

## THE SOMERSET DENDROCHRONOLOGY PROJECT: PHASES 5 AND 6

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The Somerset Dendrochronology Project was initiated in 1996 by the Somerset Vernacular Building Research Group as a means of obtaining a more scientific method of dating the timber features of early buildings. Previously the Group had relied on stylistic comparisons, historical evidence (when available, and even then rarely specific about date of build) and features such as plan-forms and smoke-blackening of roofs when assessing the date of a building, which could therefore only be estimated rather than dated with precision. Dendrochronology, which involves sampling timbers by extracting cores for tree-ring analysis, has the potential to provide a precise date (to the year and season) for the felling of the timber, but if the sapwood is incomplete a date-range may be obtainable. In the medieval period felled timber was usually worked when green, which means that felling and construction dates will have been very close. The aim of the Somerset Project was not merely to date particular buildings, but to establish date-ranges for specific *types* of features (especially roof types) which recur within the county, on the assumption that this would make it possible to estimate the dates of other examples of the same types with greater certainty.

The results of Phases 1–3 of the Project were published in 1998 and 1999,<sup>1</sup> and those of Phase 4 in 2000.<sup>2</sup> Some three dozen buildings were successfully sampled in those four phases (which John Dallimore coordinated) and in 2002 the Group decided to revive the Project. The aim of Phase 5 (initially published in 2003)<sup>3</sup> and Phase 6 (2004)<sup>4</sup> was to confirm or extend the date ranges achieved for the medieval roof types sampled in the previous phases, to include at least one roof-type not

previously dated in Somerset and to add to the very small number of moulded ceiling beams and other features which have been dated. A number of buildings were assessed but rejected as unsuitable for sampling, mainly because the timbers consisted of elm (which, it has emerged during the Project, was quite commonly used for construction in Somerset) or fast-grown oak. Of those which were assessed as suitable, most were sampled successfully, but there were a few instances in which the selected timbers failed to date. Selection of buildings for assessment was made by the Group, and assessment, sampling and analysis were carried out by Dan Miles, Michael Worthington and Martin Bridge of the Oxford Dendrochronology Laboratory. Phases 5 and 6 were coordinated by the writer with the assistance of Isabel Richardson (Holnicote Estate archaeologist).

Table 1 lists the results of Phases 5 and 6. Table 2, which is an updated version of the table published in 1999, summarises the results of the whole Project including Phases 5 and 6, together with some sampling undertaken independently of the Project.<sup>5</sup> Examples of various roof-types are shown in Fig. 1, and updated distribution maps in Fig. 2.

The earliest feature to be successfully sampled in Phases 5 and 6 is the cruck roof of the Tithe Barn at Castlebrook Farm, Compton Dundon, which has been dated to within the range 1283–8. The central truss (Fig. 3) has a type C (saddle) apex.<sup>6</sup> In this instance the saddle is built up of two layers of timber, with a cranked soffit, for a diagonally set ridge-piece. The truss also has a cranked collar with archbracing; two tiers of treenched purlins; and evidence of former windbracing. Another truss has a tabled scarf joint

TABLE 1: PROPERTIES SAMPLED WITH FELLING DATES OR DATE RANGES

Location	Property	Feature	Date
Allerford	Cross Lane House	Jointed-cruck roof	winter 1544/5
Compton Dundon	Tithe Barn, Castlebrook	cruck roof	1283–88
High Littleton	Rugbourn Farmhouse	cellar beam	1769/70
Holnicote estate	Gatehouse	front gate posts	1489–1521 and 1493–1525
		rear posts (reused)	1439–71
	barn in estate yard	door posts	1823/4
Luccombe	Post Office (Ketnor)	jointed-cruck roof	summer 1437
Pilton	Pilton manor dovecote	roof	1441–46
Taunton	15 Fore St	base-cruck roof	winter 1323/4
Tivington	The Knapp	jointed-cruck roof	summer 1509
Wells	26 St Thomas St	roof	1511
		ceiling beam	1494–1526
	28 St Thomas St	framed ceiling	summer 1485
	43 St Thomas St	roof	winter 1462/3

The following properties were sampled but failed to date: Rugbourn Farmhouse (High Littleton), Gatehouse Cottage (Holnicote estate), 18 St Thomas St (Wells)

with under-squinted abutments and face pegs. This roof may be compared with another cruck roof with a saddle apex at West End, Barton, in Winscombe parish, which is the earliest roof (1278/9) so far dated in the Project, but very close in date to that at Castlebrook Farm.

