

HOME WORK

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10 Most Common Restoration Blunders

BY MARY MARUCA

Even the best-intentioned homeowners occasionally abuse their historic homes in the name of home improvement. The art of restoration is a complex one, and every maintenance problem, from a leaky roof to a shaky foundation, requires its own unique solution.

According to restoration professionals, who often pick up the pieces left by overzealous homeowners, most problems occur when people overestimate their abilities, underestimate the task at hand or try to cut corners on cost. Unfortunately, a miscalculation in any of these areas eventually results in still more work and expense. The mason at work on a seaside wall who saves a few steps by scooping a bucketful of water from the ocean does no one a favor. The mortar he makes will never set up properly, and the entire structure will be in danger of crumbling.

In any restoration, the chances are always good that something, somewhere, will go wrong. But the homeowner who has carefully researched the problem at hand should be able to avoid any major disasters. With this in mind, we asked leading restoration architects and contractors to list the serious problems they most commonly encounter. Herewith, their words to the wise.



HAPHAZARD REPAIRS

Every building's appearance reflects the way its many component parts—from roof to foundation, mortar to moldings—work together to create a unique whole. The owner who regards it as anything less than an integrated system can wreak unintentional havoc. For example, iron window bars expand and contract with changing temperature. When the bars are set into brick, these changes can cause the brick to crack and spall off. A homeowner who attempts to correct the cracking by repointing will pay a mason but won't correct the problem.

"BUDGET" MATERIALS

Homeowners too often rely on local paint and hardware stores to choose materials, even though correct materials, such as custom-mixed mortar or custom-milled wood, are often vital to a successful restoration. The unwary homeowner who asks for white pine, for example, relies on chance alone to succeed. White pine comes in roughly 13 different grades, only three of which wear well on the outside of a house.

Homeowners and hardware clerks alike may be unfamiliar with another important distinction, flat-grained versus edge-grained wood. Wood taken from the center of a tree, or edge-grained, is more expensive, but it generally wears well. Flat-grained wood, taken from near the outside, performs best as studding and subflooring, where weathering is not a problem.

Pressure-treated wood also may be less of a bargain than it sounds. The treatment generally penetrates only one-half to one inch toward the center. If the wood cracks, the center becomes vulnerable to decay.

Materials are priced according to their quality, so that inexpensive materials often require expensive future repairs. One unsuspecting homeowner ordered black label wood shingles for



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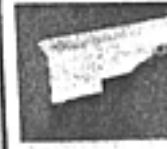
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his roof. Low-grade shingles cut to include knot holes, they generally cover hen houses. Nevertheless, he roofed his house with them and several rains later paid the price for his mistake.

ALTERNATE MATERIALS

The use of one architectural material to mimic another has a long and honorable history. Colonial craftsmen painted wooden mantels and moldings to resemble marble and grained common softwoods to resemble exotic hardwoods. Restoring a house properly, however, requires a diligent search for appropriate materials. Substitute materials are acceptable only when the original is unavailable. If the restoration of a Victorian brownstone depended on getting new stone, its owner would wait forever; the brownstone quarries closed down 100 years ago. Today, cast cement is substituted.

The Secretary of the Interior's Standards for Rehabilitation suggest restoration alternatives to substitute materials. First, consider repairing the original fabric. Replacement in kind is next best, and only when these alternatives have been exhausted should a substitute be used.

FAULTY INSULATION

The invention of insulation that can be blown into wall cavities through holes drilled in outside walls has encourag-

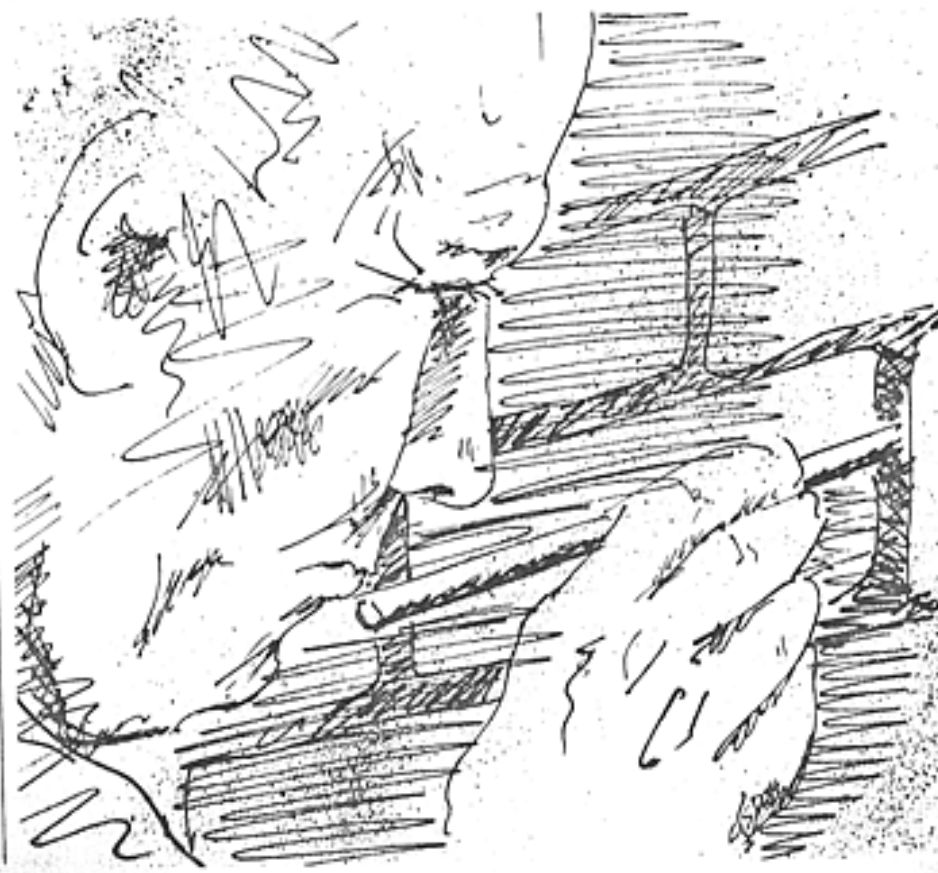
ed many old-house owners to insulate. Unfortunately, blown-in insulation lacks a vapor barrier—a moisture guard installed against the warm side of the wall to prevent moisture from collecting around studs and joists. In a bathroom with an exhaust fan, no window and blown-in insulation, collected moisture will rot the framing within a few years, and the walls will have to be replaced.

