

MUCH ADO ABOUT MORTAR



– recent archaeology at Elizabeth Farm

Elizabeth Farm, the residence of John and Elizabeth Macarthur, has always been known as the oldest European house in Australia, built in 1793. The stability of its walls had been a conservation problem long before the HHT took over the property. For many years the reactive clay has expanded and contracted depending on soil moisture and weather conditions, resulting in major cracks in the walls. An archaeological excavation was undertaken in late 2007 to locate old drains, pits or any other features that could explain how moisture travels under the house. The dig revealed some completely unexpected results.

The shallow footings of the 1826 extensions, in contrast to the deep footings of the original rooms, were the obvious cause of cracking in the walls. The excavation even revealed a small section of the original 1793 east wall of the house. But the first surprise came with the observation that the original east wall of the drawing room continued south into the bedroom wing, without any joint whatsoever.

Why is this a surprise? To understand, we need to know how the house was built, or at least how we *thought* it was built. The guidebook, published in 1984, gave an account of the state of knowledge after the extensive conservation of the late 1970s. The author, James Broadbent, readily admitted that 'extensive archaeological and architectural investigations undertaken during the restoration of the house have failed to establish the exact form of this cottage'. Nonetheless, the evidence suggested that the three main rooms – the current dining room, hall and drawing room – were built in 1793, perhaps with skillion additions at either end (to make up the 68-foot length), followed slightly later by the main bedroom and verandahs. With the main bedroom being later, we would have expected the 2007 excavation to reveal some joint between



the walls of the bedroom and drawing room. First surprise – no joint was found.

The second and third surprises came in quick succession with an unexpected wall joint located between the main bedroom and hall, visible in the roof space, and the continuation of the south wall of the dining room into the alcove to the west.

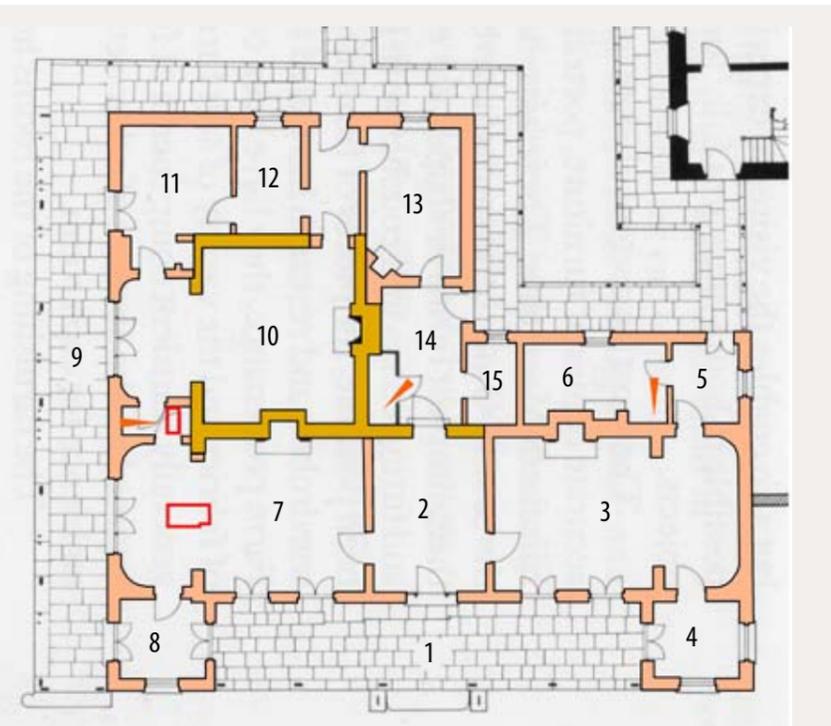
The HHT commissioned an investigation of the anomalies between the accepted building sequence and the archaeological or physical evidence. To an archaeologist, the different bricks, mortar, plaster and other datable building materials can reveal a building

sequence. In the case of Elizabeth Farm, the bricks are very similar but the mortar and plaster types vary dramatically from room to room. However, the process of conservation in the 1970s had covered up most of the fabric. So where could the evidence survive?

