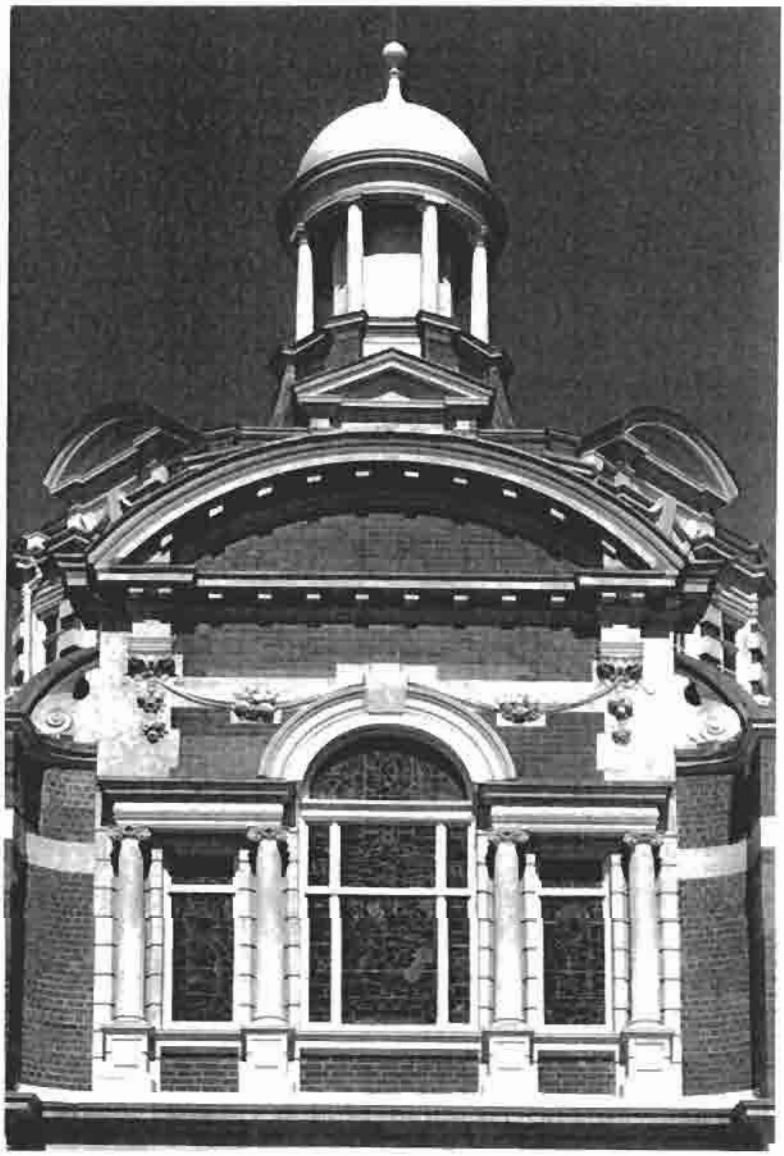
DEVON BUILDINGS GROUP

NEWSLETTER NUMBER 24



Summer 2006

DEVON BUILDINGS GROUP

NEWSLETTER NUMBER 24, SUMMER 2006

Contents

Illustrations

Front cover: the restored Venetian window and cupola, Sidwell Street Methodist Church, Exeter: © *Faber Maunsell*
Front elevation, Addislade Farmhouse: © *Terry Hughes*
Area of roof at Addislade with Turnersing removed: © *Terry Hughes*
Missing laths at Addislade: © *Terry Hughes*
Missing slates at Addislade: © *Terry Hughes*
Digitally repositioned slates at Addislade: © *Terry Hughes*
Eaves slates drawing: *Terry Hughes*
Valley slating at Addislade: © *Terry Hughes*
Valley slating drawing: *Terry Hughes*
Double, triple & quadruple lap slating drawing: *Terry Hughes*
Restored façade, Sidwell Street Methodist Church, Exeter:
© *Faber Maunsell*
Interior view, Sidwell Street Methodist Church: © *Faber Maunsell*
Plan view of the balcony, Sidwell Street Methodist Church:
© *Faber Maunsell*

EDITOR'S REPORT

AGM 2005

The Annual General Meeting of 22nd October 2005, on the theme of the documentary history of buildings, was held jointly with the Friends of Devon's Archives, at County Hall, Exeter. The idea was Todd Gray's – Chairman of FDA and, like several of us, a member of both societies – and it proved to be a most successful experiment. The two groups held separate business meetings, but came together for the four talks, three of which were given by DBG members.

The spacious and prestigious venue gave a valuable opportunity for the social mixing of the members, particularly at the opening coffee time, at which the DBG committee extended its traditional 'treat' of homemade cakes to the combined company – a gesture which was much appreciated. The magnificent entrance hall and mezzanine at County Hall also gave plenty of room for the Mint Press bookstall, the DBG table – with Newsletter 23 for collection and back copies for sale – and for the display of a series of panels, made for a local history society, showing photographs and drawings of buildings and some of the early maps and other documents which had helped to elucidate their history.

Two lectures were given in the morning and two in the afternoon, with the separate business meetings and a combined delicious buffet luncheon, in between. Peter Child chaired our AGM and Stuart Blaylock the talks.

Nat Alcock spoke on the documentary history of houses in Warwickshire, where he has lived and worked for many years. Nat, of course, is one of our first authorities on Devon vernacular buildings, with a now classic series of studies on farm-houses, published in the Transactions of the Devonshire Association, from the later 1960s, and with several contributions to DBG Newsletters, including drawings of Hartland houses in No 23. Among his more recent publications is a most useful book, *Documenting the History of Houses*: British Records Association 2003 (Archives & the User No 10), obtainable, price £9.50 + £1.50 p&p from BRA c/o Finsbury Library, 245 St John Street, London ECIV 4NB UK

One of the many fascinating examples illustrated was that of the house of Mary Arden, Shakespeare's mother. New documentary research (2000) had shown that her famous house had been wrongly identified for some two centuries and is, in fact, quite another building close by.

Michael Laithwaite spoke on the application of documentary evidence to the study of town houses, exemplified by a tenement in Totnes.

Tim Wormleighton, Senior Archivist to the North Devon Record Office, spoke on the documents held in Barnstaple, which give the history of some of Hartland's farms – a delightfully fortuitous extension of our visit there, at the 04 AGM.

John Allan showed how some engravings of an Exeter tavern, largely demolished in c1834, had provided insight into a whole school of Breton carpenters, who had worked in Devon in the C15, not only on 'King John's Tavern' (a former Exeter merchant's house) but on several extant mid-Devon church screens (seen on the occasion of our Church Woodwork conference 1997) – and, no doubt, on

many other buildings, long since swept away. Luckily, a number still survive in Brittany, which John has been researching; finding clues to the details of this distinctive style, now lost or unrecognised here.

After tea, Peter Child led a tour of Bellair, the delightful early C18 house now attached to the C20 buildings of County Hall.

Ann Adams

SCANTLE SLATING AT ADDISLADE FARMOUSE, DEAN PRIOR, DEVON

In October 2003 an opportunity arose to investigate the slate roof of Addislade Farmhouse (Figure1), which was thought to include a remnant of scantle slating. The work was carried out for English Heritage prior to reslating. The building itself had been surveyed by John Thorp, who concluded that it is the 'product of at least two building phases from the mid and mid-late 17th century. Although there is evidence for repair and re-raftering of the 17th century roof structure in places, the crested ridge tiles suggest that the roof has been slated since the 17th century and some sections could actually date back that far'.[1]

In fact, the roof was generally in very poor condition, although some areas had been re-slated fairly recently. The main areas of interest had been Turnerised, that is, covered in hessian-reinforced bitumen. Fortunately Dave Norrish, the owner, was familiar with the work that had been carried out in his father's time and could point to two sections that, because they had never leaked, were 'original'.

Careful removal of the Turnerising revealed a considerable shambles (Figure 2). Some laths were missing, although their position could be estimated from their nail holes (Figure 3). Additionally, most of the slates were loose and many had slipped from their original position (Figure 4) and consequently, when the Turnerising was removed, they were further slightly disturbed. Also, all of this deterioration and disturbance meant that the laps and gauges could not be measured as accurately as would normally be done, and the original layout of the slates has had to be reconstructed to arrive at an estimate of how the roof had been set out. Therefore the conclusions drawn below describe the basic construction of the roof, rather than being able to give precise dimensions.

