THE GREAT BARN, AVEBURY (Part Two).

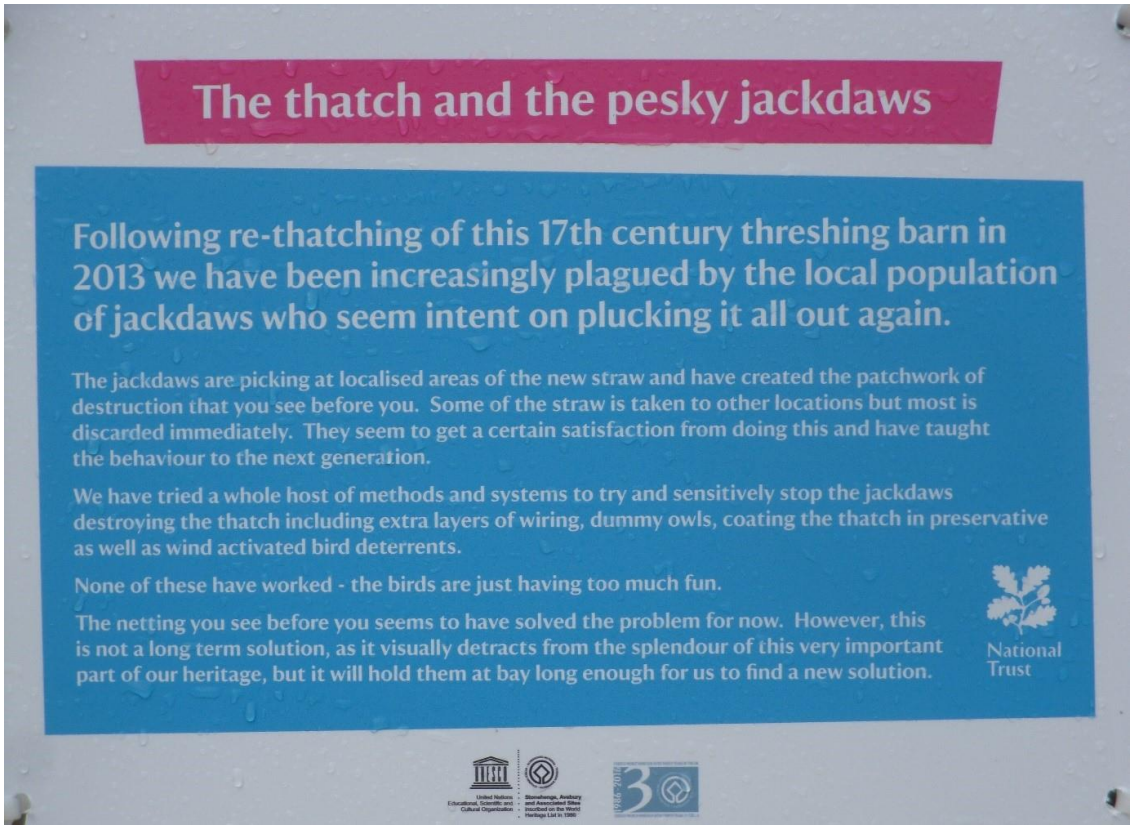
The following evidence is presented in support of the argument, the prime cause of the thatched roofs premature deterioration is due to poor standards of workmanship & materials used being not fit for purpose.

In 2013 Avebury barn underwent a partial re-thatch for the sum of approximately £100,000. £8,160 being raised by the residence of Avebury.

https://www.gazetteandherald.co.uk/news/10717623.massive-thatched-roof-at-avebury-to-be-replaced/

In March 2016 the press promulgated a story Jackdaws were destroying the recent 2013 re-thatch whilst suggestions of other possible causes were ignored.

https://www.bbc.co.uk/news/uk-england-wiltshire-35696037



A National Trust placard points an accusing finger at the Jackdaws.

Early signs suggesting the prime cause of the roofs deterioration may be the result of a slack topcoat. Jackdaws drawing the loose straw onto the surface being secondary.

The above image shows straw from the topcoat beginning to protrude through netting high on the front elevation south west facing gable end after buffeting from high winds.

Jackdaws then draw the protruding straw onto the surface.

South West facing gable over East threshing bay shedding straw after buffeting from high winds.

Gables are prone to damage by high winds if not thatched correctly.

Eventually Jackdaws draw enough loose straw from the slack topcoat to cause a total collapse.