Number 15 Fore Street (Caffe Nero, formerly Tudor Tavern), Taunton, has a base-cruck and aisled-end roof (Fig. 4) which has been dated to the winter of 1323/4. This building has been described and its history outlined in *Proceedings* and elsewhere.<sup>7</sup> It occupies a narrow tenement plot overlooking the former market place and was owned by the Portmans of Orchard Portman from the 15th to 19th centuries, although occupied by a succession of tenants as a dwelling and shop. Assumed from stylistic evidence to predate the Portmans' ownership, it was thought that it dated from 1384–5 when William Marchaunt (MP for Taunton in 1379) extended a tenement which he held in Fore Street in order to erect a larger building, but dendrochronology now indicates an earlier construction date. The present timber-framed facade was erected in 1578 when an additional floor was inserted, but the building retains its medieval open hall with roof of base-cruck and crown-post design (and a tabled scarf joint in one of the arcade plates) and behind the later facade is an aisled end truss, although there are closed base-crucks, not aisled trusses, at each end of the hall. This roof has affinities with that of the Court House, Long Sutton, which also has base-crucks with a crown-post superstructure and aisled end trusses and has a similar date (within the range 1305–37). A jointed-

cruck roof in No. 15, which is integral with a partly timber-framed rear wing and may be post-medieval, was assessed as unsuitable for sampling.

Several jointed-cruck roofs in houses on the National Trust Holnicote Estate in West Somerset, all smoke-blackened survivors from the era of open halls or single-storey open-roof houses, have been successfully sampled during Phases 5 and 6 of the Project. These are of a type (illustrated by Fig. 5) frequently found in Somerset (and Devon), with a side-pegged long-tenon joint between post and principal, a tenoned collar, trenched purlins, and a tenoned apex with a ridge-piece held in a V-notch (apex type E). An example at the Post Office (Ketnors) at Luccombe, with a three-room and cross-passage plan and post-medieval extensions, dates from 1437. Remarkably, this date was obtained by analysis of a series of redundant thatching laths rather than core samples. The Knapp at Tivington is a former farmhouse which was extended in the 17th century when the lower end was converted into the upper end of a three-room cross-passage house at right angles to the original. The jointed-cruck roof in the older part dates from 1509. These two dates fall within the date-range previously obtained for jointed crucks by the Project, but the roof of Cross Lane House in Allerford, another three-room and cross-passage former farmhouse, has extended the date-range slightly to 1544/5, which demonstrates that in Somerset the construction of open halls continued into the mid-16th century.

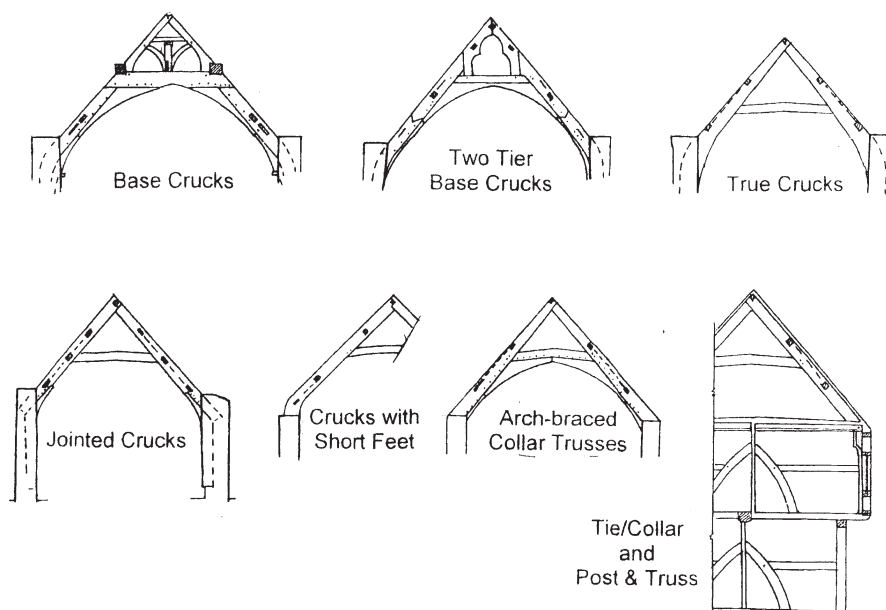
The unblackened jointed-cruck roof in Gatehouse Cottage, Holnicote, which it was hoped would