Investigation

The procedure adopted for recording the construction was:

1 starting at the ridge carefully strip off the Turnerising over a small area disturbing the slates as little as possible;
2 identify each course with a numbered tile. (Normally course numbering should start at the eaves but on such fragile roofs as this it is often necessary to start at the top.);
3 remove a few slates to expose a diagonal area of slating over at least four courses;
4 photograph the exposed area;
5 measure the slate lengths, head laps, and minimum sidelap;
6 repeat for each course;
7 on completion, measure the batten gauging continuously from the lowest course. (Usually the lowest course would be at the eaves but because this roof had been so altered in the lower

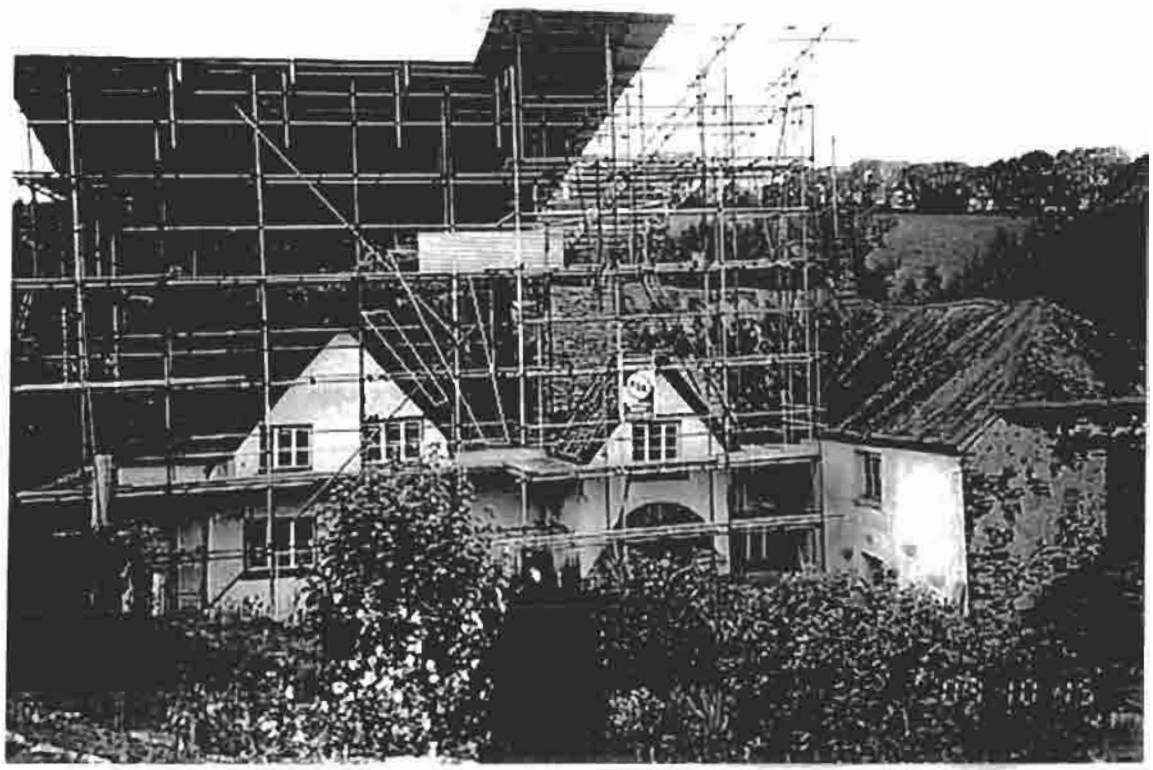


Fig 1. Front elevation of Addislade farmhouse,
showing in white the two areas recorded

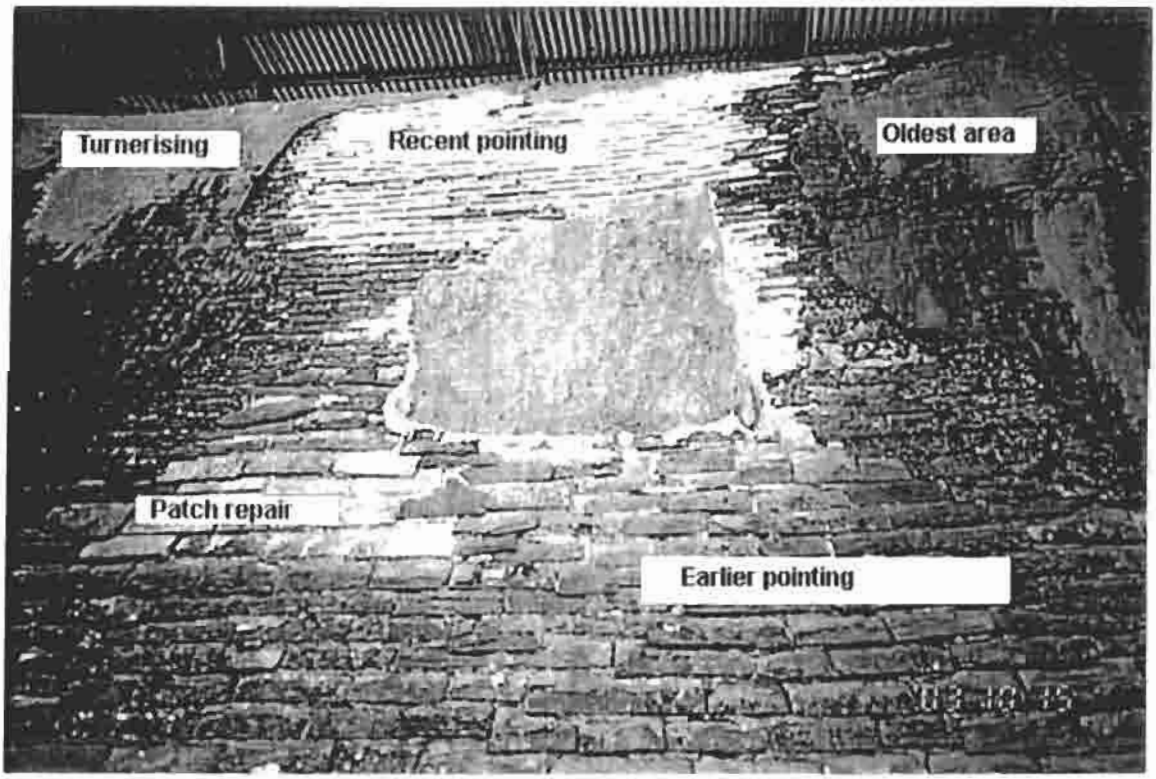


Fig 2. Area adjacent to the central chimney,
with the Turnerising removed

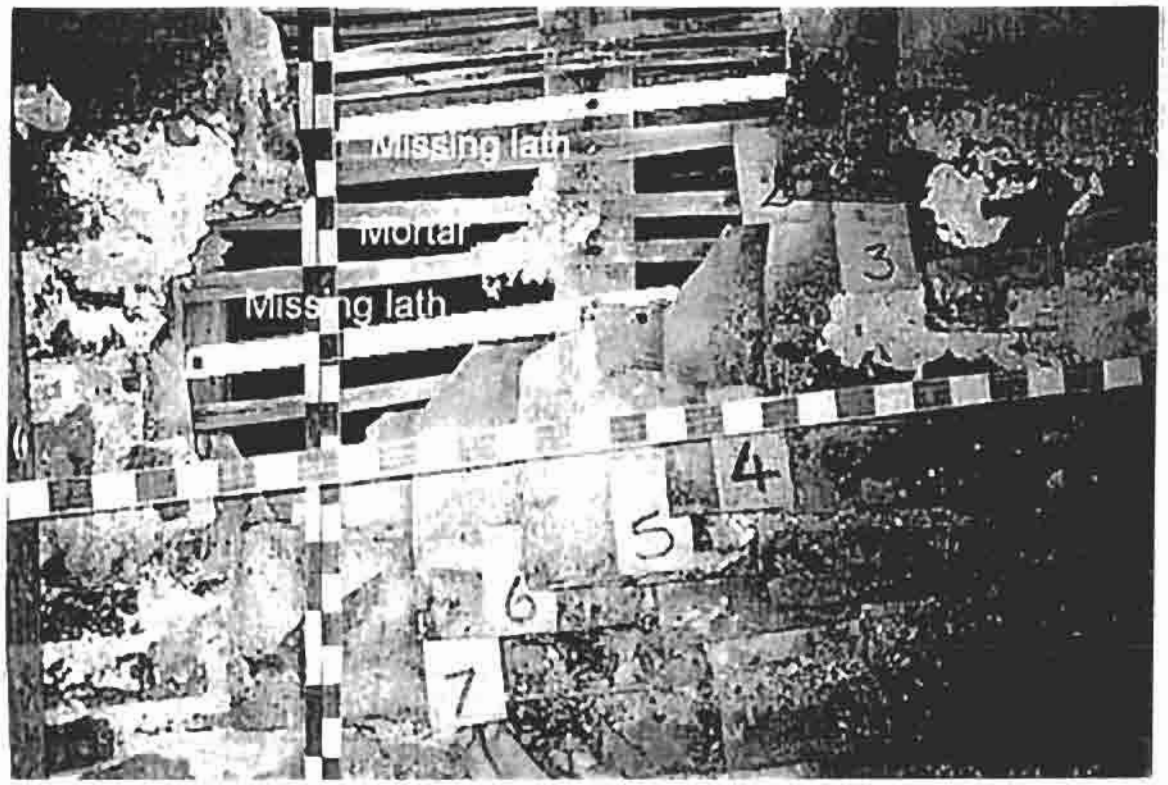


Fig 3. Some laths were missing. Their original position can be estimated from their nail holes. Also visible is mortar applied from below the slating and at the tail of the slates