The obvious place to look was under the floor – this had provided the original 'no joint' surprise. However, an extraordinary amount of evidence also survives in the roof space because John Macarthur and his architects and builders decided to retain the original 1793 roof under the roof of the 1826 extensions. Restoration within the roof space



a very excellent brick Building. 68 Feet in length, & 18 Feet wide, independent of Kitchen and Servants Apartment ¹



Mortar samples reveal the dating of the surviving structure. The main bedroom (10) and back wall of the hall (14) survive from the 1793 house (shown in yellow). The remainder was rebuilt or constructed in 1826–1827 (pink). The 2007 excavation areas in the drawing room (7) are outlined in red. Arrows point to building joint anomalies.

has been minimal, and limited to maintaining the structure. Since only small portions of the roof space are on public view, wall surfaces did not need to be re-rendered in plaster or made presentable. In December 2007 twelve mortar samples from the main rooms were taken from the roof space, followed by a further nine in February 2008. When the samples were analysed it became obvious that the sequence of building had to be dramatically revised.

What did the mortar samples reveal? The footings of the 1793 drawing room, found by excavation, were bonded with little more than the mud or topsoil found around the house,

and the mortar of the main bedroom was only slightly better. The mortar has no lime or horsehair, traditional means of strengthening the bonding mix. So the mortar, if exposed to the weather, could have easily washed away, leading to collapse of the house. The evidence indicates that possibly soon after construction the outer walls were protected with a stronger, cream-coloured mortar, with shell lime and horsehair added.

But these early or primitive mortar types are only found in the main bedroom and back walls of both the drawing room and the hall. Elsewhere the mortar type is totally different – a good quality shell lime and horsehair mortar, salmon pink in colour. What is even more surprising is that this mortar is found in the remaining walls of the main rooms, plus all the 1826 extensions. The most likely explanation is that the main rooms, with the exception of the main bedroom, were largely rebuilt in 1826 and 1827, along with the extensions to the house. We can now understand why James Macarthur wrote on 17 May 1827 that 'the roof alone remains of the Cottage it formerly sheltered'.² It would seem the 1793 roof was propped up while the front and side walls of the main rooms were rebuilt, with French doors replacing the original small windows.

Early in 1832 Macarthur embarked on another building frenzy. Elizabeth Macarthur despaired of her husband's state of mind and resignedly wrote on 5 June of that year:

About this Bedroom wing which is all we really want, or wish for in the way of accommodation there has been at least fifty different Plans – I know not how many artists consulted & partly employed the Ground marked out, in different ways – over & over again – foundations dug out ... still no Building begins ... Your poor father cannot do any thing in a quiet orderly way – the Steam Engine power is applied to the weariest trifle, when in this excited state of mind – he takes very little sleep – & keeps every person about him in a state of perplexity.³

John Macarthur was declared insane in September 1832. Not all his intended works at Elizabeth Farm came to fruition. The two-storey bedroom wing Elizabeth desired was never built. However, within the fabric of the house there remains physical evidence of the 'Steam Engine power' that John Macarthur gave to his obsessive building activities in the last years of his life.

Edward Higginbotham Archaeologist
Director Edward Higginbotham & Associates
www.higginbotham.com.au

¹ Elizabeth Macarthur to her mother, Grace Veale, 22 August 1794, Macarthur Papers A2908, Mitchell Library, State Library of New South Wales.
² James Macarthur to his brother John Macarthur, 17 May 1827, Macarthur Papers A2899, Mitchell Library, State Library of New South Wales.
³ Elizabeth Macarthur to Edward Macarthur, 5 June 1832, Macarthur Papers A2906, Mitchell Library, State Library of New South Wales.