



THE DEVELOPMENT OF TIMBER FRAMING IN SURREY'S OLD BUILDINGS

An analysis and calibration by means of tree-ring dating

Rod Wild and Andy Moir

with Martin Higgins and Brigid Fice



**Published by
Surrey Archaeological Society
Hackhurst Lane, Abinger Hammer, Dorking**

2022

Published by Surrey Archaeological Society 2022

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ISBN 978-0-99293-665-5

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Printed and bound by Print2Demand Ltd, Westoning

The Surrey Dendrochronology Project was the joint venture of the Domestic Buildings Research Group (Surrey) and Surrey Archaeological Society and was supported by Surrey County Council and a generous grant from the Heritage Lottery Fund.



Front cover: Frosbury Farmhouse, Worplesdon, has a smoke-bay front range built in 1552 and an open-hearth rear service wing of about the same date. The tall diamond-set chimneys were added in 1622. Then in 1639, the impressive two-storey porch was added, transforming the appearance of the house. The date coincides with the ownership of Richard Budd. He was a freeman of Guildford, a magistrate and mayor of the town during the Commonwealth period of the 1650s. He had bought the house in 1634 and in 1648 a brick extension to the service wing was added. Richard's career came to a miserable end. He was a staunch Parliamentarian and was dismissed from his positions for refusing to take the Oath of Supremacy on the Restoration of Charles II (Gorton 2006, 13). Photograph by Philip Gorton.

This is an example of dendrochronology combining with building archaeology and documentary research to enliven the history of a house that had previously just been 'probably Tudor'.

Rear cover (clockwise from top left): Church House, West Horsley, 1434 (Brigid Fice), Brewerstreet Farmhouse, Bletchingley, 1491 (Patrick Moyle), 11 Bridge Square, Farnham, 1476 (Rod Wild), Chimneys, Milford, 1602 (Brigid Fice)

All the photographs in this report are by Rod Wild except where stated otherwise.

ACKNOWLEDGEMENTS

The Surrey Dendrochronology Project is the result of a co-operative effort between the Domestic Buildings Research Group (Surrey), Surrey Archaeological Society and with the support of Surrey County Council. A Project Committee was formed, with members as listed in the Preface. All played their part. Particular contributions were Dennis Turner in persuading Alan Bott to be chairman; Peter Youngs in securing the vital early funding from the Heritage Lottery Fund (to whom also heartfelt thanks); Roy Waight for putting this report into publishable form; Joe Thompson (carpenter-in-residence at the Weald & Downland Open Air Museum) for his help with technical queries; Martin Higgins (SCC Historic Buildings Officer and DBRG Chairman) for his unrivalled knowledge, skilled drawings, and direct contributions in many ways.

DBRG's astonishing treasury of records was key, and in large measure the result of the work of the Group's founder, Joan Harding. This was made manageable by the database work of, in sequence, herself, Jim Miller, George Howard and Andy Moir, utilising ever more advanced technology and search features. A pilot study into the use of dendrochronology for the Group was carried out by Peter Gray and George Howard.

Listing those members of either society who helped would take a page in itself, but the following were leaders in the work of their areas: Jean Shelley in Charlwood; Mary Day in Capel; Barbara Capel in Newdigate; Anne Grace and Pam Bowley in the Horsleys; Carol Martin in Albury; Elizabeth Rich, David Hicks and Anne Noyes in Shere; Alan Bott, Richard Greening and Hugh Turrall-Clarke around Godalming; Angela Peers-David, Brigid Fice, Ken Hume, Pat Heather and Peter Minett in Farnham; Audrey Monk in Hambledon; Michael Miller in Cranleigh; Janet Balchin in Ewhurst; Brian Lyus and Patrick Moyle in Nutfield; John Marsh in Chiddingfold.

The many funding contributions have been mentioned. Without wishing to belittle in any way the vital early help from the Heritage Lottery Fund and the supporting societies, the assistance from the local history societies is particularly appreciated – these groups are never flush with funds. Some owners had their houses specially selected; some asked to be involved and paid their way. All had to undergo the dendrochronology process, which can be unnerving to the uninitiated. In the event, they enjoyed participating and having one of Tree-Ring Services' fine reports as a record.

The publishing process is not easy, particularly with novice authors. Brigid Fice has been central in the production and delivery of the report. She has contributed much to the text, including the addition of some history of the periods involved, to give context to the datings (with the help of Catherine Ferguson). She has been the team's internal editor – no small task. She has been the main point of contact with Surrey Archaeological Society and the referees. Caroline Frisby was the vital first proofreader, helping not only to spot basic errors, but also improving style and comprehensibility. Martin Higgins and Rosemary Hughesdon were also important contributors to the process. Audrey Graham, Stella Hill and John Pile the Surrey Archaeological Society's editors had to be both tolerant and creative. The drawings of the late John Baker are an important part of the Report, bringing out details and atmosphere in a way that photographs cannot. They were originally published in his 'Seeing Eye' column in the *Surrey Advertiser* and its permission to reproduce them is much appreciated. His daughters, Juliette Lambert and Vicky Irving, added their blessing. The inclusion of his drawings in this report is a reminder of his many years' work in old buildings as well as his artistic skills. The maps are all by Audrey Graham except figure 48 which is by Martin Higgins and Audrey Graham. The original histograms were by Andy Moir, with the published versions by Audrey Graham and Brigid Fice.

This has been such a big project that all sorts of contributions are going unsung. Our thanks to all involved, mentioned or not.

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PREFACE

This study is a small monument to the merits of many-levelled collaboration. First, the scholarly contribution: the Domestic Buildings Research Group (Surrey) (DBRG) (founded in 1970) has steadily charted, on a stylistic basis, the chronological development of timber-framed buildings in the county. Surrey Archaeological Society (founded in 1854) has always interested itself in every aspect of the whole history of Surrey. The coming together of these two scholarly sources of inspiration has been essential and, when combined with the services of Martin Higgins, Surrey County Council's Historic Buildings Officer, has made an impressive amalgamation. Secondly, the financial contribution: it is safe to say that without the catalyst of the Heritage Lottery Fund (HLF) this study would not have been possible. The Surrey Dendrochronology Project was conceived in 2002. Its commitment, after a rigorous selection procedure, to the technical expertise of Dr Andy Moir of Tree-Ring Services has been upheld by the wonderful support of the HLF. Thirdly, the social contribution: the enthusiastic support of householders and local history groups has been massive. Hundreds of people have been involved in researching, analysing and resourcing this study.

Surrey's somewhat grander neighbours Kent, Sussex and Hampshire, have perhaps a more substantial legacy of timber-framed buildings than has Surrey. Much useful dating work has already been done there and we acknowledge our debt to it. It was thought, however, that Surrey should be well placed to follow on. Not only was there DBRG's treasury of records, but a 'tick box' system had been developed for the methodical recording of 80 chosen key features of a building. This led to the construction of a database enabling the selection of buildings with particular features in particular areas. When cross-related with the tree-ring datings, this was a powerful tool, and led to the formation of the Surrey Dendrochronology Project.

But every motor ship needs a good engine room. This has been supplied here by Rod Wild, the compiler of this study. He has masterminded the surveys (a complex administrative business), liaised with Andy Moir throughout, and drafted this report. He is indeed the principal 'begetter' of this study.

He has been well supported throughout by the Surrey Dendrochronology Project committee whose members are listed below.

Alan Bott, OBE, MA, FSA
Chairman, Surrey Dendrochronology Project
2022

Committee members:

Professor Barry Cox, MA, DSc (Secretary); Martin Higgins, BA, MPhil; Peter Hopkins, BA; †George Howard, BSc, PhD; Andrew Norris, DipBS, FRICS; Phil Stevens, MA (Hon Treasurer); †Dennis Turner, BSc, FSA; Peter Youngs, BA; Rod Wild, MA, MSc

INTRODUCTION

This report describes the Surrey Dendrochronology Project (the Project), records the basic results, and includes a first analysis. The Project is not an end in itself, although much useful and local information is provided. The eventual goal is to produce what has been described as ‘The Surrey Book’ – a comprehensive study of the 4000 timber-framed buildings that have been recorded by the Domestic Buildings Research Group (Surrey) in the county. The current study is confined to the 200 buildings precisely dated by tree-ring technology, for the most part by the Project. The data on the 200 will enable the 4000 to be re-examined within a calibrated framework.

Part 1 is concerned with the beginnings, methods and philosophies of the Project, from its inception in 2002 to 2016, by which time a good representation of each region of the county and each century of construction had been obtained. There were successes and failures, problems and solutions, but the stated objectives are well on their way to being achieved. This first part of the report broaches the vexed question of terminology. There is a diagram of basic terms, together with some brief descriptions. A more complete glossary is included at the end of the report, but readers may find it helpful to use other sources. Some references are given, including two illustrated online glossaries.

Part 2 takes the reader quite simply through the centuries, from the 12th to the 18th, examining just the main timber-framing features and how they changed. Given some knowledge of the terminology, it is a stand-alone section, quite brief, a story rather than a treatise.

Part 3 takes the raw data and analyses it statistically, tracing when each feature came and went. It is more of a reference work, but does demonstrate the pioneering depth of the Project, unrivalled elsewhere in the country at this time.

Part 4 is the archive. It lists all the dendrochronology results in Surrey, from any laboratory, as recorded in the records of the Vernacular Architecture Group (VAG), up to the end of 2017, along with a handful of buildings dated precisely by the Project by other means. To facilitate local study, it is ordered by parish (see figure 48 showing the parishes used and their boundaries). Each entry also gives an archaeological summary of the building – a useful resource in itself. It does not include all the finest timber-framed buildings in the county, but certainly includes many of them. It is hoped that this archive will be maintained into the future, as more datings take place. A number of dated buildings just over the borders into adjacent counties are included. They were chosen as having been well recorded and being within 5 miles of the Surrey border, an admittedly rather arbitrary guideline. These datings have not been included in the main histograms or analysis, but the Project was often involved and the results sometimes have relevance. In the case of very early buildings (those before 1400) it was necessary for these close-by datings to be included in the analysis to help establish a pattern, there being too little data otherwise. Finally, there is a listing of unsuccessful datings. Dendrochronology is an amazing science, but it has its limits. It needs skilled practitioners and, just sometimes, a little good fortune.

PART 1 – THE SURREY DENDROCHRONOLOGY PROJECT

Surrey's old buildings and the potential for dendrochronology

Surrey is fortunate in her old buildings. Other counties may have more and finer examples, but Surrey has plenty and has her own style. Oak timber framing is left to weather to a soft grey, rather than be black-painted and terracotta tile hanging abounds (although this is rarely a part of the original structure). There is a wide variety of different styles, of great interest to archaeologists, but most of the houses are quite simple dwellings. They look in keeping with the landscape and help to give the county its character.

There is a surprising number of them. The Domestic Buildings Research Group (Surrey) (DBRG) has recorded some 4000, mostly timber-framed, dating from the 14th to the 18th centuries, and there could well be as many again. This is another aspect of Surrey's good fortune. The county has been well served by enthusiasts and experts. Joan Harding founded DBRG, and her astonishing energy is legendary. Stalwarts such as the late Peter Gray, Ken Gravett, John Baker and George Howard made scarcely less of a contribution. All are missed, but their work lives on (Baker 1980; Harding 1993; Howard 2001; Gray 2002).

These experts were well able to date a building on stylistic grounds, usually to within at least a half-century, but they would be the first to admit they were working almost as much intuitively as scientifically. The lack of an accurate method of dating hindered not only the scientific exploration of these buildings, but also their popular appreciation. It is both interesting and informative to be able to relate a building to the history of the time.

Tree-ring dating (dendrochronology) has been a revelation for all those who study historic buildings, enabling the dating of timber-framed buildings with astonishing accuracy, often to within a year. A 'core', little larger than a pencil, is taken from a number of the timbers used in the construction of the building. Once sanded down, the tree-rings become visible and using a travelling microscope, they can be measured precisely. They vary in width: a warm, wet year produces a wide ring; a cold, dry year, a much narrower ring. Each sequence of years has a unique pattern, rather like a supermarket bar code. Often it is possible to match the patterns of the cores with established 'master

chronologies', and in so doing identify the range of years involved. The first such chronologies were produced by studying recently felled trees and then working backwards in time with overlapping samples that were found to fit together in the overlap. There are, however, significant national and local variations with which to contend (see Method below). A great deal of work by dendrochronologists in several countries has produced master chronologies dating back thousands of years. It works best with oak, which is nearly always the material used in English timber-framed building.

The position from which a sample is taken is crucial. If the dendrochronologist can detect a point on a beam that was originally just under the bark – and often this can be done – then the exact year of felling can be found. Usually, even the season of felling can be established. It is known that timbers for building were nearly always used 'green', without being seasoned, as seasoned oak is extremely difficult to work without power tools. It follows that the construction date will be close to the felling date. Usually a winter felling is found, as the carpenters knew that timbers without rising sap would last better. Then the house would most likely be built in the following summer, or soon after. Sometimes there is more than one felling date found, but they are usually in a tight cluster and construction will have commenced on the latest date or soon after. A number of documentary cases bear this out (Miles 1997, 50–2). For a more complete description of the dendrochronology process, see English Heritage (1998).