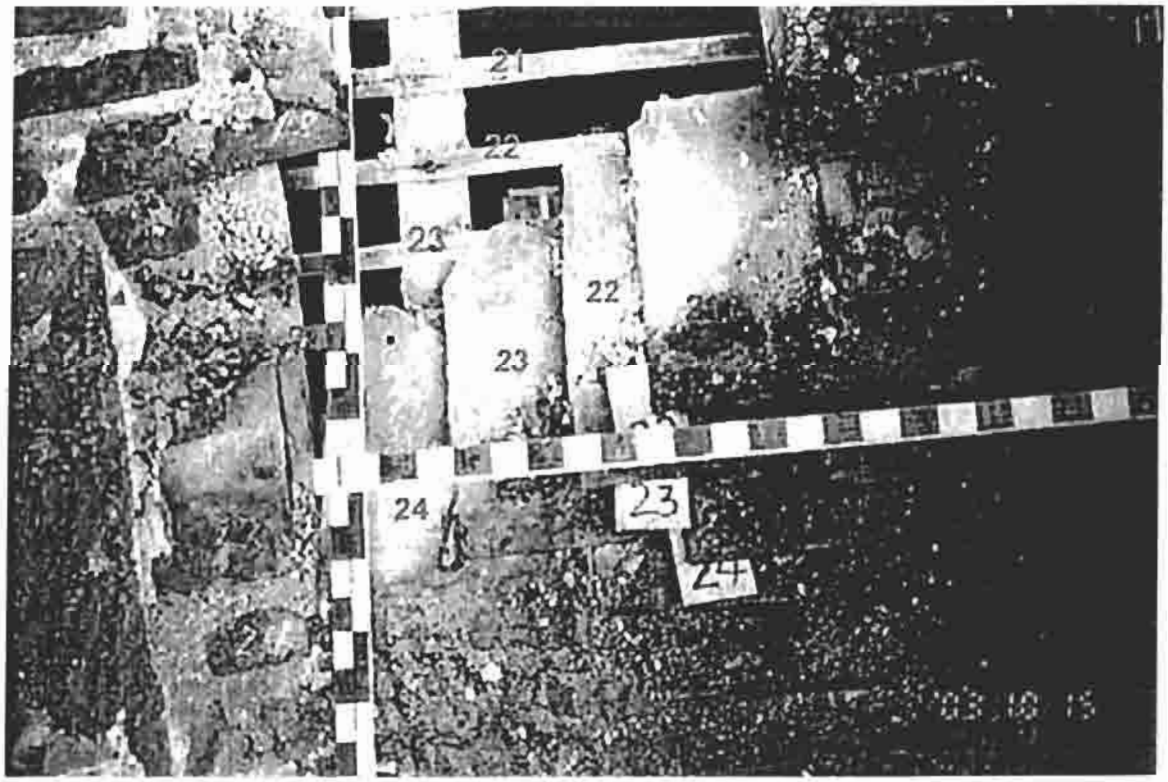


Fig 4. Many slates had slipped off their laths – the peg holes should be just above the corresponding lath

courses this would not have been useful.)
As the slates were progressively removed it became apparent that several episodes of slating, deterioration and repair were present. Counting downwards these were –

Courses	Description
1- 39	The oldest slating. On courses 12 - 15 the slating had collapsed so that it was not possible to measure any dimensions.
40 - 72	Re-slating which appears to have been laid to the existing laths but not with the same lengths of slates. Consequently the head lap varied between 1½ inch triple lap and 2½ inch double lap. Within this area some slates were solid bedded in cement mortar, indicating that they are repairs to a previous re-slating.
Eaves	Replacement slates laid over the original under-eaves slates.
Throughout all these areas there was tail pointing in lime and in cement mortar.	

Because the area below course 39 is a repair, carried out in an ad hoc fashion, which does not fit the lathing gauge, it did not provide any useful information about the original slating method and was not recorded.

Main slating

The slating to course 39 was generally laid in triple lap[2] and top hung with wooden pages over split laths, varying from 1 inch to ½ inch wide by ¼ inch thick. Because of the absence of head bedding or torching, most of the pegs were either missing or loose and the slates had almost all slipped from their original fixing position as a consequence. During stripping, slipped slates were replaced in their original positions to determine their head lap. To confirm these laps the slating was reconstructed photographically (Figs 4 & 5) using Adobe Photoshop. From these methods it is estimated that the head laps ranged from ¾ inch, for seven inch long slates, to 1½ inches, for 10 inch. Within the limitations of the disturbed condition of the slating this is in accord with the traditional 3½ pin rule (see below) for triple lap slating described by Setchell[3, 4].

The slates ranged in length (below the peg hole) and width from 4 x 3 inches to 10 x 10 inches. The narrowest side lap was 1½ inches but this does not have the same importance as it does for double lap slating. Very narrow side laps are satisfactory in triple lapping, because any penetrating water is caught by the extra layer of slates and carried to the eaves. The source of the slates was not investigated but they are probably local – there are a number of small, old quarries nearby.

Eaves

At the eaves, only the under-eaves slates of the original slating was still in place, and these had been overlaid with replacement slates, which did not correctly head lap with them. In triple lap slating there are two under-eaves slates, the shorter lapping under the second exposed slate and the longer lapping under the third slate (Figure 6).

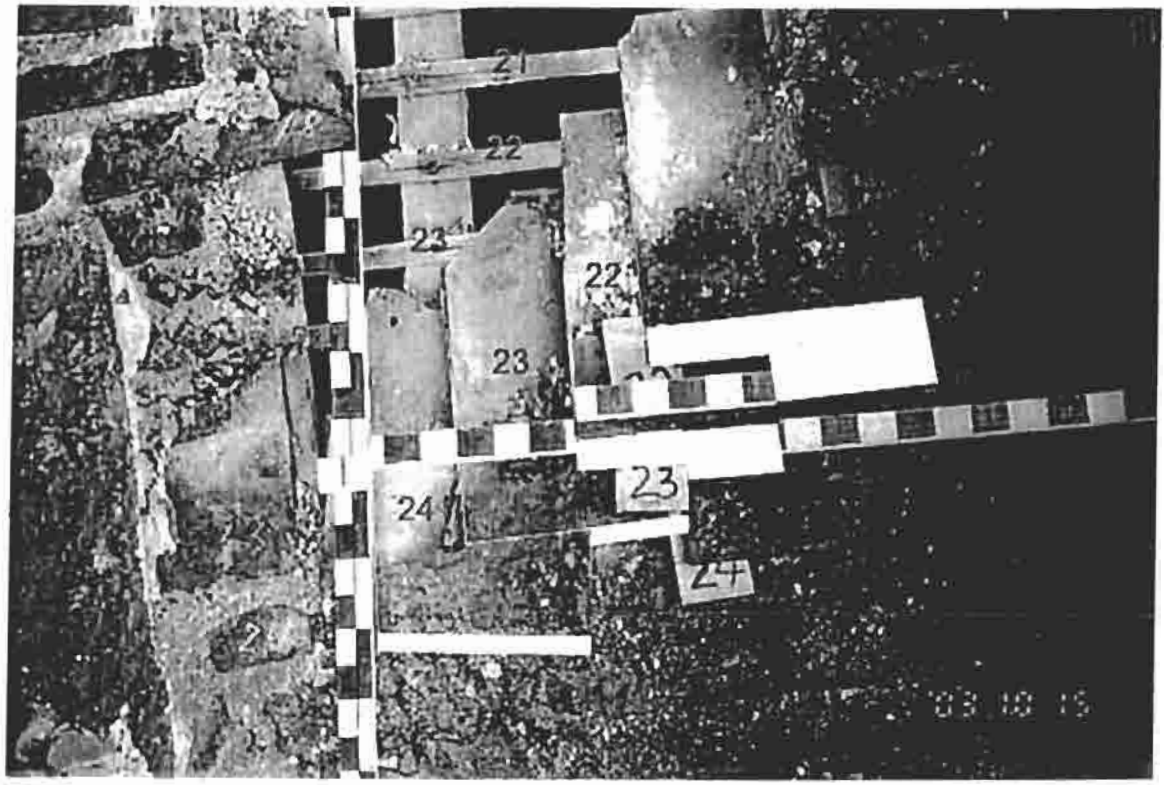


Fig 5. The slipped slates in Fig 4 digitally repositioned, to determine the approximate original head lap – in this case that of course 21 over 24