From November 2015 to March 2016 Southern England experienced three exceptional winter storms, Barney, Imogen & Katie, with recorded wind speeds from the South & South West of over 90 miles per hour.

The following images show the results of Jackdaws drawing lengths of loose straw from the recently laid topcoat.

Note: No jackdaw activity on elevations to the left, thatched at an earlier date in a pure Wheat variety. No other thatched roofs in Avebury have been similarly affected.

Great Barn. Rear elevation.

Great Barn. Front elevation.

Note: Accumulations of straw grouped together in two horizontal lines, more distinct in the following images.

Dark areas show repairs in two horizontal lines where Jackdaws had previously drawn straw from the recently applied topcoat.

Front elevation.

Rear elevation repairs to the topcoat also lay in horizontal lines.

Rear Elevation.

REFERENCE IMAGE. Cross section of a topcoat correctly applied.

Applying a new Combed Wheat Reed topcoat to a consolidated basecoat.

The correct size course is applied for length of material used.

Courses which are laid with too much material under the horizontal bond may result in material slippage in the lower reaches of a course due to the fixings inability to hold the material stable & tight. i.e., too big a course for the length of straw used.

This condition is exacerbated if straw is applied to a slack basecoat, which will result in loose fixings and a slack topcoat.

I suspect this to be the prime cause of the roofs failure, combined with straw of insufficient quality for use as a topcoat.

REFERENCE IMAGE. Correct construction of a “Saddled” ridge.

A steep pitch is maintained throughout the ridge length with all Hazelwood surface pattern work securing spars inserted horizontally into underlying topcoat. The direction of ridging material runs away from the junction point.

GREAT BARN MAIN ENTRANCE. Saddled ridge, 3 years after re-thatching.

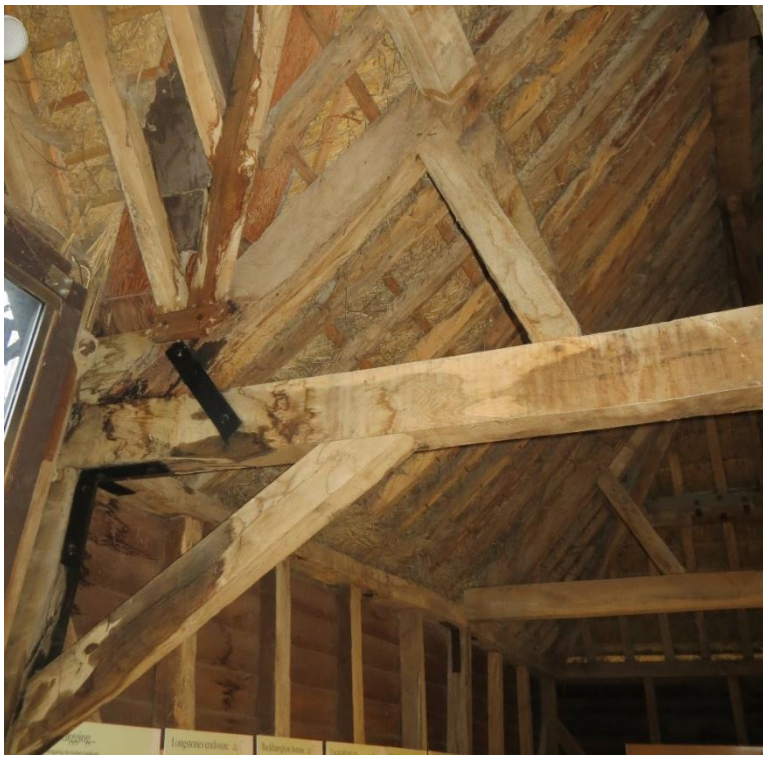
At the point where the ridge meets the main elevation coat work the saddle is deficient, the ridge pitch is too flat, all surface securing spars are running downhill channelling water into the underlying topcoat resulting in severe degradation of ridge, topcoat & underlying basecoat in this vulnerable area.

GREAT BARN MAIN ENTRANCE. Saddled ridge & right-hand valley 10 years after re-thatching.

As predicted, the right-hand valley is now collapsing due to water penetrating underlying coat-work around the saddled ridge area.

GREAT BARN MAIN ENTRANCE. February 2024 - Saddled ridge & left-hand valley 10 years after re-thatching. Both saddle & valley have collapsed & the roof is leaking.