It has taken the advent of cheap computing to bring dendrochronology within the reach of most householders or interested groups. Previously, use of the science had been for the most part limited to small projects or high-status buildings. The first major county study was in Kent, where the Royal Commission on the Historical Monuments of England funded the dating of 53 houses. This supported an impressive study of the medieval houses of the county (Barnwell & Adams 1994; Pearson 1994). Then Hampshire County Council supported the dating of 111 of the county's buildings, this time covering both the medieval and post-medieval periods (Roberts 2010). Meanwhile, in Shropshire, 117 buildings had been sampled, also



Fig 1 Taking a dendrochronology sample.



Fig 2 A dendrochronology core.

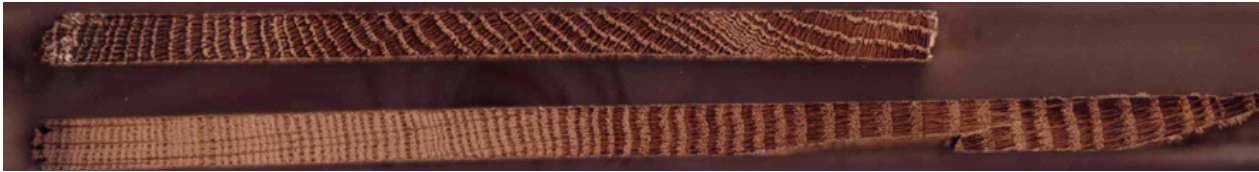


Fig 3 **Sanded cores.** In the lower core, narrower rings to the left are when the tree is older and growing more slowly. Variations in the ring widths are still clear and measurable. The upper core is fast grown and probably has too few rings to measure. Photograph by Andy Moir.



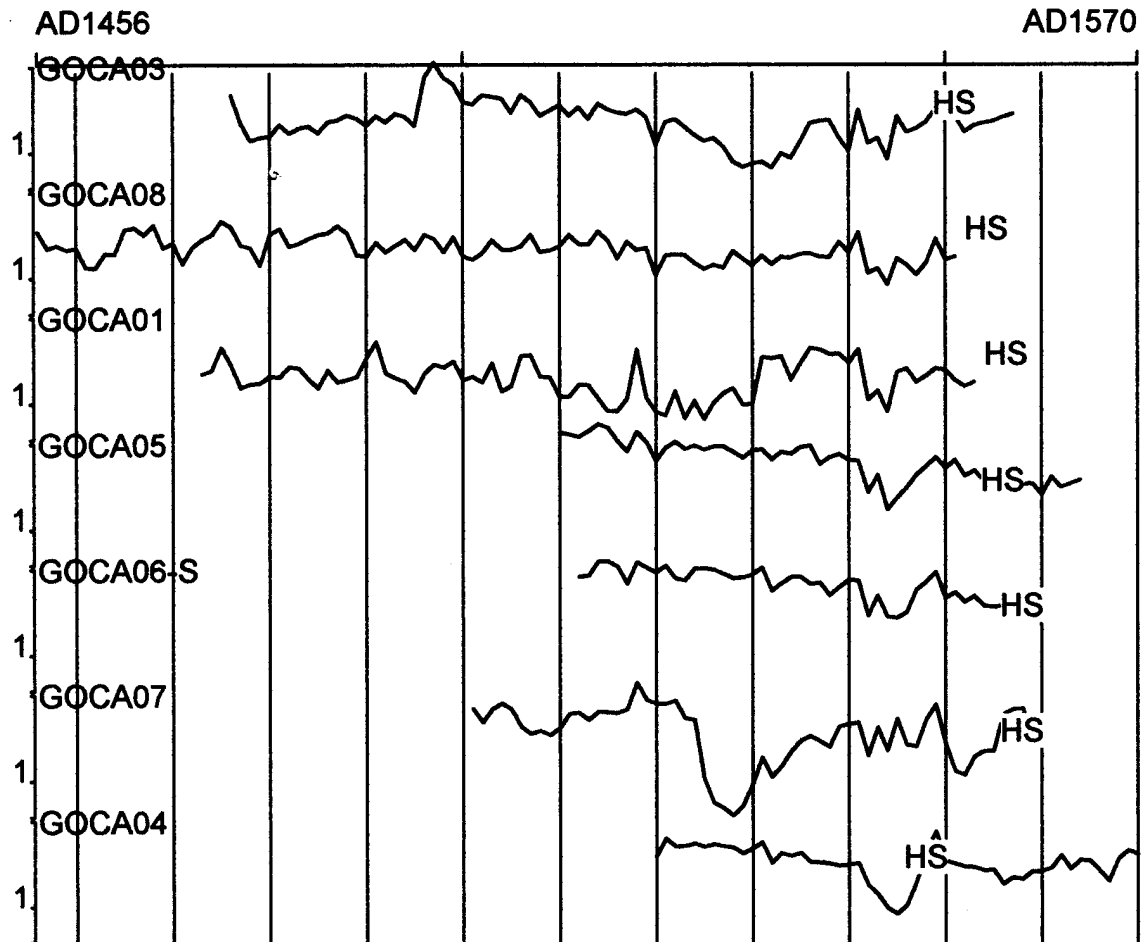
Fig 4 **Bishop's Camera, Farnham Castle** (dated 1381). Andy Moir working above the scissor bracing in the roof of the. Sometimes agility is needed as well as dendrochronology.

across quite a wide range of dates (Moran 2003). These standard volumes have constantly informed the work in Surrey and this report uses much information from them (without repeated references).

It was thought that Surrey should be well placed to follow on. Not only was there DBRG's huge collection of detailed reports, but the 'tick box' system for the methodical recording of the key features of a timber-framed building suited the task. DBRG's octogenarian webmaster and IT specialist, the late Jim Miller, had built a computer database for all this information. Beryl Higgins led an army of volunteers to set up the data, parish by parish. The result was an invaluable tool for selecting and categorising buildings. The combination with dendrochronology was powerful and led to the formation of the Surrey Dendrochronology Project.

Previous work

According to the records of the Vernacular Architecture Group, and to knowledge within the Project, the first tree-ring dating in the county was in about 1981, at 43 High Street, Reigate. This is a fragment of a building, now at the Weald and Downland Open Air Museum and best known for its wall paintings. The first domestic building to be dated may have been Hazelwood Farm, Chipstead, which was owned by DBRG member Tim Northfield. It was sampled in about 1988 but only an undated report is available. There was then another gap until 1995–6 when there was work on Farnham Castle Great Hall, Wanborough Great Barn and Ashted parish church. Work continued in 1998–9, still on higher-status buildings: Home Farm, Newdigate; Crutchfield Farm, Salfords & Sidlow; Wintershall, Bramley; Vann, Hambledon. Details of all these early datings are included in the Gazetteer.



NOTE: The ring width (mm) is plotted on a (y axis) logarithmic scale, using a common axis for all sequences.
H/S = heartwood/sapwood boundary

Fig 5 Tree-ring sequences from 1 Church Street, Godalming, 1571. The similarity is striking and the site average matched master chronologies well. Only one timber had full sapwood, enabling the precise date of winter 1570/71. Graph by Andy Moir.

It was beginning to be more generally appreciated that dendrochronology could be applied to simpler dwellings. The dating of Appletree Cottage, Elstead, and Markwick Farm, Hascombe, was funded by their owners. Then, in 1999–2000, DBRG used their own funds to date nine houses in Surrey Heath and Charlwood. The work, led by Peter Gray, was in the nature of a pilot study and it confirmed that even small buildings could be dated. Perhaps more importantly, it showed the value of recording the structural features of a building at the same time, and then being able to relate the two.

Some of the early work was of much interest in its dating of well-known buildings, but less so in terms of establishing the carpentry trends and overall dating criteria. More promisingly, the work in Surrey Heath had concentrated on houses thought to be 16th century, a time of evolving ground plans as open halls dropped out of use. This focus was to

remain as one of the elements of the forthcoming Project. The work in Charlwood was more concerned with earlier buildings and with one specific question in mind: were ‘low end bays’ early? It was shown that they were, but not reliably so. (See ‘The Joan Harding guidelines for early medieval buildings’ in Part 3).

The data from these early studies may have been of limited value, but many of the Project’s philosophies date from this time. There is a debt owed to these pioneers and the pilot study was particularly useful. It was not specifically documented, but the Gazetteer includes the essential information on the individual buildings dated.

The formation and methods of the Project

The Project was formed in 2002, Surrey Archaeological Society (SyAS) joining forces with DBRG, with the support of Surrey County Council. SyAS had already worked with dendrochronology in Thursley and Witley churches, so these results could be incorporated. The County Council had also been concerned with old buildings in many ways, not least through the Surrey Historic Buildings Trust. The Project got underway with the dating of sixteen more houses in Charlwood, funded largely by £3000 from the John Bristow and Thomas Mason Trust. With four of the earlier datings, this gave twenty for the village overall, a pioneering and valuable study, unique in its depth (Wild 2003).

A Research Proposal had been published at the outset (March 2002). This was instrumental in obtaining a generous grant of £14,000 from the Heritage Lottery Fund, awarded to SyAS in June 2002. (This was later reduced to £11,300 as the Society was unable to reclaim the VAT component). As part of the bid, SyAS added £4000 and committed a further sum for the eventual publishing costs. Also, part of the ‘match funding’ was a commitment to substantial ‘volunteer labour’ – in the event hugely exceeded.

These sums increased the potential scope of the Project enormously. A contractor had been selected by competitive tendering (Dr Andy Moir of Tree-Ring Services) and the pace of work increased.

PROJECT OBJECTIVES

The fundamental aim was to map the development of the timber-framed buildings of Surrey, area by area, century by century. The detailed objectives and their fulfilment are as follows.

Objective 1 – representative sample

‘To use dendrochronology to date a representative sample of Surrey’s old buildings for the education and information of owners, specialists and the wider community.’

There were inevitable problems in achieving an even coverage across the county and the centuries. Survival rates vary from place to place and few very early houses remain, particularly in urban areas. At the time of writing, 169 buildings have been dendro-dated under the auspices of the Project or its related predecessors. The individual reports have been lodged with the house owners, with copies going to the Surrey History Centre and the libraries of DBRG and SyAS. Together with previous work, some documentary cases and

pertinent datings on the fringes of neighbouring counties, this report covers a total of 256 buildings, well above expectations. In many cases, additional dates were obtained for later phases, considerably enriching the conclusions.

As can be seen from figure 7, the county was, on the whole, well covered. There was a tendency to work more in the south, to take advantage of the wealth of old buildings in the Wealden areas. North-eastern areas are more built up and have fewer surviving old buildings, although it is hoped to do more work there in future. There are fewer also in the north and north-west, although this may be due to the infertile heathlands of the area, less able to support as many farms and their households.

Figure 10 shows there was reasonably good coverage of the centuries. Not many buildings were shown to be 14th century or earlier, but that is no surprise, as their survival is very limited. In the 17th century, the use of timber framing declined, so there are fewer suitable buildings to study. More work could be done, but the objective has been fulfilled.

Objective 2 – establish dating criteria

‘To use the dendrochronology data to establish more accurate stylistic dating criteria for the many other old buildings of Surrey.’

Harding (*op cit*) provides very considerable detail on the art of dating a building through examination and survey. She was held in great respect, but prior to the Project it was impossible to tell how well her criteria would stand up against tree-ring dating. The Project results show her general guidelines to be remarkably good, although lacking the precision of dendrochronology. In some instances she was mistaken, for example in thinking that a number of the so-called late features started about 1600. We now know that many of them came into use well before the end of the 16th century.

The material in this report is an excellent guide to dating stylistically, although more work is needed on variation across the county, and on pre-1400 buildings (figure 31 and table 1 provide a summary). Table 4 is even more condensed, something of a pocket guide, with the detail given in Part 3.

Objective 3 – contribute to the national picture

‘To contribute to an emerging national picture of regional and national trends in building activity and methods.’

With the emergence of tree-ring dating as a reliable technique, the possibilities for calibrated studies of regional variations across the country became possible. The dating work in Hampshire, Kent and Shropshire has been mentioned, and there had also been projects in Wales and elsewhere. Some early work gathering the information together was appearing, most notably by Essex County Council (1998), although this was based more on stylistic dating than dendrochronology. Meeson (2012) looked at the totality of dendrochronology data across the country and came to some interesting conclusions, particularly about the chronology of various roof types. Some limitations in this work were apparent and stated, notably the need to group the data into rather wide 50-year blocks for it to be statistically viable.