TABLE 2: UPDATED SUMMARY OF RESULTS OF ALL PHASES OF THE PROJECT, TOGETHER WITH SOME RESULTS (MARKED #) OBTAINED INDEPENDENTLY OF THE PROJECT

Type	Building	Parish	Felling date		C13	C14	C15	C16
			Roofs	Beams				
Base Crucks and Aisled-end Trusses	Garnivals Week Higher Broughton Fmhse N. Cadbury Ct., wing Court House 15 Fore Street Rectory Farm barn #	Milverton Stoke St Mary North Cadbury Long Sutton Taunton Englishcombe	1287	1328				
			1267-99					
			1285-1317					
			1305-37					
			1323-24					
			1314-58					
Two Tier Base Crucks	Abbey Farm barn # Bridge Farmhouse Priory of St John Kings Head Inn Manor Farmhouse # Abbey barn # Bridge Farmhouse Hannam Manor, solar	Doulting Butleigh Wells Wells Meare Glastonbury Baltonsborough Cheddar	1288-90	1305				
			1305					
			1314-15					
			1318-19					
			1315-43					
			1334-44					
			1336-42					
			1341-42					
True Crucks	West End F.H., Barton Castlebrook Farm Barn East Lynch Cottage Crane Farmhouse 21 Woolston Road Wick Farmhouse Yew Tree Farmhouse Tithe Barn #	Winscombe Compton Dundon Selworthy Somerton North Cadbury Norton St Philip Chew Stoke Mells	1278-79					
			1283-88					
			1315					
			1338					
			1344					
			1371-72					
			1386					
			1398-1414					
Jointed Crucks	47 & 49 Goose Street Stockland Lovell Fmhse No.2 Lower Cockhill Post Office (Ketnors) Gatehse (re-used posts) Springfield # Blackmore Farmhouse # The Knapp, Tivington Lancin Farmhouse Cross Lane House Manor Court House #	Beckington Fiddington Castle Cary Luccombe Holnicote S. Chard Cannington Selworthy Wambrook Allerford Chard	1391	1439-71				
			1404					
			1435					
			1437					
			1445					
			1486-99					
			1509					
			1533					
			1544-45					
			c.1632					
Principals with Curved Feet	Birdcombe Court wing Pilton Manor, dovecote 20 Vicars Close Viaduct View	Wraxall Pilton Wells Pensford	1441-42	1441				
			1441-46					
			1466					
			1512					
Arch-braced Collar Trusses	The George Inn Whitestaunton Manor Tickenham Court Low Ham Manor Fmhse Shapwick House (Hotel) Main roof	Norton St Philip Whitestaunton Tickenham High Ham Shapwick	1431-32	1481				
			1446-78					
			1471-76					
			1489					
Tie/Collar and Post & Truss	Shapwick House (Hotel) Detached kitchen 23, 25, High Street 24 High Street 17 Chamberlain Street # 16, 18, High Street 31 High Street 20 High Street Lodge Farmhouse Wigborough Manor	Shapwick  Rode Bruton Wells Bruton Bruton Bruton Norton St Philip South Petherton	1428	1430				
			1429					
			1444-45					
			1454					
			1453-4					
			1462					
			1481-1523					
			1585					
'Wells' style Roofs	43 St Thomas Street 26 St Thomas St	Wells Wells	1462-63					
			1511					

demonstrate the use of jointed crucks in the early *post-medieval* period, failed to produce a date, but the adjacent Gatehouse (the surviving feature of a former medieval courtyard house) produced some positive results. Although the jointed-cruck roof of the room over the gateway was assessed as unsuitable for sampling, the two gateposts have been dated to