Rainwater ingress around the valley areas indicated by watermarks on roof timbers.



When classified Grade 1 in 1966 the threshing bay entrances were tiled for a good reason. Thatched valleys are a high wear point, particularly when located in the lower reaches of a very long rafter length their ability to efficiently shed large volumes of rainwater is greatly diminished, which is why in days gone by valleys were often formed with lead or peg tiles.

The National Trusts conversion of the threshing bay projections from tile to thatch is a contributing factor to the roof's failure in this vulnerable area.

When next re-thatched, to avoid this potentially re-occurring problem, the projections should be tiled to conform with the original design.

REFERENCE IMAGE. A flush wrap-over ridge laid to the correct pitch & density with surface pattern work securing spars positioned correctly.

Main ridge of the Great Barn.

Image of the main ridge at 3 years of age. There are no redeeming features in this poorly constructed ridge.

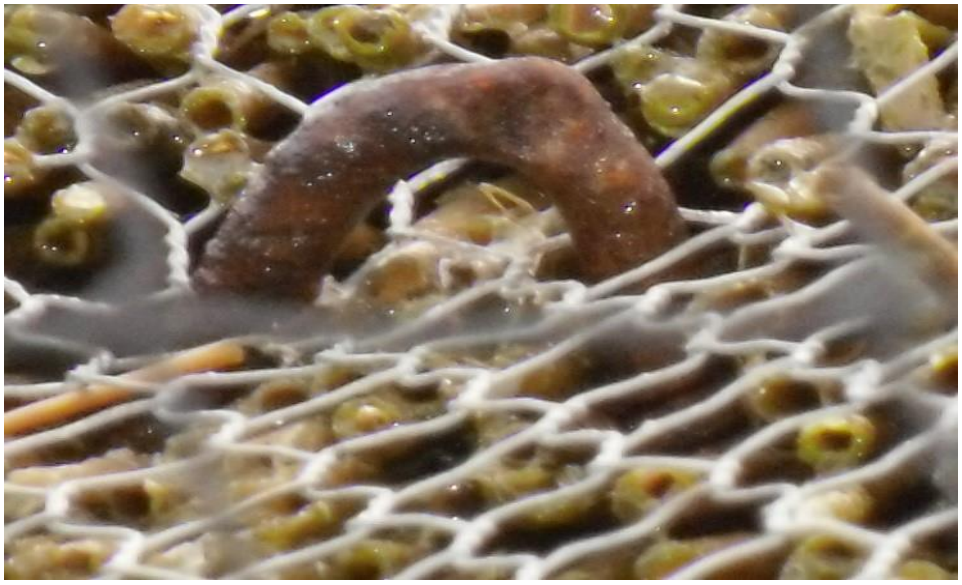
Further examples of poor thatching practice.

Crudely formed & poorly fitted Combed Wheat Reed rolls have replaced the original tightly knuckled Long Straw infill still visible in places.

New galvanized wire netting does not reach the wall plate allowing access for vermin around the eaves.

1960's installed knuckled long straw infill between rafters shown to the right.

Old steel thatching crooks with shafts up to 12 inches in length pushed randomly into the topcoat with shafts pointing downhill providing a channel for rainwater to penetrate deep into the recently applied topcoat.



Twisted hazelwood spars placed randomly into the coat work with shafts up to 12” long pointing downhill opening the surface allowing rainwater to penetrate deep into the underlying coat work.

With TWO layers of galvanised wire netting applied to the surface of the thatch, together with a polypropylene netting "fruit cage" suspended two feet above the surface to deter jackdaws, the roof continues to shed straw.

The Grade One Listed barn as it stands today.

It is my opinion, the evidence presented in this report suggests the primary cause of the roof's failure is due to substandard workmanship & materials rather than The Trusts assumption, a random attack by a clattering of jackdaws.

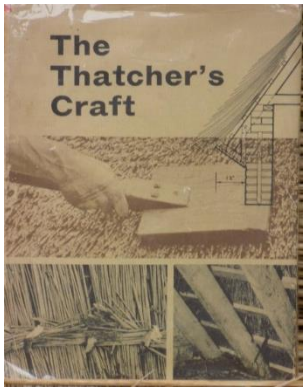
The National Society of Master Thatcher's Ltd; who include the Thatching Contractor in its list of members, describes itself as the Lead Industry Body.