It is becoming possible to build on such work, both in the amounts of data and in the features and trends examined. This report should help. A short version has been published in *Vernacular Architecture (VA)* (Wild & Moir 2013) and is a contribution to the debate. Together with the previous year's *VA* paper (Moir *et al* 2012), it illustrates how a combination of dendrochronology and modern databases can take our understanding into the future (see Building Archaeology Research Database (BARD) below).

Objective 4 – support research into the history of old buildings

‘To support further research into the historical and social context of old buildings and their owners, in a way that can only be done with accurate dating.’

It is too early to expect major projects as a result of the study, but a number of people are using the data for their researches. One example is Chaldon Court, Chaldon, 1366, where the owners and local historians are combining to understand this intriguing building. Another is Frosbury Farmhouse, Worplesdon, 1552 (see frontispiece).

Objective 5 – involving local communities

‘To involve local communities in their histories in a practical and rewarding way.’

Four local history societies have taken part and indeed helped with the funding. Fifty- seven lectures about the Project and its results have been given around the county, with an attendance of about 2490 in total. House owners have received copies of their respective dendrochronology reports.

The Project remains in place for requests for dating from interested house owners prepared to fund the

work, and also sometimes for buildings of particular public interest. No more general dendrochronology is planned at the moment (but see ‘Future work’ in Part 3). Even as it stands, an archaeological study of national importance has been completed.

METHODS

The cluster concept

Rather than scattering the datings quite generally around the county, it was decided to adopt a ‘cluster’ approach. This entails covering the county but working for the most part with groups of about fifteen buildings in separate areas. Each area was chosen, as far as possible, to have a common building tradition, and not to be unduly influenced by a single landlord. This had a number of advantages. Archaeologically, it should give a stronger statistical signal than more scattered datings, and allow variations across the county to be seen more clearly.

The dendrochronology is also enhanced. Master chronologies are available, these being averages of the yearly patterns found in a general area during previous work. Cores taken from a building do not match these chronologies every time as variations in the growth patterns of trees are considerable. Sometimes the samples will match general chronologies, such as a much-used South Britain chronology but often, local soil conditions and micro-climates prevent this happening. It is necessary to build up local chronologies for each area to enable weaker patterns to be matched successfully. The development of these has been a noteworthy success for the Project. Although some buildings have had to be rejected as being unsuitable for dendrochronology, once samples were taken, Tree-Ring Services have had a very high success rate (see ‘Success and failure’, below).

There have been six clusters, covering the county as much as possible within the constraints outlined in the discussion under Objective 1.

- 1 South Mole Valley: Charlwood, Newdigate, Capel and vicinity. This was both to capitalise on the earlier work in Charlwood, where four houses had been dated in the pilot study, and also because of the wealth of fine timber framing in the area. A total of 44 buildings were dated and these have proved to be an important bedrock for the Project.
- 2 East Guildford Borough: the parishes of East Clandon, West Horsley, Shere, Albury and close by. This is another area rich in fine buildings and with interesting archaeological

styles. There was a higher rejection rate, in part because of the frequent occurrence of elm, which is very difficult to date. Even so, another twenty buildings were dated.

- 3 Godalming and parishes south: Godalming, Witley, Thursley, Hambledon and close by. The aim here was to link up statistically with Hampshire data and to gain experience of town buildings. The cluster added 26 buildings to the study.
- 4 Farnham area: Farnham (including Weybourne), Wrecclesham, Frensham and Elstead. The Farnham (Building Preservation) Trust and the Farnham & District Museum Society provided most of the funding for this area with strong historic links to the Winchester bishopric. Fifteen buildings were added to the study.
- 5 Cranleigh: six buildings were chosen in this southern Wealden area, to fill a gap in the datings.
- 6 Nutfield: six buildings were selected to improve datings towards the east of the county. The work was part-funded by the Nutfield History Group.

Meanwhile, 50 buildings in other parts of Surrey had been dendro-dated by the Project, mostly owner-funded cases. These gave valuable back-up data to the main clusters. Some of Surrey's towns and villages, in particular some of the cluster centres, are shown in figure 6. All DBRG's recordings and those precisely dated, nearly all by dendrochronology, are shown in figure 7.

The selection of buildings

The selection of buildings in each cluster was carried out with care, to ensure that they were good, complete examples of their type. Although there is always particular interest in the very old buildings, the aim was to find representatives throughout the timber-framing period, from the earliest surviving buildings of the 13th century through to the end of the 17th century. Similar care was taken to cover each style and building technique, at least as far as possible within the time and funding constraints of the Project. The DBRG records were very helpful, but teams of local representatives were enlisted to ensure that nothing was missed and that local interest was catered for. These selection criteria were not applied strictly to the houses of owners willing to pay the dendrochronology fees

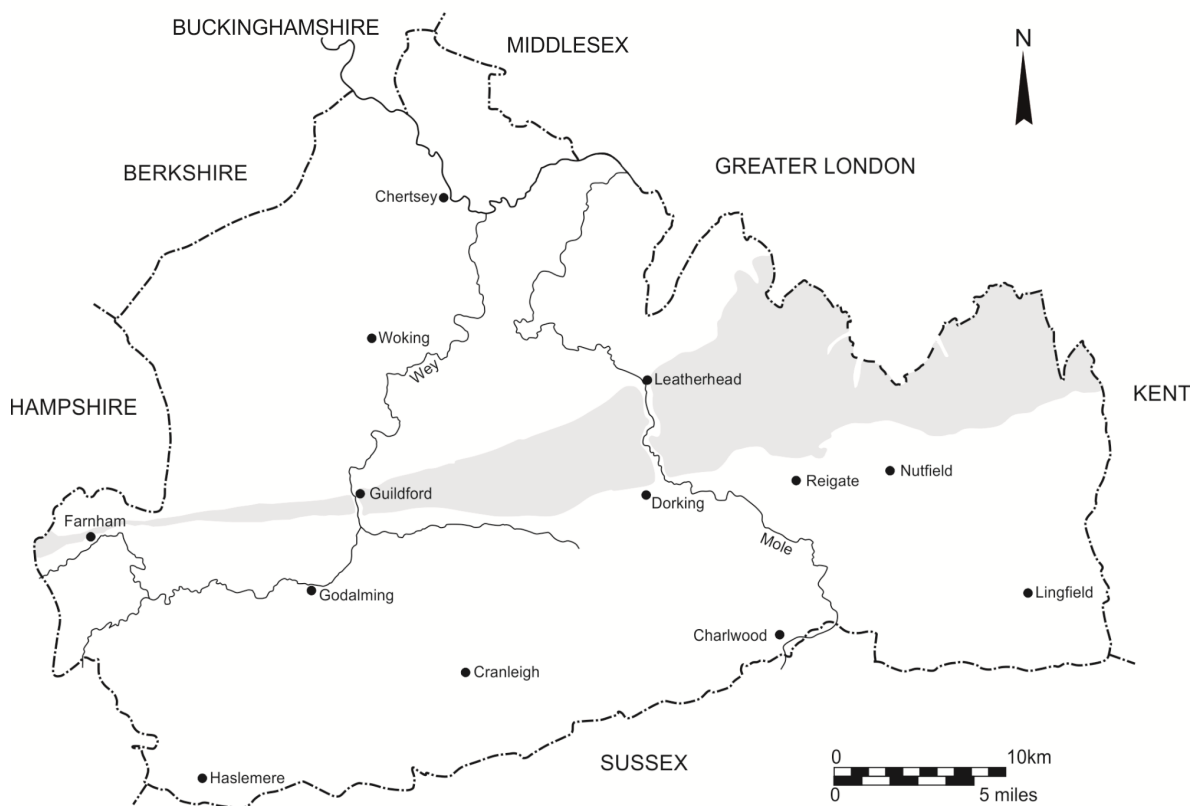


Fig 6 An outline map of Surrey showing the location of some of its towns, in particular the cluster centres mentioned. The shaded area is the chalk outcrop (ignoring superficial deposits).

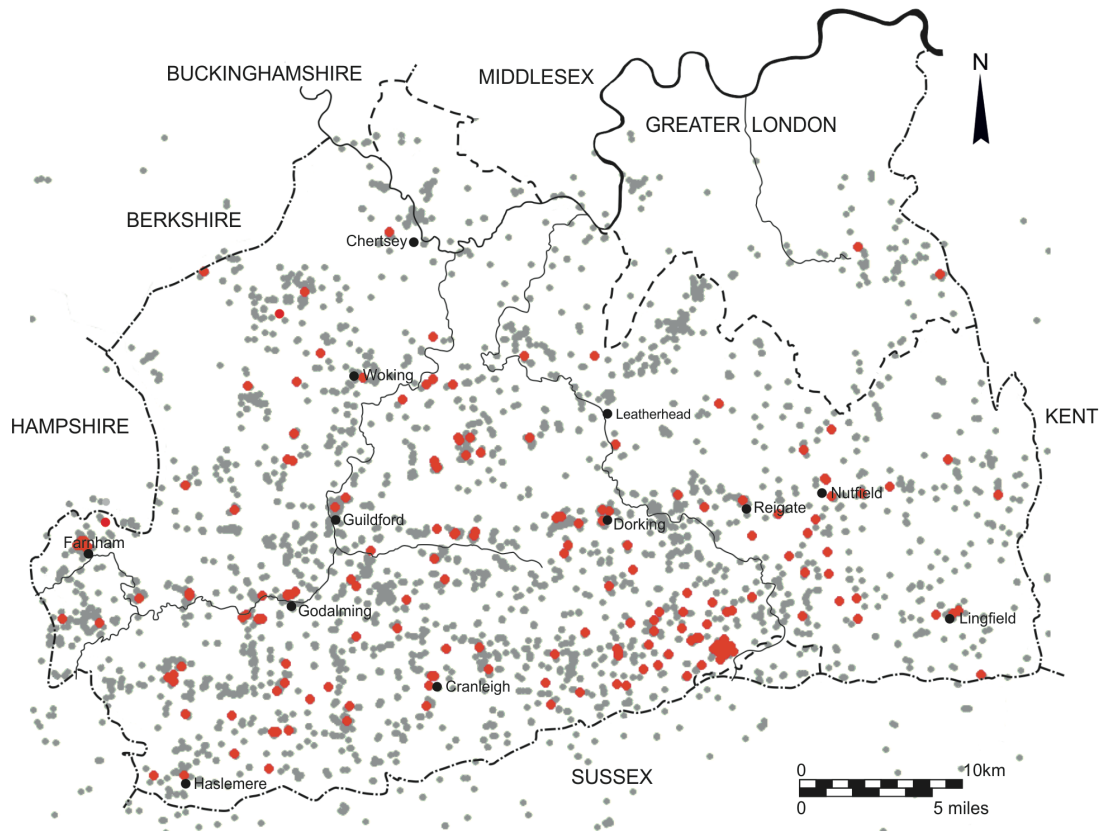


Fig 7 **Distribution of all buildings** recorded by the DBRG (grey) and those 185 precisely-dated houses (red). (Other building types not included)

themselves. The contribution of their buildings to the study's results has been valuable.

The main emphasis has been on houses – quite ordinary domestic or vernacular buildings. Sometimes, because of strong local interest, there was the temptation to examine higher-status buildings. Two examples are in Farnham: the Bishop's Camera in Farnham Castle and the original Lion & Lamb coaching inn in West Street. Such results were excluded from the main 'Dwelling' statistical analysis, as being atypical.

Some churches and agricultural buildings were considered, in their own statistical categories. One aim was to see whether churches were style leaders or followers. There are difficulties working in churches: stone walls cannot be dated and dating only roof timbers may not be very informative. Nevertheless, useful results have been obtained from five churches, including the exceptional timber belfry at Newdigate (1525). Barns can be

splendid structures and several were dated. One purpose was to see whether some features – jowled posts being an example – were used for a longer period in agricultural buildings.

One of the objectives of the Project was the involvement of local communities. This led to the dating of some local assets other than buildings. Tree-Ring Services used dendrochronology to date the churchyard yews in Capel, Peper Harow, Dunsfold and Hambledon, the last named giving a possible Saxon date of *c* AD 800. In remarkable feats of dendrochronology, Andy Moir also dated the ancient pews at Dunsfold church (1409–41), a fine old church chest at Betchworth (1505–37) and some *ex-situ* timbers from the fortified house stage of Betchworth Castle (1440–72 and later). Further comment on these findings would be outside the scope of this report.

Sampling and archaeological reassessment

The selected houses were visited to check the archaeological records and make a preliminary assessment of the suitability of the buildings for tree-ring dating. Some had to be rejected, usually because of 'fast-grown' timbers. Samples of at least 50 rings are needed for reliable correlations with the master chronologies. In parts of Surrey, the trees, well-watered and well nourished, grew quickly to a good size and were felled when 40 years old, or even younger. Houses constructed with many such trees usually had to be avoided, although occasionally dating was attempted and, very occasionally, was successful.