1489–1521 and 1493–1525 respectively, which presumably indicates the approximate date of the building of the Gatehouse. At the rear of the gateway are two reused jointed-cruck posts which have been dated to 1439–71. These are believed to have come from Holt Mansion (acquired by the Aclands, owners of Holnicote, in 1874) and, although not in their



*Fig. 1 Examples of various roof types; not to scale*

original location, provide further evidence for the date-range of jointed crucks in Somerset. A jointed-cruck roof in a barn near the Gatehouse was unsuitable for sampling, but a date of 1823/4 obtained for the doorposts of the barn indicates that these are a late insertion into the building.

Two more jointed-cruck roofs, the recent sampling of which has been commissioned privately by the owners, are an archbraced example at Blackmore Farmhouse, Cannington, which has been dated to 1486–99, and a plain example with smoke-blackening at Hole Farm, Hockworthy, in Devon, in which timbers have been dated to 1460, 1462–94 and 1476–1508. Hole Farm has been included in this paper because the house stands only a few metres from the county boundary and sampling was arranged in collaboration with the Somerset Project. Both roofs fall within the overall date-range obtained by the sampling of jointed-cruck roofs for the Project. The anomalous date of 1460 for Hole Farm, which is outside the date-range of the other dated timbers in the roof, is thought to represent the inclusion of some stockpiled timber, which is unusual for that period. Another jointed-cruck roof sampled independently of the Project is that of Manor Court House, Chard, dated to *c.* 1632, which confirms that the use of jointed crucks continued into the early post-medieval period.

A roof in No. 26 St Thomas Street, Wells, has an A-frame truss with a cranked collar, a ridge-piece and chamfered in-line butt-purlins which has been dated to 1511, and in No. 43 a similar roof (from which the original collars have been removed) has been dated to 1462/3. This roof-type, and a variant which includes a tie-beam, is recurrent in Wells. An example of the tie-beam variant in No. 17 Chamberlain Street has been dated on an earlier occasion (by private commission) to 1444/5, but an example in No. 28 St Thomas Street, which it is thought might be post-medieval (resulting from a presumed heightening of the building), was sampled as part of Phases 5 and 6 but failed to date. The dates obtained for Nos. 26 and 43 fall within the date-range obtained for tie/collar and post and truss roofs during previous phases of the Project.

Chamfered beams are usually difficult to sample successfully (a few mid to late-15th century moulded beams have previously been dated during the Project) but a flat-chamfered framed ceiling in No. 28 St Thomas Street has now been dated to 1485, and a flat-chamfered ceiling beam with a shallow step-stop in No. 26 falls within the date-range 1494–1526 and may well coincide with the date of 1511 for the roof. Nos. 26 and 28 were formerly interconnected by an internal doorway, but these dates do not confirm that they were originally built as one house.