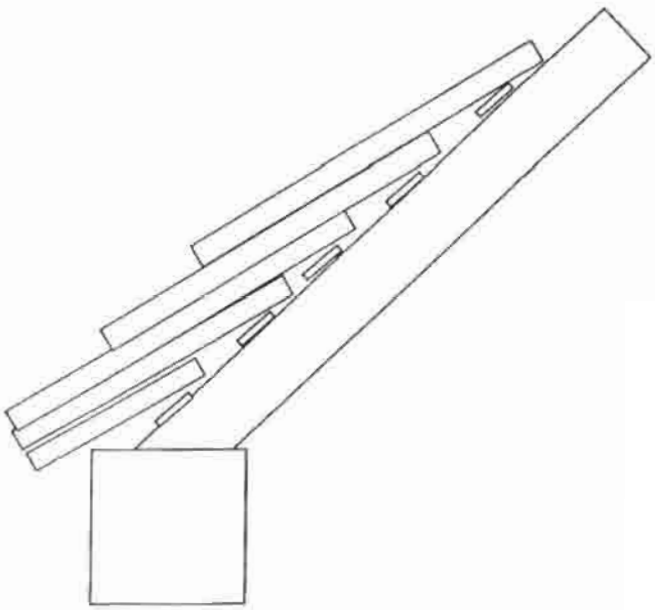


Fig 6. The arrangement of eaves slates in triple lap slating

Fig 7. Arrangement of the valley slating, with the edges of the slates shown in broken line. The outlined slate on the right is very heavily shouldered. The white line shows the more normal shape

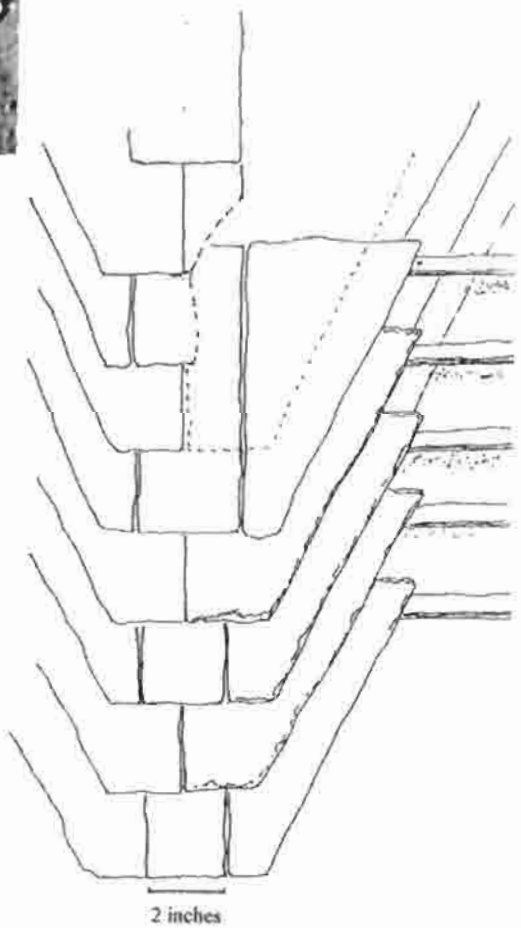


Fig 8. Plan of the valley slating, showing the narrow sidelap and triple headlap

The newer slating was therefore acting as double lap over a triple lap eaves.

Valley

The valley indicated in Figure 1 was stripped sequentially to determine how the slates were laid together to make it watertight. The dormer slating to the left of the valley was found to be substantially undisturbed and was constructed in triple lap, in the same way as the slope described above. In contrast, the slope to the right did not course consistently and appears to have been reconstructed, using the original laths but without correctly head-lapping the slates. This presented considerable difficulty in unravelling the original construction. However, by careful inspection and by manipulating the photographic images, it was possible to reach the conclusion that the valley is quite simply laid out, as illustrated in Figures 7 and 8.

The valley had been constructed without lead soakers. Un-soakered valleys rely on adequate head and side laps, to prevent water penetration. In this example the side laps were very small, because the valley slates were only two inches wide, giving a side lap of one inch. This would be completely inadequate in 'normal' double lap slating. However, they were proportionally very long – 12 inches – providing triple lap, and it is because of the triple lap that the valley has been effective.

Mortar

Mortar had been applied to the roof in a variety of ways but it appeared that the slates had not been head or tail bedded or torched, when originally laid. At some time subsequent to laying the slates, lime mortar had been applied to the underside of the slating, as an attempt at torching. This had been thrown on, rather than trowelled, as is normal for torching. As a result it was patchy and had only entered the tops of the slates here and there (Figure 3). The laths, however, showed white 'staining' from lime mortar. Unless this is evidence of head bedding, which has almost completely fallen away from the extant slating, it is probably a remnant of a previous phase of slating. There was also evidence of at least two phases of tail pointing, using lime mortar and cement mortar. In places this pointing mortar hardly penetrated under the tail of the slates at all and so it is considered that it had been applied after laying, rather than bedding the slates as work progressed - that is, the slates had been dry laid.

Reconstruction

During 2004 the whole roof was stripped and re-slated, using slates from Trevillet quarry. They were dry laid in triple lap by Dave Norrish. The scaffold over-roof was removed late in the year and, to date, the slating has not leaked or suffered from wind damage.

Scantle slating

The slating of what is judged to be the oldest part of the roof covering is triple lapped, with a head lap of about 1 to 1½ inches. This system is commonly called scantle, although elsewhere it is normal for the slates to be tail-bedded (Setchell). It is thought that tail bedding, which is common in scantle slating around the coastal quarries in Cornwall, is primarily intended to hold down the lightweight and top hung slates, which would have poor wind resistance. So the un-bedded technique at the sheltered Addislade Farm may be a local variant, but further research is needed to confirm this. If other roofs of this type become available they should be carefully recorded, to confirm or disprove the conclusion

reached here. (The author would be willing to do this.)

The most common form of slating in the UK is double lap, where the third course overlaps the first, the fourth over the second and so on (Figure 9). Over the whole roof there is a double layer of slates and at the head-lap there are three layers. This system is water-tight, provided the head- and side-laps are large enough for the roof pitch and the exposure of the building. In practice, it also depends critically on the slates having adequate width so that, when a slate is laid nominally centrally over the two slates below, there is sufficient side-lap to prevent water spreading between the slates and into the roof. In contrast, scantle slating in Devon and Cornwall (and perhaps in Wales) is able to cope with very small and narrow slates, because they are triple lapped. This has been described by Setchell[3, 4] and Andrew,[5] although the description in the latter is not exactly correct. It has been suggested that the system evolved to make use of 'unsuitable' slate, scavenged from quarry tips. There are two problems with such slates: they may be too narrow to provide adequate side-lap and, in exposed places, they may be too lightweight to resist being blown off the roof, especially as they are top-hung. To overcome these problems, two techniques are used: triple lapping[6] and tail bedding.

Triple lap means that course four overlaps course one etc. Consequently, there is an extra or third layer of slates throughout the roof, and four layers at the head-lap. This extra layer can be regarded as a soaker at every perpendicular joint, or as acting like a slater's underlay, in catching any water that gets through the slating, and carrying it out of the roof.

The method of setting out scantle slating (including the system described by Setchell) is known as three and a half pin. This derives from the practice of dividing a slate's length by 3½, to determine the batten gauge for each course of that slate length. Traditionally, a pair of dividers would be used to do this and the gauges for each slate length would be scribed onto a gauging stick, which would be used to mark out the battening on the roof. The effect of three and a half pin is shown in figure 10.

There is some evidence that a further extension of slate lapping has been used in the past. Archaeological excavations[6] have revealed slates which appear to have been quadruple lapped (course five overlaps course one) and at least one specification[7] has called for scantle slating at four and a half pin (Figure 11). It is difficult to understand the necessity for this, as the triple system is perfectly adequate.

Tail bedding - setting the bottom edge or tail of each slate in mortar - is commonly used in Cornwall, on exposed buildings close to the coastal quarries. The mortar is only applied in a narrow strip at the tail. Nowadays this bedded system, perhaps because of Setchell's influential papers, has come to be regarded as the definitive method and, in a number of publications[8, 9] where it has been described; no variations have been alluded to. However, the work at Addislade Farm raises the possibility of a dry laid - that is, an unbedded - scantle system.

