

Letters

Restoration Ethic Questioned

A colleague recently gave me the September issue, in which there was an article about a granary and its basement water problems (“Drying a Stone Cellar”). When I started to read the article — about the restoration of an old structure — I was interested. As I read further, I realized that this was not a restoration at all, but a remodeling and sterilization.

My major disagreement is the application of modern building methods to this old structure. One example is the author’s use of a vapor barrier on the ground in the cellar. The moisture content in the soil under the vapor barrier will rise, causing moisture to migrate vertically in the foundation walls. This can cause a condition called rising damp. In England, rising damp was often addressed by laying a lead course in the foundation, but this technique is seldom seen in America. Sometimes you find a slate course in the wall, which helps to block the rising moisture. Rising damp can also cause serious problems with plaster and stucco finishes further up the wall, and it can degrade the lime mortar in the stone wall. We have inspected many houses where a recently placed basement slab is causing these problems.

The second issue I take exception to is the repointing of the mortar in the stone foundation. If this were a true restoration, lime mortar analysis would have been performed, and then a like material would have been used in the repointing process. Using the correct mortar is a huge issue, completely glossed over in the article. For example, the illustration shows water running through the wall to get to the interior drains, yet this will degrade the walls by washing out the existing lime mortar. And if portland cement was used, it will act as a plug, until the flexible wall blows all of it out. I hope that portland cement mortar was not used here, for it will result in premature failure.

I don’t feel that what was done to this building reflects a restoration ethic, yet these heavy-handed methods were transmitted to the readership as acceptable practice. There are training groups for craftsmen who perform restorations, such as the Preservation Trade Network and the Association for Preservation Technology. Possibly Mr. Lauten should look into these before performing his next “restoration.”

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Author Robert Lauten responds: Regarding the vapor barrier, we almost always recommend at least a sheet of plastic over the dirt floor in the basement or crawlspace of an old stone structure. This reduces the overall interior moisture level, and lowered humidity helps protect wooden structural elements from mold, rot, and termites. I think this is just sound practice. The 6 mil poly is the issue, of course, not the slab.

I am not clear as to whether preventing the soil from releasing moisture to the air in one area might increase the pressure or volume of moisture in other areas (through the walls, for example). The specific problem in this project was bulk water flowing through the building; enclosing it under a moisture barrier beneath the slab and providing a series of drainage pipes seems to have resulted in much improved performance for the building. In this case I don’t think that a blowout in the 3-foot-thick base of the wall is going to be a problem: Where the water was running, we let it run. We also regraded the perimeter of the structure to make sure that the only moisture we were dealing with was from underground.

In terms of restoration, we took a building that was unconditioned and naturally ventilated, and sealed it up and conditioned it. Lowering interior moisture was essential. And as Mr. Logan points out, the stone walls can dry to the inside, so there is some balance and potential relief for the (apparently minimal) capillary transfer.

As for mortar, our masonry consultant advised that while he knew that lime mortar would perform well, he wasn’t certain about portland. However, the owner had already repointed the exterior with portland cement mortar in the 1980s, was satisfied with the appearance and performance to date, and did not see a justification for the additional expense of the historically correct material. We recommended the lime option, but accepted the owner’s decision.

There are always trade-offs when modern practices are integrated with older building materials and systems. Balancing the many aesthetic, functional, and economic costs and benefits is part art, part science, and one of the things that makes our trade interesting. I believe that this project represents a comprehensive and effective solution to a unique set of problems. We preserved a significant amount of the original historic fabric of the structure while facilitating an adaptive re-use.