The wary homeowner will also deal cautiously with insulation that claims to be fire retardant. Borax, the chief ingredient in such treatments, has the same drawback as pressure treatments for wood: It may not infuse the material enough to make it 100 percent flame resistant. Still more perilous are synthetic or chemical retardants, which can corrode wires buried in the insulation, eventually causing them to short circuit or to heat up until the insulation ignites.

REACTIVATING AN UNLINED FIREPLACE

Between 1700 and 1900, fireplace flues were lined with lime mortar to fire-proof them. With time, and perhaps water seepage, this mortar coating usually cracks and drops off. A spark from a fire will easily ignite leaves lodged in the chimney, and a historic house goes up in smoke.

To avoid this not uncommon sce-



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nario, modern clay-tile flue liners should be inserted in the chimney to re-fireproof it. A chimney sweep using a mirror attached to a string can assess the condition of an old flue, or tell you if a rebuilt flue needs cleaning.

UNNECESSARY WINDOW REPLACEMENT

Houses must breathe, and windows, porches and other forms of ventilation allow for temperature adjustment and moisture reduction. But in weather-proofing a structure, many homeowners ignore the importance of ventilation, sacrificing their distinctive wood-framed windows in the process.

When the owners of a turn-of-the-century house in Chicago installed air conditioning, they painted shut their double-hung windows. Years later, when the push for energy conservation peaked, they substituted thermopane windows with aluminum sashes. The original windows, made of weather-resistant virgin white oak, were destroyed.

ABRASIVE CLEANING

During the manufacturing process, construction materials acquire a crust or finish integral to their composition. The baking process gives brick a hard crust. Quarried stone receives a similar surface during quarrying. Even lumber gets a hard finish because it is cut with a material harder than itself. Abrasive cleaning tends to destroy this natural protective finish, leaving the surface far more vulnerable to decay. Sandblasting

not only removes this protective crust but also pits the surface. High-pressure waterblasting, even blasting with pulverized peach pits or corncobs, also can do irreparable damage.

Generally, the best way to clean any material is the gentlest way. Household detergent will loosen most surface dirt. For more serious grime, chemical washes, best applied by a contractor, work well as long as they don't react negatively with the building material.

MISMATCHED MORTAR

The lime mortar once used by masons was as varied and colorful in texture and appearance as beach sand. Matching such colors today is a painstaking process, but well worth it. Homeowners have even been known to pulverize barbecue charcoal to darken mortar, a trick that, unfortunately, also weakens it. However, lampblack and carbon manufactured for this purpose from kerosene or whale oil will darken mortar without adverse side effects. To add texture, use oyster shells sold in processed form as chicken feed. Do not gather the shells from the beach, since lingering salt will weaken the mortar.

The firmness of the mortar is its second critical quality. Traditionally, builders used mortar as a kind of flexible bed for bricks or stone, one that would give with the dynamics of the building. Modern manufacturers decided that cement-based mortar made a more durable substitute. But rigid mortar takes a toll of old bricks, which are generally softer than modern

bricks. When the bricks can no longer freely contract and expand, spaces open up in the mortar and the bricks crack and spall off. To prevent the problem from recurring, find a mason who can mix a lime mortar soft enough not to damage your old house.

OVERZEALOUS ROOF REPAIRS

Roofs tell much about a building's style and period, but they also protect the house, and when they leak, panic often sets in. Homeowners who assume that the entire roof must be replaced often balk at the expense of replacing the original fabric and yield to less costly alternatives, altering forever the original look of the house.

With a little advance planning, none of this need occur. Wood-shingle roofs treated with a coating of linseed oil will rarely dry out and buckle. And if they do, only individual shingles need be replaced. Similarly, with slate roofs a simple stainless steel clip that hooks under the edge of a slipping tile and over the upper edge of the tile below can save the time and expense of a total overhaul.

CARELESS PEST CONTROL

Sometimes nothing a homeowner does can prevent termites, powder-post beetles or carpenter ants from invading floorboards and windowsills. One couple converted a soil poison into a spray for use inside their home and were driven out by fumes that lingered for days. In more severe cases, incorrect use of insect poisons can result not only in damage to the house but also, for the occupant, brain damage or even death.

Rarely does a little misspent enthusiasm produce such devastating results. But the surest defense against any restoration mistake is careful research. In addition to learning the history of your house so that you can plan an accurate restoration, find other successful restorers in your area and tap them for advice. For more help, your state historic preservation office can point you toward a local historical society, preservation group or restoration architect. Educate yourself about house construction by reading books and magazines, such as *The Old House Journal*. Finally, look for a contractor with plenty of restoration experience and track down his references to find out how the work has endured. HP

Mary Maruca is a writer and editor with the National Park Service.



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