Of course dry scantle slating may be common knowledge but, if so, it has not apparently been published, and searches of published information on west country slating have been unfruitful. Unfortunately, searches for records of scantle slating are

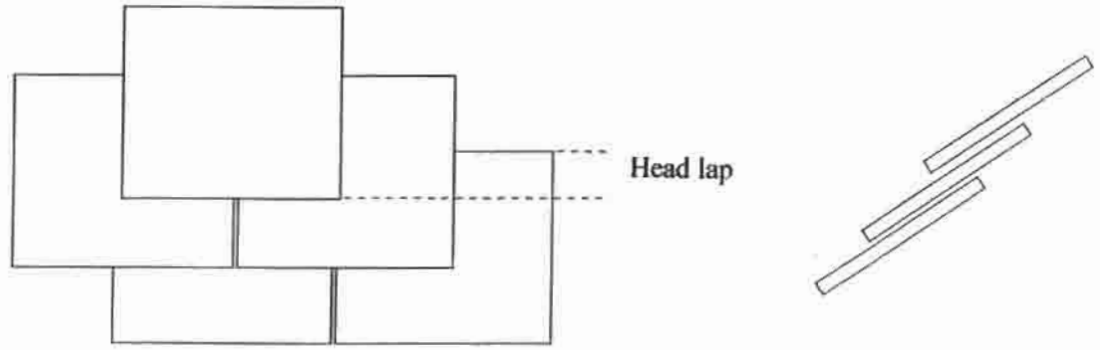


Fig 9. Double lap slating

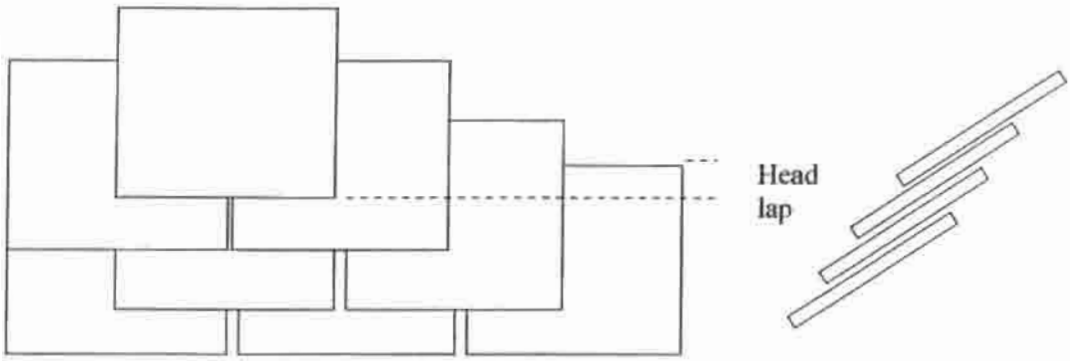


Fig 10. Triple lap, scantle or three and half pin slating

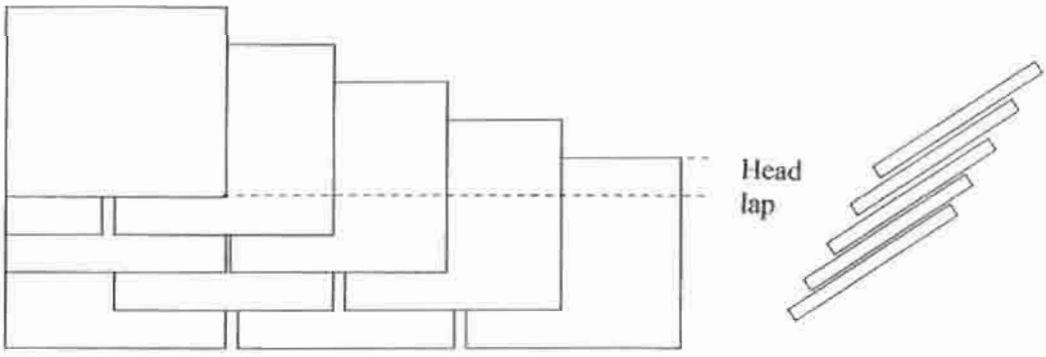


Fig 11. Quadruple or four and half pin slating

hampered, because the term has erroneously been used to describe 'normal' double lap slating with small slates. The author would appreciate any information about scantle slating, dry or wet laid.

Terry Hughes
Slate & Stone Consultants
Ceunant
Caernarfon LL55 4SA
01286 650402
terry@slateroof.co.uk

---

1 'Addislade, Dean Prior, K/671' unpublished report by John Thorp, Keystone, for the Dartmoor National Park, March 2003.
2 In triple lap slating, course four overlaps course one, five over two etc. 'Normal' slating is double lap – course three overlaps course one etc.
3 Setchell, J. Information sheet 2.7.1. 'The Delabole System of Scantle Slating'. Delabole Slate Co Ltd
4 Setchell, J. Information Sheet 2.3. 'Scantle Slating'. Delabole Slate Ltd
5 Andrew C K C. 'Scantle Roofs'. *Devon and Cornwall Notes and Queries* 1954
6 Thorp, J., 'The Excavated Slates and Slate Hanging' Appendix 9, in Brown, S., 1996 'Berry Pomeroy Castle', *Proceedings of the Devon Archaeological Society*, 54, 291-4.
7 Cornwall Records Office X634/50 10 November 1834. At Trevenen in Wendron 'Roofs with best scantle slate on Norway heart laths at the four and a half pin and rag eaves double laid in lime and sand half Aberthaw and half common lime'.
8 Bennet F and Pinion A. *Roof Slating and Tiling*. Caxton London 1935 revised 1948. Facsimile reprint (1948) Donhead Shaftsbury 2000
9 Dobson C G. 'Two thousand years of slating and tiling'. Official Journal of Architecture and Planning, Sept 1960.

A SOURCE OF INFORMATION ABOUT FARM BUILDINGS

Between 1910 and 1915, the Valuation Office, a creation of the Inland Revenue, surveyed all land in the United Kingdom, in order to levy a tax, 'Increment Value Duty' – sometimes known as the 1911 Domesday Survey. The survey results were produced in two forms. Bound volumes of summary information were kept locally, and these are now in the relevant Record Offices. The more detailed valuers' 'Field Books' were kept centrally, and are now held at the National Archives, Kew, PRO IR58.

The Kew material is valuable for two reasons. Firstly, although the field books vary in the amount of detail they provide, some surveyors name every farm building on a farm, giving a unique record of how they were used at that date. Secondly, the most conscientious surveyors list out the building materials of every building, providing a snapshot of the pattern of building materials in a parish at that time.

The Field Books are more likely to be used for extensive farm survey projects than when individual farmsteads are being investigated. It is expensive, getting up to Kew from Devon, and there is no way of knowing in advance whether a particular surveyor provided detailed information or not.

This paper illustrates a couple of the many ways in which the Kew material can be used. It is based on the Field Books for one Mid Devon parish, Morchard Bishop. This work was done when John Thorp and I were writing about Devon thatch, so our motive at the time was a search for information about roof coverings. The research at

Kew was undertaken by Anita Travers, in 1999.

Morchard Bishop

In the early 19th century, Lysons described the parish as having about 40 farm houses 'some built with stone and others with mud covered in reed'. By 1905 it was said that many houses in the parish had been pulled down. Eighteen houses in the village had been demolished since 1875, leaving cob ruins. In the 1910-15 survey, the valuer identified 55 farms in all, ranging from 5 to 348 acres (one farm had its acreage omitted). By 1999, before foot and mouth, the parish had 25 farms. No doubt there are fewer now.

About one third of the 55 farms in the parish were owner-occupied. Some of the names in the landlord-tenant arrangements suggest that landlords rented out to extended families, and some of the surnames are those of families that are still farming in the area. Occasionally, it seems, a farmer would rent out his own farm while occupying a larger one, as a tenant. The survey indicates whether landlord or occupier were responsible for repairs and insurance, and this was commonly, but not always, the responsibility of the owner.

Farm building types

Fig 1 is a typology of all the farm buildings identified by the valuer in the parish. All but the smallest farms in Morchard Bishop had a barn, but the real abundance was in buildings for cattle, with relatively little evidence for dairying. The barns, as one can see from the more or less contemporary 2nd edition of the 25" OS map, are small, relative to what would be found in Kent, say, at the same time, and most of them had a round-house. It is difficult to be sure whether these still employed horse power, but since the valuer bothers to refer to a round-house 'with a petrol engine', I think we might assume that the majority of round-houses still employed horse power. Comparison with the tithe map and the 1st edition OS map, would probably reveal that round-house mostly post-date the tithe map and were added to barns, between about 1840 and the late 1880s. The round-houses, however, may have been an upgrading of horse engines that were not covered, and therefore not shown on the tithe map.

There is only one building in the parish specifically identified by the valuer as a granary, and most farms do not have any building at all with that name, though some have two-storey combination buildings that include one. The linhay, that peculiar SW building type, was evidently used for a number of different purposes by this date, not only for cattle but for carts, wagons, and implements, sometimes described as 'open' and sometimes not. In fact, the number of so-called 'chain linhays', known in Crediton town in the 18th century, suggest that this flexible building type was used for industrial purposes, as well as on farms. All the farms in the parish have some orchard adjacent to the house, and most had pound houses for cider making. Cider continued to be used as currency for farm work, notably at harvest, in living memory[1] and there are surprisingly late records of harvest rituals, much enriched by cider, of gathering round the last stook in the field, chucking a sickle at it, and shouting, in chorus, at the stook, phrases variously described by folklorists but generally transcribed as 'a neck a neck a neck'. None of the participants quizzed by the folklorists seem to have had any idea of what this ritual meant.

One surprising element is the abundance of fowl houses. At some farms, for instance Middle Leigh, there were no fewer than three fowl houses. Presumably, these buildings were either too flimsy to have survived in quantity or too anonymous to be easily identified. However, it seems that all farms in Morchard Bishop had at least one that the valuer could recognise by the date of the survey. William Marshall, writing in 1796, had sneered at Devon poultry-keeping and attributed the shortage of eggs in the county to the lack of housing for poultry. He wrote: 'fowls roost in the cool open air; frequently in trees, in a state of nature'.[2] It seems that a century later the Morchard Bishop farmers had put this right.

