day when the couple is away at work and between 50 and 55 at night—unless one of them is sick, in which case they splurge and turn it up to 60. "It's all a matter of what you get used to," Sarra points out, adding that most people in the world have neither central heating nor air conditioning.

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Originally built without indoor plumbing, the house today has just one bathroom, located in the former pantry. Fewer bathrooms mean fewer plumbing fixtures to manufacture, transport, and replace when they break and can't be repaired. The kitchen, too, is a study in restraint. At approximately 12 by 15 feet (the footprint of the original kitchen), it is relatively small and has just one modern built-in cupboard—a base cabinet made by Golden Hands for the still-usable sink left by previous occupants. Instead of a typical contemporary kitchen, Sarra wanted one whose layout would speak to her home's history; accordingly, there's a salvaged worktable (which also serves as a desk and a place to eat family meals), an antique cabinet with glazed doors for pantry goods, and an original cupboard recessed into one of the kitchen walls, where Sarra stores dishes. As quirky as this arrangement may be in the age of lavishly equipped gourmet kitchens, it suits the couple well, and they often entertain guests with elaborate home-cooked meals.

Like the family that originally occupied the house, Sarra and Shoaf purposely have less "stuff" than most people, and they find creative ways of using their available space and furnishings. They dry their laundry on a line outside. An avid gardener, Sarra waters her plants from a rain barrel, which collects rain from the roof via a specially adapted gutter downspout.

By refurbishing her now-150-year-old house, Sarra has practiced one of the more effective forms of reuse and recycling. She has minimized her household's consumption of water, electricity, and gas through basic, affordable retrofits, by keeping the structure well maintained, and by revising her everyday behavior, taking cues from the history and architecture of her home itself. And what a beautiful old house it is.

6. Sarra and her canine pal, Genji, on the back porch. Because the house does not have air conditioning, this north-facing porch, with screened windows and a screened door, is the most comfortable room in the house during summer.

7. Sarra bought the pencil-post bed for her step-daughter, Emma. Pretty enough to be decorative, the netting serves a practical purpose, keeping bugs away from guests in summer. Since Emma grew up and moved away, Sarra has kept the room closed off from the rest of the house from November through March to avoid heating unused space.