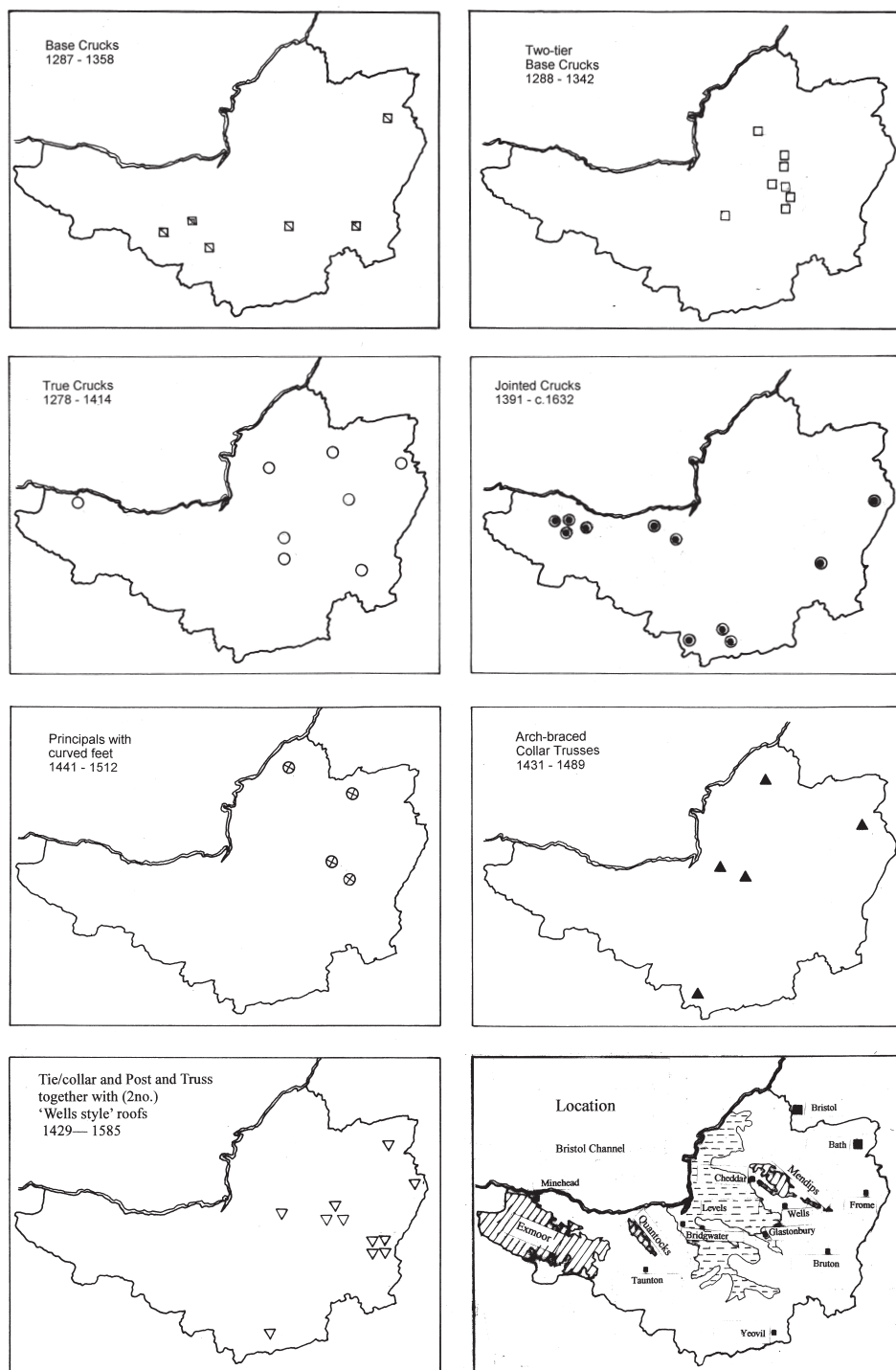


Fig. 2 Updated distribution maps

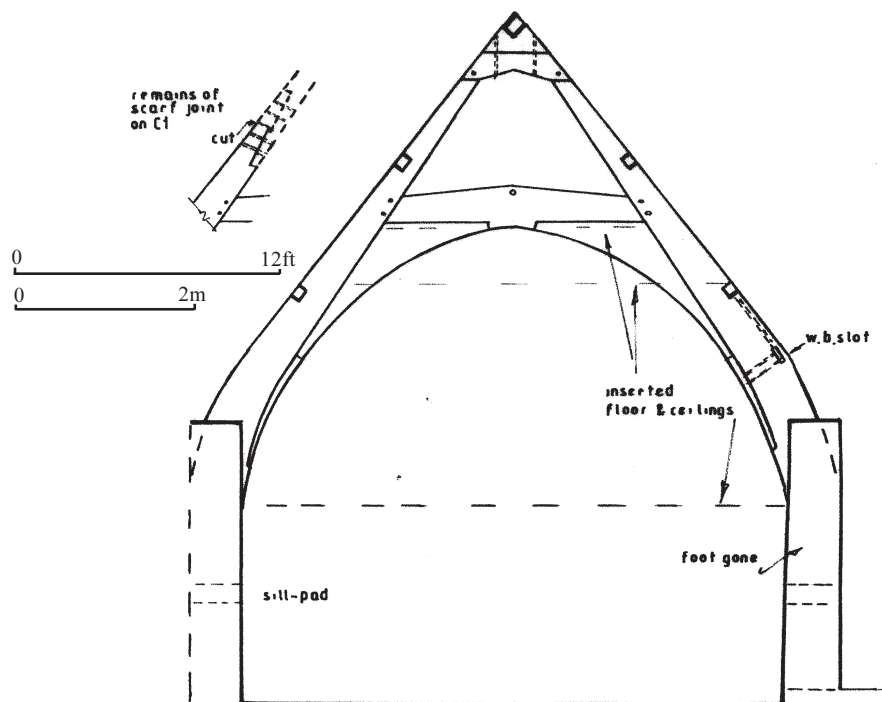


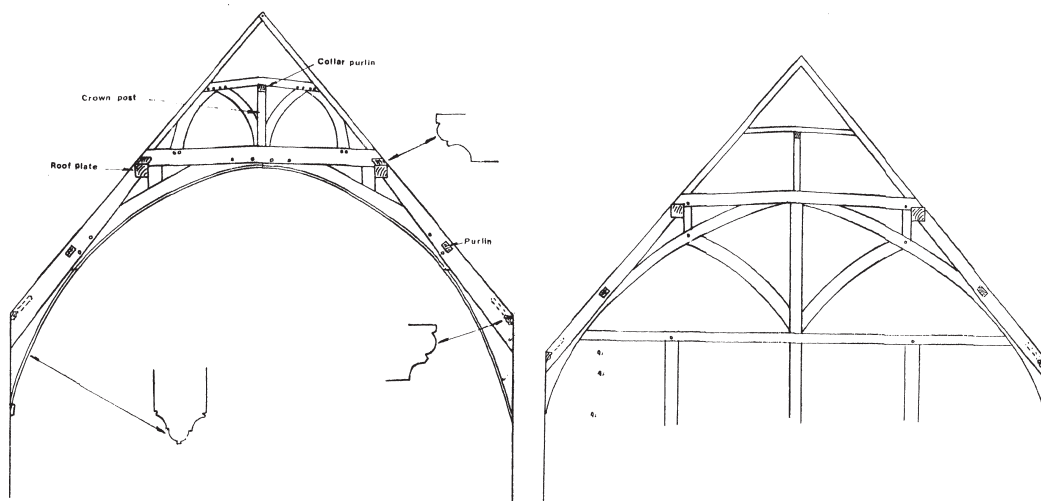
Fig. 3 Cruck truss in the Tithe Barn, Castlebrook Farm, Compton Dundon; east view of central cruck truss

The roof of a dovecote in the grounds of the manor house of the abbots of Glastonbury at Pilton has been dated to 1441–46. The building, recently recorded and published as part of a survey of Somerset dovecotes,<sup>8</sup> has a near-rectangular plan with a three-bay roof in which the two pairs of principal rafters have curving feet set on wall plates and a lias cornice, each with a short spur extending downwards in front of the cornice and butting against it, perhaps to compensate for the absence of a collar to prevent the roof from spreading. The principals are joined at the apex by a straight-cut tenoned joint; the ridge-piece rests in a V-notch; and the purlins are trenched. The date-range of this roof reinforces the overall date-range of 1441–1512 previously obtained for roofs with principals with curved feet.