Roofing Materials

Fig 2 is tabulated information from the Field Books. It gives the size of the farms (hectares: then acres) in the first two columns. The fourth column shows the domestic buildings mentioned on the farmsteads named in the second column. The next seven columns indicate the roof covering of the domestic building on the farmstead – thatch; galvanised; slate; tile - either on their own or in various combinations. The next column gives the numbers of agricultural buildings on each farmstead, and the next eight columns refer to the roof covering of the agricultural buildings.

Any farm building put up in Morchard Bishop before, say, 1850, was almost certainly thatched with straw (this would not be the case for the South Hams or parts of North Devon or Dartmoor, where there was access to slate quarries). After the mid 19th century, slate was used with increasing frequency, but was associated with considerable costs, transporting it from the South Hams and, later, from Wales.

By comparison with slate or tile roofing, thatched buildings had drawbacks, in terms of frequency of maintenance, cost of insurance premiums, as well as the likelihood of losing the roof covering of all adjacent buildings, should there be a fire. This risk obviously became worse in a courtyard arrangement of connected buildings, typical of an improved farmyard. By the date of the valuation there were more slate-roofed than thatched farm buildings in the parish, and the numbers of thatched and galvanised roofs were more or less equal to one another.

The general pattern, although it is by no means perfectly regular, is of farm buildings slated on the larger holdings, particularly those where courtyard plans indicate that the farmyards had been improved. Slate-roofed buildings were assigned a higher value than thatched buildings, by the Valuation Office. Thatch and galvanised, the latter undoubtedly over formerly thatched roofs, predominate on the smaller farms. Oddly enough, tenants and landlords seemed happy to maintain thatch, on the roofs of what were almost always older farmhouses amongst later evolved farmbuilding. This may reflect subtle differences in attitudes to dwellings, where picturesque qualities may have been appreciated, in contrast to farm-buildings. It may also relate to the fact that a specialist thatcher was likely to be employed to put a thick, neat coat of thatch on a house, while farmbuildings generally had a shorter-lived, thinner thatch, and might be re-thatched by the farmer or one of his labourers. Farm leases establish that, even if the owner carried the cost of the labour of re-thatching, the tenant was often required to produce the straw. As labourers reduced in number, it became more trying to find the

manpower to re-thatch the farmbuildings, and galvanised iron conveniently filled the gap. Although it had been patented in the 1820s, the photographic record suggests that it really began to replace thatch in earnest in the last twenty years of the 19th century, and the Morchard valuation is an interesting indication of the speed of the change from thatch to galvanised iron.

Individual farms in the parish can be contrasted with others, on the basis of roof covering evidence. Rolestone Barton, for example, at 328 acres (132.74 hectares) was one of the largest farms in the parish, owned by the memorably-named the Hon. John Wallop and tenanted out. The valuer itemised 21 farm buildings on the steading. Judging from the quantity of galvanised iron (roofing 11 buildings) and thatch (roofing 5 buildings), this farmyard had not been radically improved, in spite of its comparatively large acreage.

Broadgate, a smaller holding of 165 acres (66.78 hectares), also owned by Wallop and tenanted by Charles Mortimer, had evidently been improved. The cost of repairs, as the valuation survey shows, was the responsibility of Wallop as the owner. The house and 11 farm buildings, which included a bank barn (described as a 'hayhouse and trap house with barn over') were all slated, including a horse engine house with a 'petrol engine', an obvious sign of upgrading that can be connected with the slate roofs. Watcombe Farm, 60 acres (24.28 hectares) was a contrast in roofing materials. It was owned by Charles Mortimer (probably the tenant of the improved farm, Broadgate), and rented out to another Mortimer, probably a relation. The farmhouse was slated. It had 8 farmbuildings. Thatch survived on the poultry house and bullock house, but the other 6 farmbuildings had galvanised roofs, almost certainly replacing, or roofing over, thatch. Slate can be identified as an improving material in the parish; it is harder to judge the spirit in which thatch was replaced with galvanised iron. Middle class visitors to Devon, in the early 20th century, wore out a lot of pens, writing to *The Times* about the disgraceful outbreak of galvanised that they saw despoiling the countryside, but, from an owner's point of view, it may have represented an expensive up-grading, reducing the costs of maintenance and insurance – or was it an act of desperation, in the face of being unable to find a thatcher, or a shift away from arable that made the straw more difficult to come by?

At Middle Aish, a tenanted farm of only 13 acres (5.26 hectares), all 5 farmbuildings and the house retained their thatch, perhaps representing a small scale, which meant that re-thatching of the buildings by the farmer or a labourer was still manageable.

Jo Cox

---

1 *Pers. Comm.* Jo White of Batworthy Farm, Chagford.

2 *Marshall's Rural Economy of the West of England*, 1796, Vol 1, p274

Fig.1 Farmbuilding types in Morchard Bishop parish, Mid Devon, extracted from the valuer's Field Book for the 1910-1915 survey.

Wood house
Trap house
Harness house
Shippon
Bullock's house (often several in one steading)
Yearlings' house
Calves' house
Bull's house
Barn
Store barn
Manure barn
Machine house
Round house
Wheel house
Water wheel house
Engine house
Chaff house
Meal house
Dutch barn (1)
Stables
Linhay (open linhay; open cattle linhay; cart linhay; open cart linhay; implement linhay; wagon linhay)
Implement shed
Pound house
Fruit room
Apple store
Cellar
Root house
Fowl house
Piggery
Ash house (1)
Kennels
Pump house
Manure barn
Granary (1)
Dairy lean-to (1)

(Also various combination buildings, e.g. 'granary, pig house under'; 'hay house and trap house with barn over')

Fig.2.

Hect-ares	Acre-age	Name	Dwelling	Th	Ga	G&Th	G&Sl	Slate	Tile	Th &Sl	Agricult Building	Th	Ga	G&Th	G&Sl	Slate	Tile	Tile &Ga	Tile &Sl
	?	Parsons Piece	1 house ?								15	3	4		1	6	1		
2.02	5	New House	1 house	1							4	1	2	1					
5.26	13	Middle Aish	1 house	1							5	5							
5.26	13	Hartnolls	1 house					1			2					2			
5.26	13	North Leigh part Leigh	1 house	1							4	2	1			1			
5.67	14	Weeke (part of)	1 house	1							4	3						1	
6.07	15	Lower Oldboro	1 house					1			5	1	2			2			
6.88	17	Middle Leigh	1 house 1 cottage	1 1							5		5						
6.88	17	Paradise	1 house	1							7	2	5						
6.88	17	West Leigh	1 house	1							5	1	1			3			
9.31	23	Shareland	1 cottage	1							7	1	1			3	2		
10.93	27	Shores Farm	1 house					1			6		2			4			
11.74	29	Tatepath (???) (no117)																	
12.14	30	Farthing Park	1 house	1							6	2					2 (2?)		
12.55	31	Crookstock	1 house	1							8	3	3				2		
14.97	37	Hartscombe	(none)								5	1	4						
16.19	40	?	(none)	-							5	1	3			1			
18.21	45	Langland	1 house							1	11	7	3			1			
19.02	47	Ingadown	1 house							1	6	6							
21.45	53	Scotland	1 house							1	10	4	5				1		
22.66	56	Lane End	1 cottage					1			6	6							
23.88	59	Shillingford	1 house ?								4					3	1		
24.28	60	Watcombe & Collispark	1 house 2 cottages	2				1			8	2	6						
25.09	62	Middle Knathorne	2 cottages	2							6	1	5						
26.31	65	Weigham & Mills	1 house 1 cottage 1 mill	1		1 1					13	9	3	1					
29.14	72	Northwood	1 house					1			11	1	1			7	2		
29.14	72	Part Weeke Barton	1 house						1		14	3	4		1	4	2		
				16		**2**		**6**	**1**	**3**	**182**	**65**	**60**	**2**	**2**	**37**	**13**	**1**	

