



# Dukes Restoration

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JOURNALIST



As a builder specialising in conservation work Robin Dukes loves a challenge.

Therefore, when the opportunity arose to exchange his modern two-up two-down house in Aylesbury for a period house with potential for renovation he jumped at the idea. His wife Kate agreed.

The house they found was in a village 10 miles away. The late 18th century Grade II listed cottage has external walls of wychert (the word means 'white earth'), a sticky white subsoil found widely in historic buildings in the Vale of Aylesbury. Many old houses in the area have walls that were constructed simply by piling up this material in layers and letting it dry.

"Earth houses are fun: there are thousands in this country, and I believe they provide a lovely atmosphere to live in," Robin said. "However, sometimes people living in them do not know how to repair

**Main image:**  
The house today

**Above:**  
The renovated kitchen

and restore them, and they handle them incorrectly."

In recent years the Dukes' new home had been badly cared for. The previous occupier, a lady, had become very elderly, and for the three years before they bought it she been confined to the downstairs. The building smelt damp and musty, there were patches of damp at low level, and sections of the exterior wall were falling away at the front.

"The main problem was fairly obvious, but a radical cure was needed," Robin explained. "Sometime in the 1960s the house had been covered with a very hard, thick cement-based pebbledash render. In addition, some of the internal lath and plaster and wattle and daub walls had been plastered with modern gypsum-based materials."

All these hard modern materials were incompatible with the flexible, porous wychert walls, which, being



essentially earth, needed to breathe. This means they should be permitted to absorb and then readily permit the evaporation of moisture. The technical word for this is ‘vapour permeability’.

“Hard, cementitious renders such as the pebbledash applied to the exterior of old houses are designed to keep the weather out,” Robin said. “The usual problem is that when the render cracks, usually because it is incompatible with the softer historic fabric, water from driving rain can get in and run behind the pebbledash, forming channels that in the worst cases can lead to collapse. We decided the best

course of action was to remove all the cement-based renders and plasters.”

Outside, after stripping off all the pebbledash, they had some remedial work to do where there had been a collapse in the front wall at the north corner. They used unfired clay bricks from a local brickworks to fill this. This technique meant minimal shrinkage. Where repairs were needed in smaller, more localised areas of the external walls they mixed their own wychert using clay from the garden mixed with straw and a little water. They then covered the outside with a lime render.

Inside Robin and Kate were keen

**Clockwise from top left:**  
The house today

The house when Robin and Kate bought it

The inglenook fireplace in the dining room had been completely filled in: its rediscovery was a major triumph for Robin and Kate

The Dukes outside the house

to take a fairly contemporary approach to the furnishing, and not clutter it, as so often happens in old cottages with small rooms. Nevertheless, they found the house was getting very full, so as their two children, now aged 13 and eight, were growing rapidly, they decided to extend.

Kate explained: “Originally it was two farmworkers’ cottages. In the 19th century a utility room and staircase had been added at the rear with a staircase and the downstairs bathroom and WC added in the one-storey extension.

“We saw a second, two-storey extension as a means of getting the ➔



**Clockwise from top left:** The completed bathroom: by building the extension at the rear the Dukes were able to free a bedroom to create an upstairs bathroom

The master bedroom in the new extension

Downstairs detail after restoration

bathroom and WC upstairs. Apart from the added convenience, we knew this would make the property far more saleable should we decide to move at any stage.”

Upstairs it was still necessary to go through one room to get to another - a situation often found in old cottages - which made it especially inconvenient getting to the far bedroom.

By adding a fourth bedroom they were able to release the first one to make an upstairs bathroom, then create a corridor by cutting off the ends of the remaining two bedrooms. The new master bedroom is above the new sitting room, it has all worked very well.

After a lot of heart-searching Robin and Kate decided to use lightweight dual skin blockwork for the extension, rather than building in wychert.

“It would have been perfectly possible to use wychert, but it would have been very labour-intensive and

taken for ever,” Robin said. “I could have used the team from my own company\* to build the walls but they would have been available only at weekends, and this would have caused no end of problems.”

Robin and Kate used a lime mortar between the blockwork in the extension, and finished the inside walls with a rough-textured lime putty-based plaster. “Lime putty is softer than hydraulic lime, which comes dry in bags. In putty form the lime is better for accommodating any movement,” Robin explained.

“On the outside of blockwork however I believe hydraulic lime, which comes in dry bagged form, is better because it sets more readily on blockwork than lime putty.

“A lot of people do not realise that it is perfectly possible to use traditional lime mortars with modern blocks. You can do a reasonably good disguising job, while at the same time being reasonably ‘eco’ in the materials

you use. We avoided using portland cement altogether, as it would never have been used in a building of this age.”

The Dukes used hand-made clay tiles for both the roof of the extension and the front elevation.

Inside they used reed laths for the new ceilings. “With a lime plaster this gives a more ‘homely’ feel to a traditional cottage than the finish that results from plasterboard, which we avoided,” Robin said. “Reed lath is cheaper than riven oak or chestnut.”

Their crowning glory was the large inglenook fireplace they rediscovered in the living room, which had been completely filled in. “We knew it would be here, but restoring it was still a pretty big job,” Kate said. The material we took out filled two skips!”

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