The dendrochronology coring was then carried out by Andy Moir. The timbers are checked for suitability and then samples are taken. The work is done using a simple power drill with a hollow bit, taking pencil-like cores (10mm) from several timbers. Thin timbers are avoided, but larger oak timbers are left quite unharmed by the drilling. If the owner prefers, the holes are filled so as to be almost invisible, but it is good practice to leave them as an archaeological trace. Taking at least six

samples is recommended, to smooth out individual variations and to guard against dating reused timbers. Considerable skill is needed to take samples with the full, unbroken sapwood necessary for precise dating. A building archaeologist attends to advise on which timbers are of most interest archaeologically and to help rule out reused timbers. The focus is on timbers that can be reliably attributed to the 'first build'. However, information is sought on important changes to the buildings, perhaps the date when a chimney is inserted. Finally, the previous archaeological records are updated and more detailed notes taken of the features of the building.

The dendrochronologist takes the samples to his laboratory, to be sanded down and processed using a travelling microscope and computer. Comprehensive, well-illustrated reports are produced for each building.

Dendrochronology and archaeology

Dendrochronology and archaeology go together. You need them both. The most obvious need for archaeology is in the identification of reused



Fig 8 **The Old Cottage, West Horsley**, is a medieval open-hall house with a tall crown-post roof and arch braces in the framing. A combination of dendrochronology and archaeology was needed to understand the building and establish that, while it was built in 1445, the western (left-hand) bay was rebuilt in 1563. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

timbers, which are very common. Why not reuse timbers from a previous build or even from some demolished building elsewhere? The Project followed the English Heritage standard and refused to sample reused timbers. Even when they do not confuse the final result, a false dating tends to become presented as reality. It is too tempting for owners or estate agents to claim, 'dating from xxxx', when the main surviving build is much later.

Archaeology is also needed to separate the different phases of a building, which can be difficult to distinguish. It is best practice to take samples from several parts of the supposed first build, and to take plenty of them. This not only helps prevent the misinterpretation of a building, but also to establish a better 'site average' from the samples taken. An individual tree usually has too much variability for its ring pattern to be recognised so an average, taken from a number of samples, gives a much better chance. Although an experienced dendrochronologist is well able to assess a building for its archaeology, having both specialists allows for an exchange of views. Both activities take time and it is best if the dendrochronologist gets on with the job, while the archaeologist confirms the understanding of the building.

More obviously, dendrochronology can correct archaeology. Supposedly 17th century buildings being shown to be late 16th century happened quite often. Owners were pleased – much preferring their houses to be Elizabethan rather than Jacobean. A more dramatic archaeological correction was at Rowhurst, Leatherhead. A fine brick range was dated to 1632, but a small rear wing had been estimated to be a little earlier, late 16th century; however, the dendrochronology date turned out to be 1346. The wing has been undeniably raised and rebuilt, but the number and nature of the timbers dated represent a complete build, rather than just a few reused timbers. The very early date was a big surprise, but is considered to be valid.

Sometimes the co-operation between the two sciences can be a voyage of discovery for both sides. The Old Cottage, West Horsley, is a handsomely built, crown-posted, open-hall house of four bays, two of which were open (fig 8). The dendrochronology was very difficult with much elm, fast-grown oak, and the growth patterns having been disturbed by tree lopping practices. Eventually, eleven samples were taken, of which five oak samples were suitable for analysis but only two could be dated: 1561 and 1563. All involved were convinced these dates were invalid since open-hall houses are rarely as late as this. The two

timbers were from the western end: the south-west corner post and a mid-rail between the two western bays. The team reconvened and the archaeologists found subtle evidence that the western bay had been rebuilt. The dendrochronologist took seven more samples. Everything was reprocessed and gave a grand total of seven dated timbers. Three confirmed a date for the western bay of 1563, while four others gave a date of 1445 for the rest of the house. This was a much more likely date for the main build, earlier than the stylistic date of *c* 1500 and a satisfying end to the exercise.

Funding

The contributions of the Heritage Lottery Fund, the John Bristow and Thomas Mason Trust in Charlwood, the Farnham (Building Preservation) Trust, the Farnham & District Museum Society, and the Nutfield History Group have been mentioned. Guildford Borough Council funded the work at Castle Arch, the home of Guildford Museum. The Surrey Historic Buildings Trust paid for the Guest House at Lingfield, which is a public library (fig 28) and for Cogmans, Outwood (Burstow parish). The Barn Theatre Trust paid for the dating of their unique theatre in Oxted.

The Domestic Buildings Research Group and Surrey Archaeological Society both contributed from their research funds. Above all, many enthusiastic house owners paid their own way, particularly as the Project gathered momentum. They were always enthralled by the process and delighted by the results and reports.

Building Archaeology Research Database (BARD)

The founder of the Domestic Buildings Research Group, Joan Harding, had set up an early form of database using a punched card system called Visiscan. In stark contrast to modern methods, this involved inserting knitting needles through the punched holes for selecting data records. Jim Miller transferred it to a more modern system based on OMNIS, and then another member, George Howard, transferred it to Microsoft's Access database. This was well used for summaries of DBRG's almost 4000 recordings.

Towards the end of the current Project, Andy Moir, not content simply with his dendrochronology contributions, suggested that this database could be put online. This would serve all the DBRG data, but would be particularly useful for the tree-ring results and their analysis. Access to it, with some restrictions, could be made widely available to members and researchers. Equally importantly, all

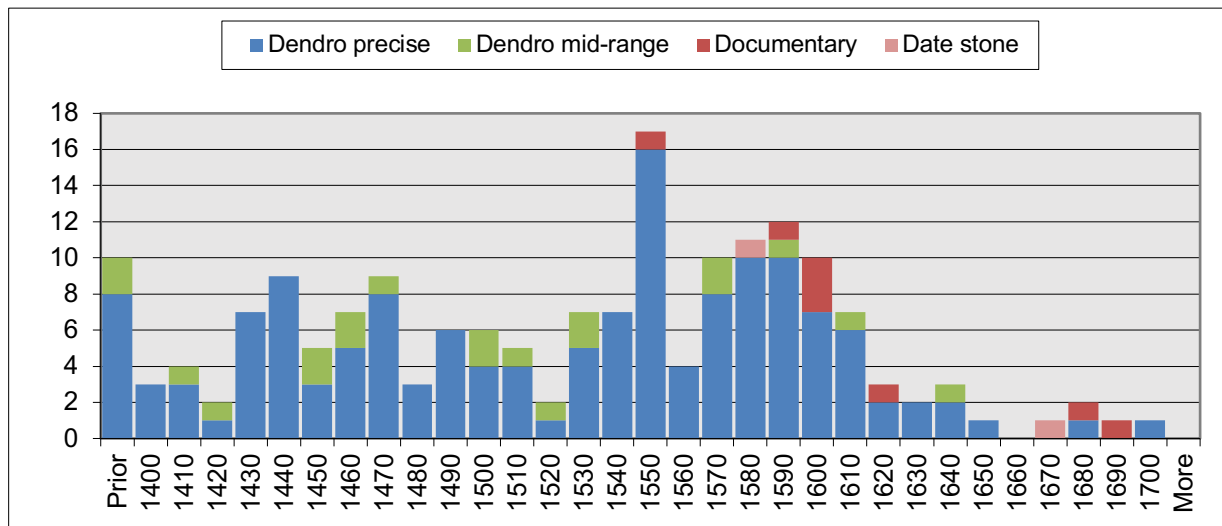


Fig 10 **The distribution of dates and method of dating** for 228 buildings or building additions with valid and useful data. (The time period is in single decades, so for example, 1540 means the 1540s or 1540–49). Note that datings by means of date stones or documentary sources were used only if they were thought to be secure - many are not.

The Project took notice of tree-ring dated buildings within about 5 miles of Surrey but just over the border into Greater London, Kent, Sussex or Hampshire, and indeed had been involved in several of the datings. In total, some 50 such buildings are included towards the end of the Gazetteer. They do not form a part of the main charts, but have influenced the analysis and conclusions.

Dates in the text

The exact dating results are given in the Gazetteer. For ease of reading, they are given in abbreviated form when arising in the text. A dendrochronology felling date in a precise year is given as, for example, Rookery Nook, Shere, 1485. This will represent the most likely date at least for the commencement of construction (see ‘Surrey’s old buildings and the potential for dendrochronology’, above).

Felling dates spread across more than one year are also represented just by quoting the last year (eg Godalming Museum, spring/summer 1445, spring 1446, would be given as 1446). The same applies to the very common winter fellings (eg Wanborough Great Barn, felling date winter 1388/9, is given simply as 1389).

A date is given as *circa* (*c*) if, while precise and reliable, it cannot be quoted exactly (eg Ketleas, Capel, *c* 1389). This may be necessary if, for example, the sapwood ring count was disrupted by a breakage, or the last ring or rings were possibly lost. Sometimes only a single timber can be dated;

this is less reliable and noted as ‘spot date’. Much less accurate is when an unknown number of rings were lost, which gives a date ‘not earlier than’, abbreviated to ‘after’.

The question of a date range is more complicated. If none of the dated samples include complete sapwood, the number of lost rings can only be estimated. For example, when there is no sapwood, between nine and 41 sapwood rings are likely to be missing (Miles 1997). This gives a 32-year date range. For simplicity, standard practice dictates that only the midpoint of the range should usually be quoted. Therefore the Manor House, Charlwood, 1454–86, would be given as 1470m. This is a pity in some ways because the statistical distribution is skewed. The actual date is much more likely to be at the beginning of the 32-year range, about 8 years in, rather than 16 (*ibid*). This is the ‘modal’, or statistically most likely value. In those cases where greater precision is helpful in a discussion, such a value would be given specifically. The Manor House in Charlwood would then be shown as 1462 (modal).

Most of the datings were carried out by Andy Moir. Again, for the sake of easier reading, this will not be mentioned each time reference is made. The Gazetteer shows the laboratory responsible, together with the issue of *Vernacular Architecture* that carries the report. This can be useful because it includes dendrochronology data such as which timbers were sampled and the detailed results. A few dates in this report are derived from documentary sources, provided they are thought to be reliable. Such dates would be shown as, for



Fig 11 **Whites Farm, Worplesdon**, is a central-chimney house with some timber framing remaining to the side. There is a fine two-storey porch of a kind sometimes seen in Surrey (see also Frosbury Farmhouse, frontispiece). The date of 1670sto (see below) can be seen on the front of the porch, picked out in flints. There is evidence in the roof that the porch is coeval with the main house, so the date applies equally to both. Not visible from the front is an older part to the rear, probably 16th century. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

example, Lockhurst Hatch, Albury, 1607doc. A few more are derived from date stones or a firm inscription of some type. Again, these are only used in this survey if they seem secure and are backed up by expert stylistic dating. An example would be Whites Farm, Worplesdon, 1670sto (fig 11).

SUCCESS AND FAILURE

The Project has a high record of success in dating: out of 198 buildings presented to Tree-Ring Services, 26 were declined as being unsuitable. This left 172 to be attempted (sometimes under a little pressure at the thought of an interesting house being left undated). Of these, 155 were dated in the laboratory, a success rate of 90%. Admittedly, the buildings put forward had been checked to some extent by the other team members, but the reliability of the science, in good hands, was demonstrated. Furthermore, of the 155 dated buildings, 91% provided a precise date, the others giving a range, usually with a 32-year span.

Every building was approached with determination and persistence. No timber, no matter how difficult to access, was left unexamined in the search for that sometimes elusive sampling place that could give a precise date. The aim was to take at least six samples, preferably ten.

Of the unsuccessful cases, this nearly always happened because the timbers were fast grown, without sufficient rings to correlate against the master chronologies. Usually at least 50 rings are needed, although sometimes a few samples can be dated with fewer, particularly in areas with plenty of previous datings, as this helps to provide matches. Another reason for failure was the occasional presence of interruptions in the growth patterns, thought to be because of timber management methods. Some trees had been 'shredded' – the lower limbs being cut down – for forage, kindling or perhaps to help the trunks to be uniform and straight. This could be seen in such samples to happen regularly, typically every 15 years, the effect of this in the tree-ring graph being clear. Sometimes the wood would be elm rather than the ubiquitous oak; usually this could be spotted before sampling. An attempt was occasionally made at dating such cases, but it never succeeded. The problem is that elm does not seem to have the same sensitivity to weather conditions. Quite apart from these difficulties, some promising buildings could not be dated. Trees are individual and some defy predictions – they just do not date, no matter how many samples are taken.

The unsuccessful cases sometimes occurred in patches that became notorious. One such area was the on the North Downs around the Clandons and Horsleys. This is chalk land where elm grows well and it cropped up repeatedly. There was another trouble spot being on the Lower Greensand and very fertile, leading to the trees being too fast grown. The area around Thursley and Witley was similar and datings were hard-won. In comparison, working in Charlwood or Farnham was a pleasure – nearly every building could be dated.