Hect-ares	Acre-age	Name	Dwelling	Th	Ga	G&Th	G&Sl	Slate	Tile	Th &Sl	Agricult Building	Th	Ga	G&Th	G&Sl	Slate	Tile	Tile &Ga	Tile &Sl
30.76	76	Stone House	1 house	1							13	8	4			1			
31.16	77	West Aish	1 house 2 cottages					1 2			14		7		1	3	3		
31.97	79	Shoreland																	
33.60	83	Hayland & part of Leigh (Northleigh)	1 house							1	4	4							
39.66	98	Part Weeke Barton & Middle Weeke	1 house	1							13	3	9			1			
42.90	106	Bulcombe & Oxenpark	1 house	1							12	6	4		1	1			
43.30	107	Middle Leigh	1 house	1							18	6	6	3			3		
46.54	115	Middle Ash	1 house 1 cottage					1 1			4	2			1		1		
49.78	123	Knightstone Down	1 house	1							7	5	2						
51.40	127	Mair	1 house	1							12	4	4				4		
51.40	127	Higher Knathorne	3 cottages	2				1			14	5	7				2		
57.87	143	Broadridge & Windwhistle	1 house					1			12	1	6			5			
59.10	146	Higher & Lower Shobbrook & pt Southcott	1 house 2 cottages	1 2							12	2				10			
61.51	152	East Aish	1 house							1	14	4-	2			8			
63.94	158	Rudge Rew	1 house 1 cottage	1				1			8	1	2			4	1		
63.94	158	Upcott & Coate	1 house							1	13	4				7	2		
65.56	162	Higher Southcon	1 house					1			14	2	3			8	(1?)		
66.78	165	Broadgate & Chapmans Cottage	1 house 1 cottage	1				1			12		1			11			
67.99	168	Rudge	1 house	1							13	5	1			7			
70.01	173	Slade & Pt Southcott	1 house 2 cottages							1 2	11	4	4				1	1	1
93.49	231	Moor & Horse Street	1 house 2 cottages	2				1			19	3	8			8			
99.56	246	Bishopsleigh	1 house					1			14		4			6	1	1	2
108.86	269	Middlecotts	2 cottages	1				1			24	8	1	1		10	4		
125.86	311	Higher, Lower & Middle Brownston	1 house 4 cottages	4				1			26	8	6			10	2		
128.69	318	North & East Hill, South Leigh & Sunrising	1 house 1 cottage	?				1			22	3	8			9	2		
132.34	327	Town Barton, Wood End (OS has Wood Bank)	1 house					1			21		1			20			
133.15	329	Rolestone Barton	1 house					1			21	6	11			4			
140.84	348	Easton Barton	1 house 2 cottages	2					1		18	4	5			3	6		
				39	-	2	-	23	2	9	567	163	166	6	5	173	46	3	3

THE SIDWELL STREET METHODIST CHURCH, EXETER

The following account is drawn, with his permission, from a booklet by DBG member, Roger Thorne, *Sidwell Street Methodist Church, Exeter 1905 – Centenary – 2005*. This is supplemented with some technical information, of which part appeared in an article in *The Structural Engineer*, 17 January 2006, pp19-20, which describes the original structure discovered, when architects Acanthus Ferguson Mann and engineers Faber Maunsell undertook its restoration. (This article was drawn to our attention by Dawn Honeysett).

In the early 19th century, the main Methodist church in Exeter was the Mint Chapel, in Mint Lane, just off Fore Street, serving the overcrowded West Quarter of the city. In 1836, the Wesleyans opened a daughter church in the north east of the city, where the narrow streets and courts developing in St Sidwells represented fruitful ground for mission. The first Wesleyan Methodist chapel in the area was built on the north side of Sidwell Street, just east of St Sidwell's parish church. It lasted until 1864, when a former chapel in Southernhay became available and the Sidwell Street Methodists moved there. The congregation maintained an interest in the area from which it had moved and, in 1878, started a Sunday School in Newtown and, in 1884, leased a mission room for services, in Spinning Path, off Blackboy Road. The services proved popular and a more permanent location for a larger building was sought.

The site of the existing Sidwell Street Methodist Church was bought partly with funds from the sale of a Sunday School Mission building in King Street. The first Wesleyan building on the site was a large hall, that could be used for services as well as a schoolroom, and was designed by F J Commin, a local architect. This was opened in January 1897 and was set back from the road, to allow space for a future church. It was part of the commission that Commin should design the new church, and he came up with a very ambitious design. This was the era of the great Wesleyan Central Halls – town centre churches that were designed to tempt the uncommitted, by looking deliberately 'un-churchy'. The proposed building looked like an unusually grand town hall. It was designed to hold a congregation in excess of 800 people. The budget available was £3,000. All the tenders for construction were in excess of this and, on the advice of the RIBA, the Church Committee invited a Frenchman, M. Paul Cottancin, to tender. His tender proved the cheapest. He was described in the contract as 'engineer and contractor', of 47 Boulevard Diderot, Paris. The foundation stone – actually twenty brick tablets – was laid on 3 December 1902.

The new church was designed in an unusually inventive version of the Edwardian baroque style. Its asymmetrical 4-bay frontage to Sidwell Street is theatrical in form and lively in detail. It has ornate detail to two tiers of windows, an open pediment over the entrance bay to the left, and a taller semi-circular pediment over the largest front bay. It is square on plan, at ground floor level, and rises to an octagon above the gallery, crowned with a cone and cupola in the shape of a pepper pot. It has a major impact on the skyline of this part of the city of Exeter and the interior is a spectacular space. It retains its original interior fittings (some introduced as

funds became available), including Art Nouveau style stained glass, screens, doors and pews, and a sweeping horseshoe-shaped gallery, uninterrupted by any visible means of support. The original load-testing for the gallery was undertaken using 200 prisoners, borrowed for the purpose. These weighed 17 tons and were added to a load of 66 tons of gravel, to demonstrate the safety of the gallery.

However, what was nationally remarkable about the Sidwell Street Chapel was not its style. Other, although less ambitious, examples of early 20th century baroque buildings can be seen in Exeter – at the 1898-1901 Eye Hospital (now the Hotel Barcelona) on the inner by-pass, and the 1903-05 electricity generating station at Haven Banks. What was extraordinary was the building technique employed by the contractor. This was a system of reinforced masonry, patented by Cottancin and probably the first example in the UK of this system, which uses reinforcements in the brickwork and woven-mesh reinforced concrete. The bricks, which may have been made locally or may have been imported, are perforated and threaded with steel wires. Horizontal wires are also embedded in the masonry 'This composite system, built as diaphragm wall, created a light stiff structure that could be built over shallow foundations'.[1] The details of the external façade included large pieces of concrete, which had been moulded in situ, round a matrix of brick and steel rods. The project attracted professional attention, at the time, and was reported on in *The Contract Journal* of 31 December 1902.

The final cost, £7,360 13s 8d (not including the cost of the land) was far higher than the original tender, wholly obliterating the hoped-for saving. The church was opened on 3 May 1905. Membership has fluctuated over the years. In 1908 it overtook its mother church of Southernhay – 182 compared with 174. Since then, membership has altered; sometimes rising, when other churches have closed and joined Sidwell Street. Membership in 2005 was 124.

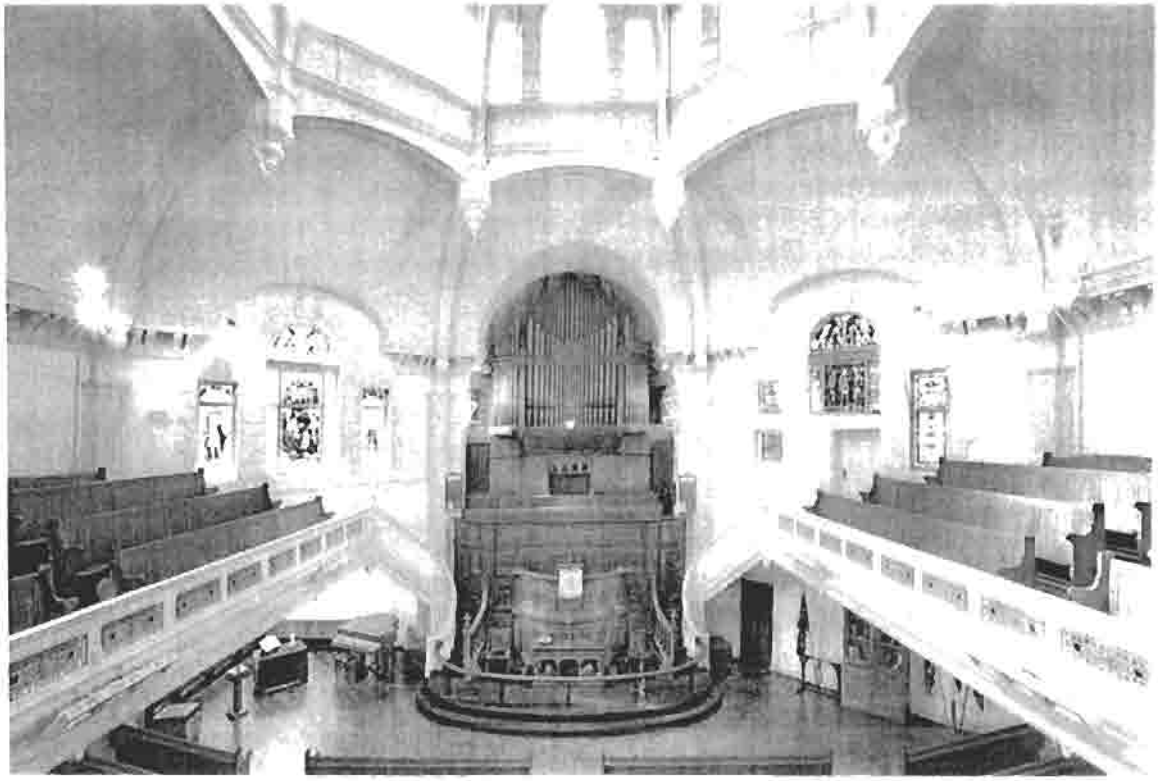
Problems with the brickwork, and a fall of concrete and plaster, in 2001, prompted investigation. At the time, the engineering of the building was not fully understood, and what had been anticipated as a substantial programme of work turned into a major exercise in structural analysis and in finding solutions to the problems of water penetration and corrosion, at a cost of around £530,000. £300,000 of this came from English Heritage, who were keen to see the building understood as a pioneering work of engineering, as well as properly repaired. Other funds came from the Historic Churches Preservation Trust, the Garfield Q Weston Trust, the central body of the Methodist Church, as well as funds raised from the congregation. The English Heritage architect was Rebecca Child, the conservation architect was Chris Balm, of Acanthus Ferguson Mann, the engineer was Richard Scott, of Faber Maunsell, and the contractors were Ellis & Company, of Shepton Mallet.