Rugbourn Farmhouse, High Littleton, is a minor gentry house of the 17th century, with a double-pile plan, a symmetrical facade with ovolo-moulded stone windows on three floors, and internal features which include an ornamental plaster ceiling. The unusual roof has curving dovetailed braces between tie-beams and principals, and the common rafters, in two lengths, pass over the upper tier of butt-purlins

but are tenoned into the lower tier: such features were perhaps designed to cope with a wide span. It was hoped that sampling of the roof would reveal the precise date of the house within the 17th century, but the tree-ring pattern proved to be anomalous. (It may be significant that all three of the roofs in Phases 5 and 6 which failed to date are thought to be early post-medieval in date.) A heavy plain beam supporting the floor above a cellar in the farmhouse has provided a date of 1769/70 which indicates that this feature is a later insertion into the building.

It may be instructive to compare some of the results of the Somerset Dendrochronology Project with those of a similar project in Hampshire.<sup>9</sup> In that county base crucks have a broadly similar date-range to those in Somerset; 'true' crucks range from the late 13th century (as in Somerset) until the late 15th century (much later than in Somerset); and jointed crucks (less numerous and of a different type from those in Somerset) are confined to the 15th century. In-line butt-purlin roofs also occur in both counties: dated examples in Hampshire range from the early 15th century to the later 17th century, but the dated examples in Somerset are confined to the 15th and



*Fig. 4 Base-cruck trusses in the open hall of 15 Fore Street, Taunton. Left: central truss, right: closed truss at end of hall. From Williams and Gilson 1981 (note 7)*

16th centuries. Butt-purlin roofs in Somerset are believed to have a longer date-range than this, but the sampling of possible 17th-century examples at Rugbourn and 28 St Thomas Street was unsuccessful. Crown-post roofs are a rarity in Somerset (those forming the superstructure of two early 14th-century base-cruck roofs have been mentioned above) but in Hampshire they occur more frequently and dated examples range from the beginning of the 14th century to the mid-15th century. Some other domestic roof-types have either not been dendro-dated in both counties or seem to occur in only one: early king-post roofs, for example, have been recorded in Hampshire but not in a domestic context in Somerset. Regional variations in typology, distribution and chronology, as exemplified by these two counties, are a characteristic feature of vernacular architecture and are assumed to reflect variations in a range of background factors.

The results of Phases 5 and 6 have largely confirmed the chronology of several of the main medieval roof-types previously sampled during the Project, and some chronological sequences within those main types now seem more evident. Thus, within the base-cruck and aisled-end group of roofs, the dating of No. 15, Fore Street, in Taunton strengthens the impression that crown-post superstructures occur in the early 14th century (they are not found in the late-13th century roofs of Garnivals Week and Higher Broughton); and within

the 'true' cruck group, the dating of Castlebrook Tithe Barn suggests that the type C apex may be a late-13th century feature which was succeeded by the type H apex (with a yoke) in the early 14th century (East Lynch Cottage and Crane Farmhouse). Later cruck roofs dated during the Project, which range from 1344 to 1386, have a variety of apex types (E, B and M). The most common apex type in jointed-cruck roofs is type E, but the earliest dated jointed-cruck roof (1391, in Goose Street, Beckington) has a type M apex.

With regard to comparisons between the main roof-types, it is noteworthy that, although the number of dated 'true' crucks and jointed crucks has increased, only the true-cruck roof of the Tithe Barn, Mells (sampled independently of the Project) has been found to overlap the earliest jointed crucks. From a starting point in the late 14th century, jointed crucks seem to have rapidly superseded true crucks by the early 15th century as the standard cruck type in Somerset, perhaps because of a shortage of suitable timber for the earlier type. When comparing true crucks with base crucks, the earliest dates for the two roof-types remain 1278/9 and 1287 respectively, so that it is still not possible to conclude, from the evidence of the Project, that one form is likely to have derived from the other. It would appear, however, that true crucks continued in use after base crucks had become obsolete (the latest dated example of the latter is 1341/2) before in their turn being replaced by jointed crucks by the early 15th century.