Buildings that could not be dated are listed at the end of the Gazetteer. Owners of old houses should not be discouraged from joining future activities. An initial assessment would be made with the aim of finding at least six timbers of a good size, usually principal posts, tiebeams or wall plates. After that, advice would be given.

How events unfolded

Not explored is the extent to which everyone involved benefitted, not only in technical knowledge, but also in an appreciation of the subtle and not-so-subtle differences across the county. Many of the team knew their localities, but were unfamiliar with others. To give some idea of the experience, an account of the progress of the Project may illustrate just how rewarding such projects can be.

A start was made in Charlwood, an old favourite of DBRG members. It is a village deep in the Weald, having many buildings with crown posts, which their conservative carpenters continued building as late as the 1530s. The houses are not very ostentatious, although the Manor House, 1470m, with its main range and two cross wings, all with crown posts, shows sturdy village carpentry at its best. Nor, to the team's surprise, was there anything very early, although The Cottage, attractively situated in the tiny road called 'The Street', at 1402 almost breached the 1400 mark.

The Project then progressed northwards up the Mole Valley to Capel and Newdigate. The old houses in this area seem to have been more expensively built. Ivy House, Newdigate, 1518, has a rare plank-and-muntin dais screen and chamfered wall plates. Taylors, Capel, 1467m, (fig 29) has another plank-and-muntin screen, as well as a moulded dais beam as fine as can be found anywhere. The 1400 barrier was well and truly breached here, with five houses before that date. The tiny Ketleas, Capel, c 1389, just 8m long, is a surprising survival but the grandest of them all is Greens Farm, Newdigate, 1309 (fig 21). This is a

copy-book old house, with a majestic open truss with fine roll moulding and spandrel struts to the posts. There are also impressive later houses in this seemingly more affluent region. Nyes Place, Newdigate, 1608, was designed to have a full third storey in a high attic, all well preserved under a Horsham stone roof.

The Project then moved up over the North Downs to the Horsleys and Clandons. There are smoke hoods in this area, with a collection in East Clandon: Tunmore Cottage, 1573 (fig 25), Boscawen Cottage, 1581, and Lamp Cottage, 1582. Why local carpenters were resistant to innovative chimneys is not clear. There were other fine buildings dated, including some 15th century open halls, but the work was hampered by persistent dating difficulties. This is chalk land, where elm grows better than oak, and elm cannot be dated. Elm was not used for external walls – carpenters knew it would not last – but it was considered suitable for anything at eaves level or above, and for internal timbers. In this area, even the oak was difficult, with fast-grown timbers without enough rings to get the necessary pattern correlations. Even before the dendrochronologist arrived, the team rejected a few houses in the Clandons because of this combination of factors. Andy Moir himself then rejected three more. He persisted with two in West Horsley that he expected to be difficult and took samples, but they could not be dated in the laboratory. Consequently, the imposing High Bank, c 1400, and Hammonds 'Tithe' Barn, c 1450, were undated at this time. (Since then, High Bank has been dated by documentary means to 1387.) Despite these setbacks, the Project dated eight fine buildings and the area remains a favourite.

Moving a little south, back over the downs, the beautiful village of Shere beckoned but surprisingly, the dating problems continued. This is Lower Greensand, on which oaks grow very well, but three notable houses had to be rejected because of fast-grown timbers. Thankfully, the two Wealden houses dated: Ash & Willow Cottages, 1494, and Rookery Nook, 1485; these are late dates for Wealdens.

Nearby Gomshall (in Shere parish) furnished three more dates, including the spectacular Malthouse Cottages, 1581 (fig 26). This has the square-and-circle decorative frontages rarely seen in Surrey (see 'Decorative panels', above). Three good datings in next-door Albury completed the work in this attractive area.

It was time to look at some town houses, so the Project went to Godalming, and the team enjoyed working in this beautiful town. It was satisfying to date the Museum to an unexpectedly early date of 1446. Just across the road was another example of a square-and-circle frontage, 1 Church Street, 1571. Its almost equally fine neighbour, 3 Church Street, came out a little earlier at 1557. The team visited the parish church twice. The extraordinary spire timbering (Bott 2012, 48) failed to date because of fast-grown timbers. The same problem foiled an attempt to date the nave roof, which has evidence of scissor bracing (*ibid*, 139). Alan Bott having made special arrangements for the elevation of the team onto the roof made the failure particularly disappointing. Looking out from the roof over Godalming's lush Lammas lands, it was easy to see why the oaks should grow so well, and the church probably had its pick of the best, tallest trees. Two more datings in the High Street and Bridge Street completed the cluster. This town excursion left the impression that town houses can be rather showier than their country cousins. The dating of Fry's Yard, Bridge Street, to 1503m, hinted that they could also be more advanced. The archaeology at Fry's Yard is unclear because of later alterations, but it did seem to be a chimney house. The roof is clean and the stout rear chimney convincing. This is easily the earliest chimney house dated in the survey (see 'Chimney houses', above). It is less surprising for being in a town, and also because it would not be surprising in Hampshire, which is not far away.

While working in the area, the Project dated a dozen buildings in three parishes just to the south of Godalming: Thursley, Witley (including Milford) and Hambledon. They ranged in date from the Old Parsonage, Thursley, 1411, to Great House Barn, Hambledon, 1751. The influence of Hampshire was clearer and crown posts were hard to find. Instead there were crown struts (The Old Parsonage and Ridgeway Farm, Thursley, 1436) and a fan truss (Hedge Farm, Thursley, 1468). More detailed differences were seen at the Old House, Milford, 1556. This prominent house on the Portsmouth Road has ogee braces, rising to first-floor midrails, but in the middle of a panel, neither starting nor ending in a panel corner. This gives a curious effect, inefficient but decorative, and can be seen in Hampshire.

The next step was Farnham, another town that surprised the team with its interest and old buildings. The timber framing has strong Hampshire characteristics. To give one example, only a single crown-posted house could be found.

Highlights of the cluster included the astonishing scissor bracing of the Bishop's Camera in the castle, 1381; butt purlins and crown struts at the Old Vicarage, 1418; very early queen struts at the rear of 40 The Borough, 1452; fan trusses at 68 West Street, 1452 and 80–81 West Street, 1467; slightly less early queen struts at 11 Bridge Square, 1476; a beautiful hollow-chamfered, arch-brace-collar at Tanyard House, 1485; a similar, even grander roof at the Lion & Lamb, 1499, albeit largely restored. Two of the houses were Wealdens – 11 Bridge Square (fig 46) and 80–81 West Street – although it is difficult now to identify them as such.

These discoveries confirmed the feeling from the Godalming work that people had more money in towns. There were other opulent details: a collection of three four-centred arch doorways (one with hollow chamfering around the arch and down the posts) at 80–81 West Street (now 'Guitar Village'). Farnham was a prosperous town for a number of reasons and was an important place in the Winchester diocese. Farnham Castle was one of the principal seats of the bishop, and the Old Vicarage was built by an archdeacon of Surrey who held the rectory and advowson of Farnham. It would seem that Hampshire carpenters had brought in some of their detailed methods, for example, pegging windbraces at the top as well as the bottom. Quite apart from having the remarkable and beautiful Castle Street, Farnham has an enviable collection of old houses. Westminster Hall, with its magnificent hammer-beam roof, was fabricated in Farnham at the end of the 14th century. Perhaps this work, and continuing work at the castle, gave the town an inheritance of carpentry skills.

Just as at Godalming, the Project had to venture further afield to try to find crown posts in this western part of the county. Scouring through DBRG's records, two were found in Elstead and then dated: 1 The Gables, 1432, and the Old Farmhouse, 1446. Surrey's only full cruck house was dated during this work: Walnut Tree Cottage, Frensham, 1430, together with three other fine buildings in the Frensham and Wrecclesham areas (see Gazetteer). Weybourne provided Barlings, 1537 and 1547, with the intriguing documentary link between the two parts (see 'Central and end chimneys', above).

The Project had few buildings to date in the south of the county, so went on to Cranleigh where six were dated. Barhatch, 1429, was the earliest and Coldharbour Farm, 1683, the latest. These

conformed to the by-now expected Surrey norms and added to the data for analysis. They were a memorable collection, but perhaps the most satisfying was the dating of the Village Hospital, 1446 (fig 51), if only because it is so much in the public eye. Regrettably, the nearby Little Manor (now the shop for the Esso service station) could not be dated because of fast-grown timbers. Cranleigh was another area to have these problems and it prevented the dating of Smithwood Farmhouse, which is probably 14th century. Fortunately Barhatch, with its spectacular open truss, chamfered crown post, internal jetty with a moulded jetty bressumer, arched doorway with double hollow chamfers, showed how fine a medieval farmhouse can be. Three other datings were found, covering the later heating methods: a smoke bay, a smoke hood and a central chimney. This was Wealden country again, an area content with local practices, still having crown posts and no early adoption of chimneys.

By now, the lack of datings in the east of the county could no longer be ignored, and the Project set off to Nutfield. Medieval survivals were quite rare here. Porters is a crown-post house of the 15th century, but the dendrochronologist could not find suitable timbers. Another crown post sits above the east wing of the Queens Head public house, which surprisingly was dated later than expected at 1505. The wing is almost as tall as it is long – an intriguing building of uncertain derivation (see Gazetteer). Faced with this survival pattern, the Project concentrated on post-medieval buildings and dated five houses to between 1550 and 1609. They included Charman Cottage, 1559, identified by the Project as a ‘detached kitchen’ for the next-door Leather Bottle Cottage, 1550; documentation gives weight to this designation (see Gazetteer). Apart from being later than average, the buildings of Nutfield (and South Nutfield) conformed to the general Surrey pattern with no differing influences from Kent or London.

Meanwhile, many owners across the county had volunteered their buildings for consideration and were prepared to pay for the dendrochronology, which helped to fill a number of gaps. A group of buildings in Dunsfold and Chiddingfold included the very ancient Forge Cottage, 1254 (fig 20), and the splendid Crown Inn, 1440 (fig 16), which has the best crown-post roof in the county. Datings in Ewhurst and Haslemere added to the coverage along this southern border of the county, all very much in the same, rather behind-the-times, fashions of this Wealden country.

Then the Project team visited Guildford, yet another town that was a pleasure to work in, with an almost tangible feeling of history. It was satisfying to find that the old part of Castle Arch, home to Guildford Museum (fig 39), dated to 1554 – much earlier than previously thought. The Royal Oak public house was dated to 1417, but otherwise, the town needs further exploration. Continuing to Dorking, another pleasing town with perhaps underrated virtues, produced the important dating of 58–61 West Street at 1590. It is the only known surviving home of a Pilgrim Father – William Mullins – and the date showed that he lived in this actual building. It now has a later brick frontage.

Elsewhere, there had been datings to the north-west during a pilot project carried out by Peter Gray of DBRG to gain experience of the technique. The Project added a few more so there is now data from Chobham, Chertsey, Pirbright, Worplesdon, Normandy, Woking and Old Woking. There were various datings, albeit thinly spread, along the London fringes where fewer old buildings survive. There is always more to do but, as shown in figure 7, the coverage has been remarkable. At least a good initial picture of the development of timber framing in Surrey, century by century and area by area, has been achieved.

Terminology

The terminology of timber framing can be complex and confusing. An excellent introduction is *Discovering Timber-Framed Buildings* by Richard Harris. A more complete and specific glossary is *Recording Timber-Framed Buildings: An Illustrated Glossary* (Practical Handbook in Archaeology 5) published by the Council for British Archaeology (Alcock *et al* 1996). The Project uses this book as standard.

DBRG’s brief one-page Glossary is given at figure 12. BARD, found at www.buildingarchaeology.com, contains a small glossary specifically related to the Project’s ‘tick box’ form and the BARD data fields.