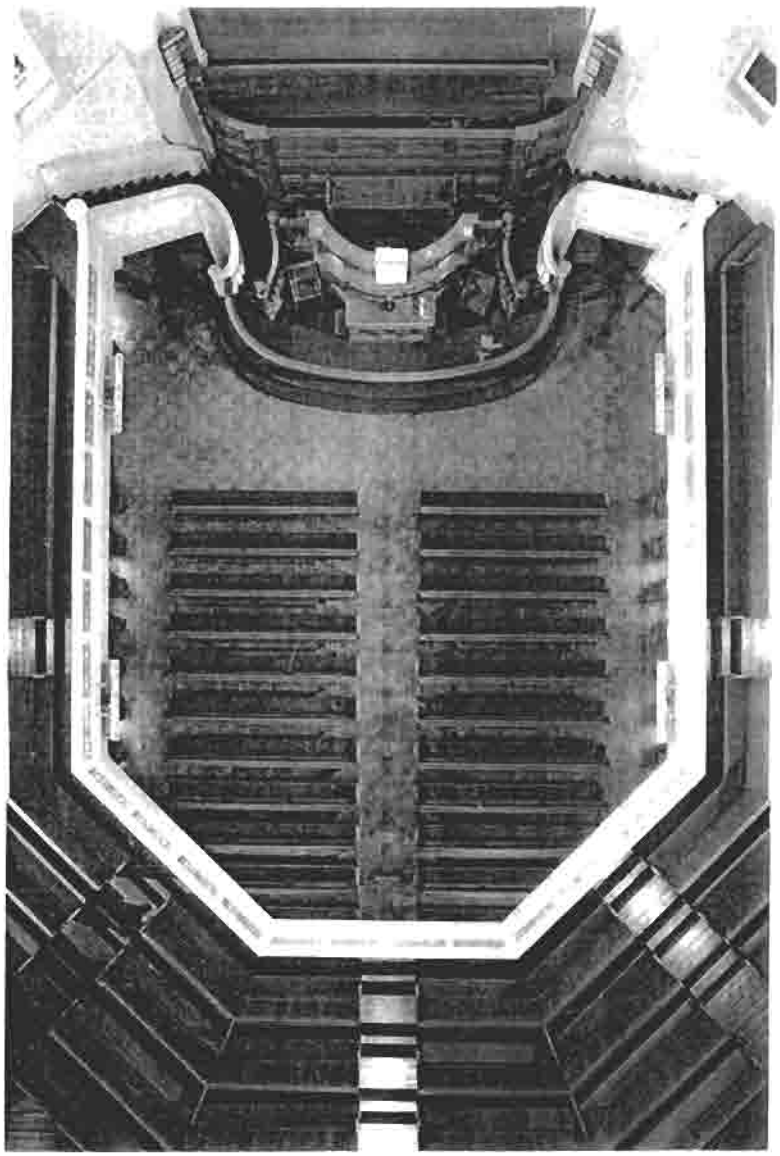
It turned out that the building consisted of a frame of ribs, with a hollow-walled shell construction in between and to the dome. The original building system allowed the removal of patches of external concrete, so that corroded steel bars and wires could be replaced without threatening the basic construction of the church. Unfortunately, Cottancin had underestimated the level of water

Fig 1. The restored façade on Sidwell Street; the elegant concrete mouldings re-secured

Fig 2. (opposite top) The interior looking towards the fine manual organ

Fig 3. (opposite bottom) The balcony from above, showing its horseshoe plan





penetration in the cone of the pepper-pot, which has now been covered in copper. The large concrete mouldings had degraded and the worst sections have been repaired and dowelled into the original, with stainless steel dowels, and the concrete finished with a sacrificial coat, which will need regular re-application. The restored exterior is now a splendid element in the otherwise rather tatty Sidwell Street, and the City Council is to be commended for having moved the bus stop outside, to give a full view of the building.

The engineering of the internal gallery was investigated in conjunction with Dr Edward Maunder and Professor Bill Harvey. It has been described, by Richard Scott, a director of Faber Maunsell, as a 'truly extraordinary structure .... bearing on the inner leaf of structural masonry as a folded, three dimensional, stiffened plate', which works in the following ways. 'The horseshoe shape on plan and the inclined plane, allowed Cottancin to omit the columns one might have expected to see, on the balcony's inner edge. The points of support to this inner edge are replaced by inclined mild steel bars, located in the upstand concrete ribs to the balcony slab, working in tension to support the stiffened front edge beam, which is formed by the reinforced concrete balustrade – rather like a child's swing seat supported by inclined chains. The ribs run in various directions, to stiffen the 3" thick concrete slab soffit, but the significant ones run back to the strong corner buttresses, and are anchored securely into the reinforced masonry of the buttresses at these points. Because the principal support mechanism is a direct tension, rather than a flexural mode, the stiffness of the structure and its economy are admirable, even by today's standards.'

After one Sunday evening service, the congregation was invited to test it and it was found to perform as had been expected from an analytical model. The gallery is now restricted to 200 people, for fire escape and comfort reasons.

The Sidwell Street church is well worth a visit and the halls to its rear may be hired for a modest fee (contact Roger Thorne: 01393 494048).

Roger Thorne and *Jo Cox*

1 'The Wesleyan Church of St Sidwell's, Exeter', *The Structural Engineer*, 17.01.2006, No 20, quoting Richard Scott, of Faber Maunsell's Exeter Office.

See also: 'Sidwell Street Methodist, Exeter', in *Church Building*, No 98, March/April 2006, pp 40-43

DBG Officers and Committee 05-06

Secretary: Peter Child, South Coombe, Cheriton Fitzpaine, Crediton EX17 4HP (01363 866813), to whom all general and planning correspondence should be sent.

Treasurer & Membership Secretary: Mrs Dawn Honeysett, Lower Woodbeare, Kennerleigh, Crediton EX17 4RS (01363 866230), to whom subscriptions, all correspondence related to membership, and requests for back copies of the Newsletter should be sent.

Newsletter Editor: Mrs Ann Adams, Hayne, Zeal Monachorum, Crediton EX17 6DE (01363 82292), to whom articles for inclusion in the Newsletter and responses to queries should be sent.

Committee:

Ms Lyn Auty, 3 Mount Pleasant, Crediton EX17 3EG (01363 860853)

Dr Stuart Blaylock, 1 Colebrooke Lane, Cullompton EX15 1EB (01884 33966)

Oliver Bosence, Oxenham Farmhouse, Sigford, Bickington, Newton Abbot TQ12 6LF (01626 821609)

Stewart Brown, Tillicks Cottage, Woodhayes, Honiton EX14 4TP (01404 47776)

Dr Joanna Cox, 50 Blackboy Road, Exeter EX4 6TB (01393 435728)

Richard Parker, 11 Toronto Road, St James', Exeter EX4 6LE (01393 423233)

Peter Roseveare, 38 Springfield Close, Elburton, Plymouth PL9 8QG (01752 318275)

Mrs Jenny Sanders, 118 Whitchurch Road, Tavistock PL19 9BQ (01822 614503)

John Thorp, 3 Colleton Crescent, Exeter EX2 4DG (01393 259304)

Robert Waterhouse, 13 Mill Meadow, Ashburton TQ13 7RN (01364 652963)

New Members

We welcome new members:

Ms Su Bowler, 6 Butts Close, Witheridge, Tiverton EX15 8AJ

Mrs Elizabeth J Clements, 9 Dinham Road, Exeter EX4 4EE

Delwyn H Matthews, Little Mead, Ellerhayes, Hele, Exeter EX5 4PU

Mrs Margaret Whicher, Woodgate House, Morchard Bishop, Crediton EX17 6SJ

Changes of address:

Miss Naomi Archer, c/o Tredown, South Petherwin, Launceston, Cwl. PL15 7JJ

Jeremy Sharpe, Furzedon, Merton, Okehampton EX20 3DS

Dr Anita Travers, Lawn House, Friars Green, South Gate, Exeter EX2 4DB

Additional address

Barry Honeysett Consulting Structural and Civil Engineers, Bathurst House, Smythen Street, Exeter EX1 1BN (01392 272510)

AGM 2006

The AGM will be held on Saturday 21st October.