The Society's statement "It remains a thatching fact, that there are no nationally agreed industry minimum standards, it is really important for the survival and appeal of thatch that this situation prevails" are poorly formed opinions that only perplex the subject.

Occupational standards focus on levels of competence and in thatching involves mastering time proven techniques essential when producing a roof with longevity.

Standards for thatching were introduced nationally by the Rural Industries Bureau in the 1960's with the establishment of a thatching training school.

"Consistently correct material pitch, density & tension, together with consistently correct depth of fixings are essential factors in the durability of a thatch. It is an understanding of this relationship between adequate cover over fixings and pitch angle of material, balanced against the tension under which the material is held, which will determine a roof's longevity and not the overall thickness." Peter Brockett, CoSIRA Thatching Officer.



As an aid to teaching the techniques & skills required to become a competent thatcher the Bureau produced a book "The Thatcher's Craft" illustrating in detail the correct methods to be applied when using the three common materials and became an essential addition to every student's toolbox.

http://thatch.net/thatchers/thatcherscraft.htm

Adherence to the standards presented in The Thatcher's Craft were adopted by several County Master Thatcher's Assoc's. as a condition of membership.

https://www.eamta.co.uk/thatching-resources/specifications/

CoSIRA Thatching Officers also acted as independent Expert Witness in disputes regarding quality of work issues.

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From "Thatch & thatching – a guidance note. English Heritage. June 2000.

"From the 1940s to the 1980s, the Rural Industries Bureau (subsequently the Council for Small Industries in Rural Areas, then the Rural Development Commission, now part of the Countryside Agency) maintained Thatching Officers. They had the two-fold task of travelling the country to inform thatchers of methods and standards which the Bureau wished to promote, and of teaching all methods to thatcher's who came to the school established at Knuston Hall, Northamptonshire. The Officers had a unique position in the thatching world and were universally respected. Happily, the school is still in being and continues its invaluable work as the only place of formal instruction open to all thatcher's.

However, there are no Thatching Officers as such today, and the staff of Knuston Hall, though welcoming all students, are unable to answer specific queries or travel to sites requiring inspection."

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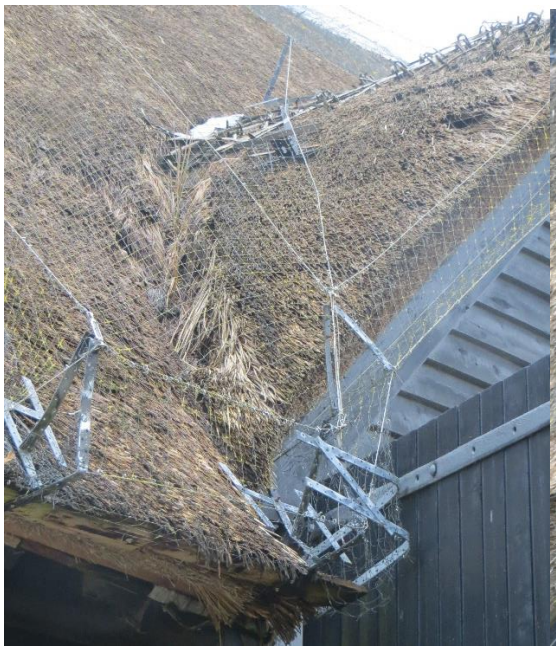
Although the overarching rule states "the contractor will be required to exercise reasonable skill and care & materials must be fit for purpose," since CoSIRA's demise there has been no competent authority capable of enforcing even these most basic of standards in the Thatching industry, allowing each thatcher to decide for himself the degree of skill & due care he chooses to apply, leaving the thatch owner exposed to those with doubtful standards & questionable aspirations.

I would argue the establishment of the Thatching training school & the publication of "The Thatcher's Craft" in 1960 by The Rural Industries Bureau introduced a national standard for thatching and Knuston Hall taught the techniques and skills required to achieve that standard for over 40 years.

It is surprising the National Society of Master Thatcher's Ltd; fail to acknowledge this fact.

No repairs have been carried out to the Grade One Listed Barn since the valleys total collapse during the Autumn of 2023.

Images showing further deterioration of thatch March 2025.



If the National Trust had obtained an independent survey of the thatch in 2016 that found the roofs rapid deterioration was due to poor workmanship & materials rather than a random attack by jackdaws, recent precedents suggest action taken against the contractor & The NSMT Ltd; to bear the cost of replacing the defective work would have been successful.

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March 2025.