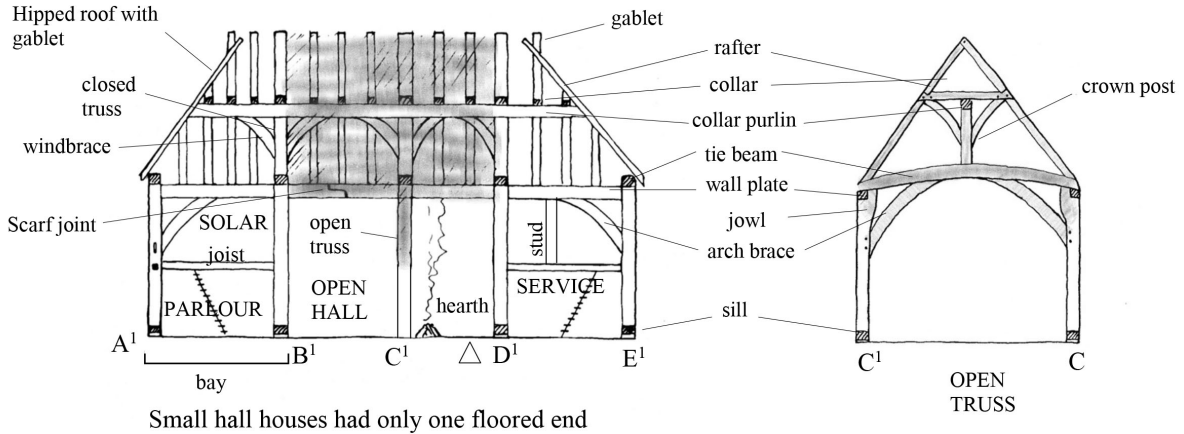
A more comprehensive glossary is found at the end of this report but for the moment, the following may be helpful to explain a few of the most frequently-used terms:



A GLOSSARY OF TERMS USED FOR TIMBER-FRAMED BUILDINGS

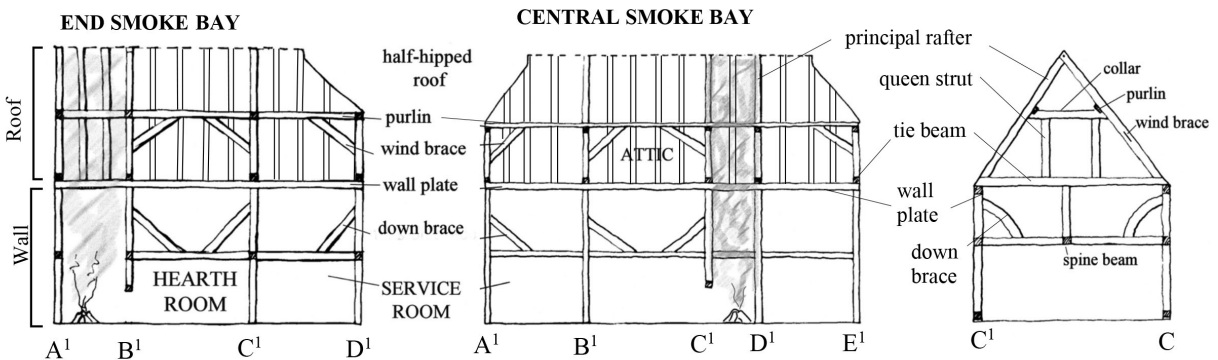
MEDIEVAL HALL HOUSE (before 1540)

Smoke blackening to original open hall

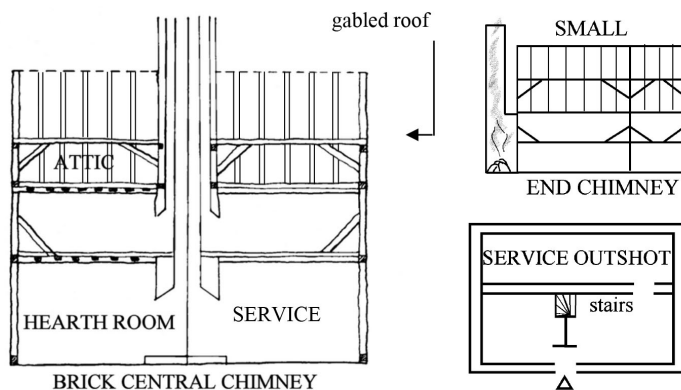


Small hall houses had only one floored end

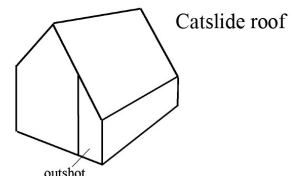
SMOKE BAY HOUSE (c. 1540 – c. 1610)



CHIMNEY HOUSE (c. 1550 onwards)



Houses with a central brick chimney were framed like smoke bay houses. Small houses had an external chimney at one end. Service rooms were either at the end, as in the central smoke bay house shown above, or in a rear outshot as below.



More at www.DBRG.org.uk

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Fig 12 DBRG's brief glossary of terms used for timber-framed buildings

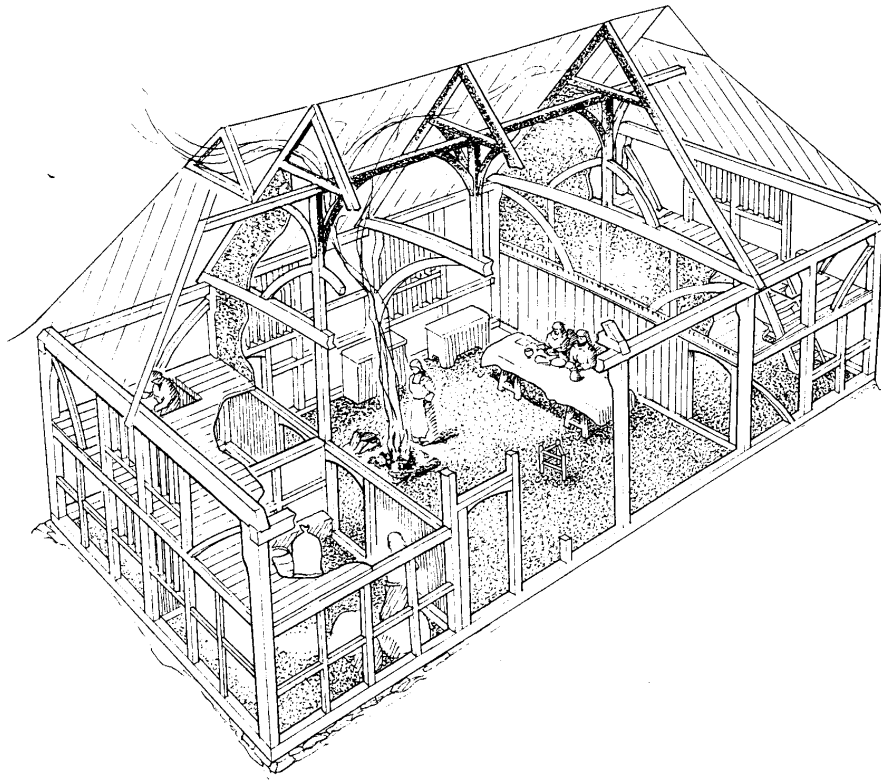


Fig 13 **A typical hall house** with a two-bay open hall and a crown-post roof. The high end is to the right with a parlour below and a 'solar' chamber above. To the left is the low end with two ground floor rooms, the pantry and buttery. The hall has the high table and an open hearth. The roof is hipped with gables, often used for the escape of smoke. Drawing by Gordon Simkin.

BAY: The portion of a building between the principal supporting timbers of a truss. A medieval house often has ten 'principal posts'. Five will be at the front and five at the back. They divide the house into four bays (fig 24, Summers, West Horsley). A bay is normally 3–3½m long. A 'half-bay' is a particularly short bay, perhaps little more than 1m. In the roof, bays are usually divided by **TRUSSES**, rigid frameworks to prevent the roof spreading.

OPEN-HALL HOUSE: An early form of house, the standard throughout the medieval period and up to the early 16th century. One or two bays were open to the roof and the fire, a so-called **OPEN HEARTH**, was near the centre of the large and high room so created. The smoke was not confined, drifting upwards and then out through a 'gablet' or 'louvre', or simply through the tiles and windows. In Surrey, open-hall houses had a two-storey '**FLOORED BAY**' at one, or more usually both, ends of the hall. See figure 13.

SMOKE-BAY HOUSE: a transitional type in which the fire was placed in a half-bay of its own (fig 14). There was no chimney as such, just partitions within the half-bay to contain the smoke so the house could be floored throughout. The smoke bay could be at either end or in the centre.

SMOKE-HOOD HOUSE: a house with a wide, timber-framed, wattle-and-daub chimney. This is within a bay, rather than having a half-bay of its own.

CHIMNEY HOUSE: a house with the smoke from the fire contained in a masonry chimney. Chimneys have been used since Roman times, but only in the last 400 years or so have they been affordable for ordinary people when they first built them in the centre of the building, often inserted into open halls or smoke bays. Later they were placed at the end (an 'end chimney') or at the back (a 'lateral chimney').

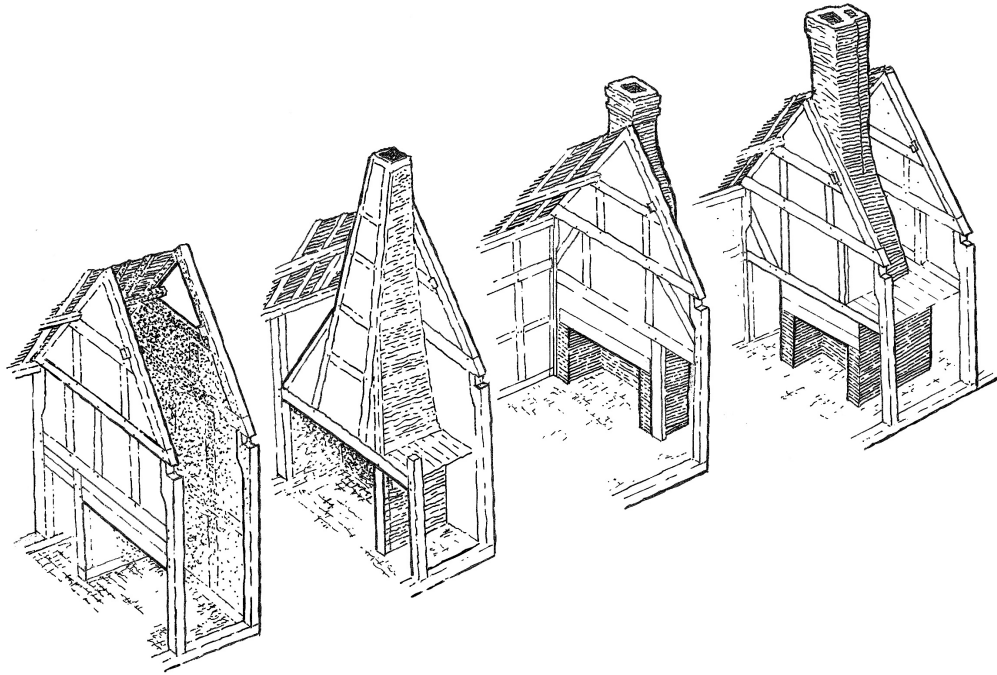


Fig 14 **Smoke control after the open hall.** From left to right: a smoke bay, a smoke hood, an external (end) chimney, a chimney within a half-bay (which can be an end or central chimney). Drawing by Martin Higgins after Harris (1993, 28).



Fig 15 **Wanborough Great Barn, 1389**, a spectacular crown-post building often open to the public (contact Guildford Museum for opening times).

CROWN-POST ROOF: an often decorative but complicated roof structure. A single post rises from the centre of each tiebeam up to a central purlin running the length of the roof, and which carries the collars (fig 13). They are hard to visualise and are best seen. That at Wanborough Great Barn is spectacular (fig 15). Charlwood parish church has two, easy to visit. Godalming Museum, opposite the ‘pepper pot’ in the centre, has a fine example on public view. Details of these buildings can be found in the Gazetteer.

CLASPED-PURLIN ROOF: a later form of roof with two purlins, one on either side, running longitudinally, supporting the rafters halfway up (fig 12, Brief Glossary). The purlins are usually kept apart by horizontal collars, which support and clasp them against the principal rafters.

BUTT-PURLIN ROOF: the purlins are tenoned into the principal rafters rather than being clasped against them. The purlins can be ‘in-line’ or ‘staggered’, the latter having the purlins at different levels in different bays, to spread the weakening effect of the mortices.

WEALDEN: an open-hall house in the Wealden style (figs 16, 22, 28). This is an impressive medieval fashion, with both ends jettied forward, but the roof plan is kept rectangular by means of a flying wall plate over the front of a recessed centre.

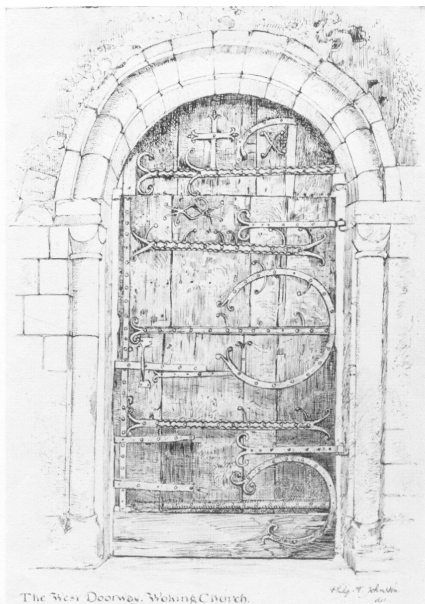


Fig 16 **Crown Inn, Chiddingfold, 1440**, perhaps the finest of Surrey’s Wealden-style houses with much to see in the public areas.

PART 2 – SURREY TIMBER FRAMING THROUGH THE CENTURIES – A BRIEF HISTORY

The Project objectives have been described in Part 1. The fundamental aim was to map the development of the timber-framed buildings of Surrey, area by area, century by century. Part 3 is concerned with detailed analysis. It explores the different features of building carpentry that evolved, including the details of layout, roofing, walling, and carpentry detail. These aspects developed independently of each other, and are difficult to place together in a timescale.