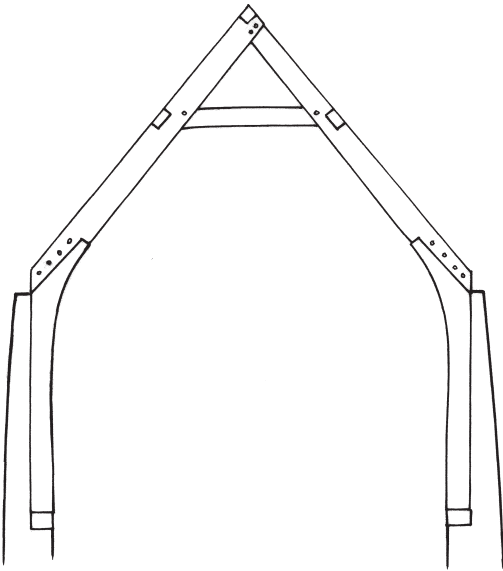


Fig. 5 A typical jointed-cruck truss on the Holnicote Estate: the Cottage, Luccombe

Despite the questions which remain, the results of the Project thus far have been highly informative, and the reinforcement during Phases 5 and 6 of some of the findings of the earlier phases should enable students of traditional domestic architecture in Somerset to estimate the dates of a range of recurrent constructional features with increased confidence.

## Endnotes

- <sup>1</sup> Jane Penoyre, 'Somerset Medieval Roofs', *SANH*, 141 (1998), 76–89. Jane Penoyre, 'Medieval Somerset Roofs', *Vernacular Architecture*, 29 (1998), 22–32. J. and J. Penoyre, 'Somerset Dendrochronology Project, Phase 3', *SANH*, 142 (1999), 311–15. John and Jane Penoyre, 'The Somerset Dendrochronology Project: Phase 3', *VA*, 30 (1999), 54–7. See also the lists and reports in *VA*, 28 (1997), 172–4; 29 (1998), 123–6; and 30 (1999), 109–11.
- <sup>2</sup> D.H. Miles and M.J. Worthington, 'Somerset Dendrochronology Project - Phase 4 (Tree-Ring Dates List 110)', *VA*, 31 (2000), 108–9.
- <sup>3</sup> D.H. Miles, M.J. Worthington and M. Bridge, 'Somerset Dendrochronology Project – Phase 5 (List 143)', *VA*, 34 (2003), 116–18.
- <sup>4</sup> D. Miles, M. Worthington and M. Bridge,

'Somerset Dendrochronology Project – Phase 6 (List 156)', *VA*, 35 (2004), 108–9.

- <sup>5</sup> See also Dr Martin Bridge, *Tree-Ring Analysis of Timbers from Muchelney Abbey, Muchelney, Near Langport, Somerset*. English Heritage: Centre for Archaeology Report 114/2002, for some dated roofs, ceiling-beams and doors in the domestic quarters of the abbey which have not been included in the present paper.
- <sup>6</sup> The classification of roof apex-types is derived from N.W. Alcock, *Cruck Catalogue 1981*, CBA Report 42.
- <sup>7</sup> E.H.D. Williams and R.G. Gilson, 'Base Crucks in Somerset (III) and allied roof forms', *SANH*, 125 (1981), 45–66. Robin Bush, 'Tudor Tavern, Fore Street, Taunton', *SANH*, 119 (1975), 15–21. Robert Taylor, 'Town Houses in Taunton, 1500–1700', *Post-Medieval Archaeology*, 8 (1974), 63–79.
- <sup>8</sup> John and Pamela McCann, *The Dovecotes of Historical Somerset*, Somerset Vernacular Building Research Group (2003).
- <sup>9</sup> Edward Roberts, *Hampshire Houses 1250–1700. Their Dating & Development*, Hampshire County Council (2nd edn 2004).

In addition to the published material, individual reports on many of the buildings referred to in this paper have been deposited in the Somerset Record Office.

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