This chapter puts forward a simpler chronology, an overview of the main changes, set in sequence, but is not intended to provide a detailed explanation of why the changes occurred. There are, however, some comparisons with the counties that border Surrey: Hampshire, Sussex and Kent. To put it into context in terms of wealth, Surrey ranked 28th out of 39 counties in the early 14th century. Hampshire and Sussex were at a similar level. By the beginning of the 16th century Surrey had increased to 5th nearly matching Kent in 4th place, but leaving Hampshire and Sussex behind (Schofield 1965). Proximity to London played a part, but there



WOKING : early-12th-cent. Ironwork.

Fig 17 **The Great Door at St Peter's church, Old Woking**, 1114 (modal date). Four Norman planks are encased in remarkable medieval ironwork. (Johnston 1913, facing 76)

were many factors and the findings from the Project will raise many questions for further research.

The Project was concerned for the most part with houses but occasionally, because of their relevance in some way, or simply because of strong local interest, other building types were included. This was in accord with the advice of the Heritage Lottery Fund that the Project should involve local communities in their histories. These buildings are discussed further in Part 3, 'Other building types', but some are included now in this chronology.

The 12th and 13th centuries – the earliest datings

The Project team is always being asked what was the earliest dating found. It was in one of these non-domestic buildings, not the building itself, but a door. St Peter's church in Old Woking has a remarkable door with ornate C-straps and rare medieval ironwork (Geddes 1999). Originally, it had a rounded top in the Norman style that has been cut off at some time, but remains in place, unhinged. The main door is made up of four great oak planks of differing widths, and there had been speculation that the door could be Norman in date. Such planks could not be cored in the usual manner, so the dendrochronologist, with great ingenuity, set up a scaffold tower and sanded the top edge, exposing the tree rings. With the aid of a special jig and a travelling microscope, he measured the ring widths *in situ*. It was thrilling when a Norman date was indeed found, within the range 1106–38. In this case the extra precision of a 'modal value' is justified (see 'Dates in the text' in Part 1). The calculation gives a most likely date of 1114, just a few years into the reign of Henry I, William the Conqueror's third son. There are more details, including a comparison with other ancient doors, in Part 4, the Gazetteer (listed under Woking).

Another very early date was found some years ago. The sole surviving accessible arcade post, once forming part of the aisled hall of the Bishop's Palace in Farnham, was dated to after 1180 with an estimated likely date of *c* 1200. It is a great cylindrical timber arcade post, moulded at the top, now hidden away in a cupboard, but well worth seeking out.



Fig 18 **Great Door at St Peter's church, Old Woking.** Andy Moir measuring the tree rings, having sanded down the top edge to expose them.

THE EARLIEST HOUSE

Houses surviving from the 13th century are rare indeed, but the Project found one, Forge Cottage, Dunsfold, and dated it at 1254. It is now encased in Georgian brick and only the high roof hints at its age. Inside, it is an exemplar in very early carpentry. It was aisled, with one of the carved arcade posts remaining. The roof is scissor-braced. Investigation uncovered evidence of dragon ties, parallel duplicate bracing, notched lap joints, horizontal spandrel struts, heavy straight square-section braces, and much more. It stands inconspicuously on the Green next to the public house, unnoticed by most, while archaeologists marvel at its survival (fig 20).

Forge Cottage may be the oldest dated house in Surrey, with only one other thought to be as old or older: the undated Old Court Cottage, Limpsfield (Mason 1969, 91), but there happen to be two more remarkable survivals, both just 2 miles over the Sussex border. They have both been tree-ring dated: Chennelsbrook Farm, Horsham, 1296 (*ibid* and Hughes 1997), and Warhams, Rudgwick, 1220m. They fit the classic pattern for the times: grand aisled halls with columnar arcade posts and carved capitals. Braces to the tiebeams were joined to the posts with short 'spandrel struts'. Both roofs



Fig 19 **St Peter's church, Old Woking.** Top part of the Norman door.

are common rafter, though that at Chennelsbrook has an extraordinary open truss with base crucks. Both have parallel duplicate bracing, spandrel struts, and heavy straight square-section braces. Chennelsbrook has dragon ties. The only other 13th century building near Surrey is West Court Barn at Binsted, 1296m, which is just inside Hampshire. It also has an impressive list of archaic features. The main house on the site is slightly later at 1315.

The design and decorative carving illustrate the importance of these houses. The substantial timbers and quality of the carpentry have contributed to their survival, but they cannot be described as representative of the housing of the time, very little of which is still standing.

THE OPEN-HALL HOUSE

Forge Cottage was an open-hall house. 'By the middle of the thirteenth century, perhaps even by 1200, a consensus had largely emerged about the organisation of domestic space' (Gardiner 2008, 37). From then onwards, for the next 300 years, almost every house in England well enough built to have survived was constructed with three fundamental elements: the hall, the parlour bay and the service bay (figs 13, 34). The ideal was an organised, hierarchical space, not only expressing the good order within the household, but one that could immediately be recognised and understood by any visitor. The tripartite plan therefore served the purpose of both peasants and their lords and could be adapted into any size of building.

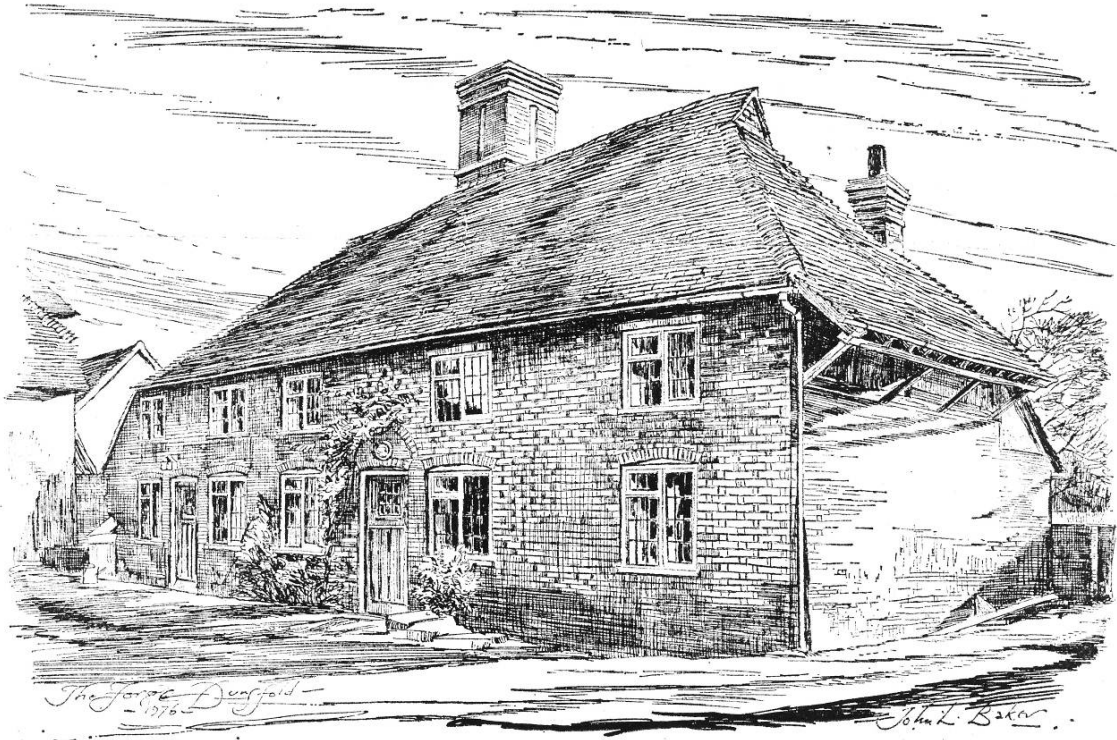


Fig 20 **Forge Cottage, Dunsfold, 1254**, Surrey's earliest dated house. Georgian brickwork conceals an ancient aisled hall. The illustration shows how the roof at the rear comes down over the remaining aisle to little more than head height. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.



Fig 21 **Greens Farm, Newdigate, 1309**, with a soaring roof and giant crown posts - the earliest such posts dated by the Project. The wing to the right is newer, as is the chimney and pentice roof along the front. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

The hall with its open hearth provided a working and living space that could be productive and ceremonial, with a high degree of surveillance and controlled access. It was the main space in the medieval household where guests were received and meals consumed. With a high end (next to the parlour) and a low end (next to the services) – all clearly visible in layout, decoration and use – it reinforced a patriarchal, hierarchical system (Grenville 2008, 109). Initially, the hall would be of two bays, separated by an open truss, emphasising the architectural space and the division between the two ends.

The 14th century – less spectacular houses, but survivors, built to last

The 14th century saw more domestic dwellings built to last and indeed surviving to this day. They are all open-hall houses, but we do see the introduction of the crown-post roof. At last, medieval carpenters had found a way to brace the rafters against each other without relying on the battens to keep them apart. In many parts of England, the crown post appeared just before 1300, but the earliest dated example in Surrey is Greens Farm, Newdigate, 1309 (fig 21).

Although it can be difficult to establish the size and structure of medieval households, it is suggested there is a tendency from the early 14th century for households to manifest themselves as simple rather than extended families (Grenville 2008, 111), but there were variations. For example, remarriage, or several of them, often resulted in complex family arrangements. The Black Death in the mid-14th century is estimated to have reduced the national population by around 50%. The effects varied across Surrey but many farms were left abandoned, there was a shortage of labour and the relationship between landlord and tenant was altered considerably.

Initially, there was some recovery of activities after the first few years, for example in Farnham (Robo 1935, 208–227), but further outbreaks of disease occurred. These tended to be more localised in nature but when the plague returned throughout the country in 1361, it led to a disproportionate number of deaths among the young. This may have been as a result of resistance among older plague survivors (Kelly 2005). It had a significant effect on demographic recovery and left a variety of surviving households, with many lacking any conjugal structure. The overall population did not recover for centuries and it did not stabilise until

about the 1420s with the recovery of the standard family model (Klapische-Zuber 2000, 124–154). Perhaps surprisingly, there are some surviving, well-built farmhouses dating from this time. All were built as open-hall houses, but were less likely to be aisled. Many are substantial but Ketleas, Capel, 1389, is an open-hall house of only two bays in total, one open and one floored.

In timber-framing terms, apart from the crown-post roof, there was little that was new. The jowled post had arrived, a beautiful three-way joint that would continue in use for 300 years. Many of the so-called ‘early medieval’ features were still in frequent use. Until about the middle of the century, braces were functional, heavy, straight and square section, rather than elegantly curved, as they were soon to become. Braces to the tiebeams were joined to the posts with short ‘spandrel struts’. Scarf joints were often ‘splayed and tabled’, giving a Z-shaped joint with the splendid name ‘Trait de Jupiter’. The common-rafter roof stayed in use throughout the century and even beyond, despite its manifest weaknesses. Its new rival, the crown-post roof, did not become ubiquitous for most of the century (fig 69). It would seem that the simplicity of the common-rafter method kept it popular, at least in lower-status buildings, where the availability of advanced carpentry skills may have been limited.

Notwithstanding the shifts in wealth and status, it seems to have been a conservative century in building terms. In all the circumstances, this is perhaps to be expected. Methods start to move forward in the next century, particularly in the west of the county.

The 15th century – the slow beginnings of radical change

At the beginning of the century, early features such as aisles, pointed doorheads and spandrel struts fell out of use. The DBRG’s founder, Joan Harding, was correct in saying that these features are a good sign of a building being pre-1400. Once into the 15th century, carpentry traditions in Surrey were to stay quite stable, with some notable exceptions. Surrey builders seem to have been reluctant to change: even developments in neighbouring counties were slow to cross the borders. Examples and possible reasons for this are explored in Part 3.

The open hall was still central to the life of the household, the great communal tradition living on. A fire burnt constantly in the middle of the hall, with the smoke drifting up to the roof timbers. On the way, it would pass meats hung for smoking

before drifting out through the tiles or the ‘gables’ of a hipped roof. Sometimes a smoke louvre on the ridge would direct the smoke and add to the efficiency, but their survival, or evidence of them, is rare.

It would seem that after about 1430 building activity increased, especially in the towns (Roberts 2010, 191–3, and fig 10). Buildings deteriorate rapidly when unoccupied; it is suggested that perhaps half of all occupied houses of the 1340s had become empty and derelict within 100 years (Dyer 2000, 133–65). This could explain the increased building rates after 1430, with buildings being replaced when the population finally stabilised after the Black Death and subsequent plagues. It might also help to explain some building changes that started to take place around the same time. One particularly noteworthy change is that after 1440, in Surrey, some houses started to be built with a hall of only one bay, instead of two or more (fig 33). Smaller, poorer-quality houses are less likely to have survived the devastation caused in the 14th century, so it is not surprising that new buildings varied in size according to resources and requirements.

There had been an enormous rise in the cost of timber between the mid-14th century and the mid-15th century (Salzman 1952, 209). The smaller house would have been more affordable, but might also be a reflection of changes in household size and structure. Household requirements and cost may therefore have influenced the choice of the number of bays of the hall, but individual preference of style may also have played a part. The two-bay hall with an open truss, open to the roof, created an impressive space within the house, and for some this may have been a priority.

Whatever the reason, the one-bay hall became equally as popular as the two-bay hall, although the proportions vary across the county with the one-bay hall being more prevalent in the west of the county (Gray 2002, 16). This change of style in about 1440 is one of the few indications to help archaeologists trying to date the houses of this period. Much later, about 1500, the two-bay hall almost dropped out of use, which is another useful dating guide. It may also be an indication of a further tendency away from a larger, communal household (Coward 1997, 13).

Another change in style, that of wall braces, also showed that preferences varied. Down braces (sometimes called ‘tension braces’) started to appear around the same time as one-bay halls, but

the old style arch braces also continued. The two bracing methods then stayed in parity of use until the middle of the next century (fig 57). Because down braces are not found before about 1440, they are another tangible feature that gives a clue as to when during the century a house was built.

Open halls were sometimes augmented by overshoot cross entries. They gave more space in the hall and are nearly all post-1440 (fig 60). Although they do appear in two-bay halls, they were making their appearance with the advent of one-bay halls where the additional space might be needed. Internal jetties at the high end also gave a little more space in the hall without sacrificing space in the upstairs chamber. They are not always easy to identify in buildings that have been modified and more are still being discovered.

In general Surrey’s houses were not ostentatious. The county for the most part was uninfluenced by the more ornate buildings of Kent. Kentish end jetties are absent in Surrey apart from the eastern fringes close to Kent. The cross wing, often used to give more private accommodation in Kent, is unusual in Surrey. Nor did Surrey practice follow much of the constructional progress of Hampshire. As will be seen, Hampshire’s new roof trusses were rarely adopted at this time.

The ‘Wealden’ houses of Kent and Sussex are a fine feature of vernacular architecture. They were a stylish fashion for a substantial house, with both ends jettied forward, but the roof plan kept rectangular by means of a flying wall plate over the front of a recessed centre. They are thinly spread into Surrey, and even then for the most part can only be found in the ‘Low Weald’ areas to the south. Some of them, such as the Crown in Chiddingfold (fig 16), the Guest House in Lingfield (fig 28) and Brewerstreet Farmhouse in Bletchingley (fig 22) are outstanding examples, but Surrey appears to have had far fewer of them than its neighbours. Surrey’s Wealdens are mostly late, two-thirds of those tree-ring dated being in the last third of the century, with the Crown being the earliest in 1440. In Kent, they are found more evenly spread throughout the period. Looking at the South East as a whole, most of the later dates found so far for Wealdens are in Surrey, notably Rose Cottages in Lingfield at 1499. Leaving such fine structures aside, it can be seen, once again, that the Surrey vernacular at this time was for simple, unadorned, mainly crown-posted houses, with one-bay or two-bay open halls. Perhaps with Surrey’s heavy clay lands, slow to be enclosed, priorities lay elsewhere.



Fig 22 **Brewerstreet Farmhouse, Bletchingley, 1491**, a variant Wealden house of unusual riches and design. Note the forward-facing gables, full-height close studding, ‘Horsham’ stone roof, ornamental barge boards and arched doorhead. The farmhouse was rescued from dilapidation by the owner. Photograph by Patrick Moyle.

The situation was strikingly different in Hampshire. Crown posts had already gone out of use and their builders had switched to various forms of clasped-purlin structures: first the crown strut, then the decorative fan truss, and then the queen strut that was to become ubiquitous. In Surrey barely any account was taken of this apart from in the western fringes of the county, in the Hundreds of Farnham and Godley. Dominated by the Bishops of Winchester and the Abbots of Chertsey, these western areas of Surrey were quite different, and their building styles more closely followed those of Hampshire. The ecclesiastical holdings were extensive and the influence of their master carpenters would have been strong. They were pioneering in many ways, not just in roof structures, but also in a number of carpentry details. Rather earlier, in 1393, the magnificent hammer-beamed roof of Westminster Hall had been fashioned on the Bishop’s land in Farnham, providing evidence of a skilled heritage.

In this western area if a building has a crown post, the rule is it is probably dated before 1400. Elsewhere in Surrey, the tradition persisted and the crown-post roof continued longer, so that this

crown post rule has to be shifted almost a century later. The changeover to side purlins in the rest of Surrey is quite abrupt. They are therefore a quite reliable dating feature leading to the rule of thumb that if a roof has a crown post in all but the west of Surrey, it is before 1500. Correspondingly, one can almost say that if it has a side purlin roof, it will be after 1500. The difference is remarkable and the boundaries, if not exactly crisp, are quite clear.

Apart from this aspect of roof construction, other aspects of timber framing were quite uniform across Surrey throughout the 15th century. Principal posts were jowled; wall panels were large; scarfs were side-halved and chamfers had flat step stops, sometimes with a trace of the curve that would come later. First-floor joists were laid flat rather than edge-on. Experienced carpenters must have known that joists are stronger edge-on, but with good strong oak it did not matter. It is also true that they appear more impressive when laid flat.

Good-quality timber framing can never be described as plain, but Surrey houses of the time were largely without ornamentation. There are moulded dais beams and timber-panelled high-end



Fig 23 **The open-truss crown post at Brewerstreet Farmhouse, Bletchingley**, is particularly fine with an octagonal shaft, base and capital. Photograph by Patrick Moyle.

screens, but not many, at least when compared with Kent. Nor is Surrey well furnished with close-studded houses, Brewerstreet Farmhouse being a quite rare example (fig 22). Most that remain are near to the Kent or Hampshire borders, perhaps influenced by their neighbours. Surrey timber framing may be unremarkable, but it is not without its own character. There is less ‘black-and-white’ architecture than is seen in some counties. More often, timbers and bricks are left unpainted, and allowed to weather naturally. Tile hanging abounds and is very much a feature (although not a part of the original construction).

Once again, it had been a troubled century. The French wars continued and the Wars of the Roses dominated the period 1455–85. These required support, both physical and financial. They also interrupted trade, especially the cloth trade, which was so important in Surrey. Despite this and a nationwide recession in the middle of the century, there were always some who prospered and those who had the means and the need to build a house.

English architecture branched towards the simpler, cleaner lines of the Perpendicular Gothic style. Under royal patronage Eton College (1440) and

Kings College Chapel, Cambridge (started in 1446) were built. The skilled craftsmen were also at the disposal of noblemen and bishops and worked on ecclesiastical buildings, castles and manor houses. Medieval guilds had been established to restrict activities in the name of ensuring high standards and high-quality work. Carpenters formed a profession largely based in London but their expertise and experience was felt throughout the country influencing provincial guilds in towns everywhere. For those who could not afford master carpenters, local craftsmen, less likely to adopt innovative practices, continued the local traditions.

Towards the end of the century, there started to be signs of the wide-ranging changes to come in the design and construction of timber-framed houses. ‘Floored halls’ began to be built, in Hampshire in particular, along with new methods of smoke control. Hampshire’s clasped-purlin roof structures started cropping up all over Surrey, albeit at a slower rate in the deeper Wealden areas. Soon, new types of timber joints were to appear and even chamfer stops were to change. But in 1500, much of this was in the future for the Surrey carpenter who, for the most part, kept building in the long-established way.

Although there were no major innovations during the 15th century in Surrey (unlike in Hampshire), there was a cluster of new ideas dating from the 1440s. There is the one-bay hall, the overshot cross entry, the down brace and the Wealden house (new to Surrey at least, on those dated so far). The Hampshire innovations are also from about the same period. There, the clasped-purlin roof emerged into common use, developing in an area where full cruck frames were used, for which side purlins were ideal. More to the South East, roof styles were influenced by Continental models (Meeseon 2012, 58–75). Cruck frames were not used and the crown post became the standard.

The reasons for carpentry changes around the middle of the century are unlikely ever to be known. Changes sometimes appear to take place in little clusters at particular times. It may have been due to individuals innovating at random or new ideas being taken up. Some periods seem to be pioneering, while others show little evidence of change. Influences can spread from adjoining areas, but how new ideas originate and gather strength can only be surmised. With regard to this century, the possible influence of the medieval guilds and the architectural patronage of Henry VI are mentioned above, as has the possible delayed influence of the Black Death. Whatever the



Fig 24 **Sumners, West Horsley, 1449**, appears to be a typical medieval open-hall house. They usually sit ‘fat and comfortable’ in the landscape. It has quite low walls, but an expansive roof with a fairly steep pitch, hipped at both ends with gables. Later buildings often give the impression of being ‘tall and narrow’. In detail, the house is less typical. There are down braces rather than arch braces – quite innovative at such an early date. In contrast, the roof is quite antiquated. It is not crown posted, as would be expected. It is a ‘common-rafter’ roof, a very simple construction rarely found at such a late date in a house of this quality. Only the battens stop the rafters from falling over. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

reasons, identifying the changes of practice around 1440 is one of the more noteworthy achievements of the Project.

The mid-15th century advances are interesting, but radical change in Surrey had to wait until the next century, when the county belatedly caught up with Hampshire.

The 16th century – a century of rapid change in building practice

The 16th century was to see great changes in vernacular architecture: from the medieval open hall to three-storey houses with chimneys, from simple heavy carpentry to quite sophisticated construction. Little of this was evident in the early years of the century. A few great houses were built around the country, notably Hampton Court, largely the work of Cardinal Wolsey in 1515. At a more domestic level, at least in Surrey, building rates appear to be unremarkable (fig 10). The county was also slow, unlike neighbouring Hampshire, to adopt

new methods of smoke control, either by means of a chimney or smoke bay (fig 37). A few buildings are to be found with chimneys of some sort from the beginning of the century, but for the most part open halls continued to be built.

In structural terms, the only notable change early in the century has been mentioned: the demise of the crown post (fig 45). It was replaced by the ‘clashed side purlin roof with queen struts and curved windbraces’ (‘queen strut’ usually being enough of a description). This much less attractive roof was cheaper and more efficient, preventing the ‘racking’ that happened when the rafters tilted sideways. It became the standard roof for the rest of the timber-framed period, and its influence can still be seen to this day. This new roof construction quickly led to the half-hipped roof, which goes naturally with side purlins. It also has the benefit of a little more headroom in the end chambers. Fully-hipped roofs are not found after about 1550 (fig 52).

By the early 16th century, a move away from the medieval household was already being seen. Even in larger houses, the relative importance of the hall, whatever its size, was diminishing, and that of the parlour increasing (Mercer 1979, 13). With the gradual move away from communal meals being taken in the hall, and a greater desire by the head of the household to be able to retire to a more private space, the medieval function of the hall was in decline. It was a gradual process as there was some reluctance to give up the hall as an architectural and status feature, even if no longer used in the medieval manner as a communal eating place for the whole household (Thompson 1995, 178). As has been mentioned, the two-bay hall is rarely found after about 1500 (fig 33), the smaller one-bay hall being better suited to these new requirements.

Another significant influence at this time may well have been the Reformation, which started in the 1530s. As Henry VIII broke away from the Roman Catholic Church, wealth was directed away from the Church, and house building was affected in a number of ways. The considerable challenge to the established Church contributed to a new freedom of thinking. Individual ideas were encouraged, a concept that was contrary to the traditional, medieval household. But this meant that the decrease in the importance of the open hall happened at different times in different places (*ibid*, 179–80). There were those who would be very aware of the fashionable innovations and some were more susceptible to their influence. The reluctance of Surrey builders to follow those in Hampshire had been clear in the previous century, and differences remained across the county.

Notwithstanding these trends, the changes in building practices after 1540 are remarkable in their scale and rapidity. This coincides with the Dissolution of the Monasteries, which took place between 1536 and 1540. Nationally, it brought about the largest shift in landholding since the Norman Conquest. The vast landholdings of religious establishments were returned to the crown with many then being granted to Henry's loyal nobles before parts were eventually sold on to anyone with sufficient funds to acquire the property. However, fewer than one-fifth of all manors in Surrey were owned by religious houses at the time. A rise in Surrey's freehold property transactions started during Henry VIII's reign and this steady upward trend continued after the Reformation and throughout the 16th century (Meekings 1946; Webb 1998). Building rates seem to rise (fig 10), although the Project's sampling was

focused on this important transitional period, so there may be some distortion.

The demise of the open hall is the most striking example of these new fashions (fig 32). No open-hall houses have been dated in Surrey after 1540 (fig 32). It would appear that anyone who built a house after that date would build it with some form of smoke control. If the new technology could be afforded, avoiding a smoke-filled room became a priority, whether it was for reasons of comfort or fashion or both. As some open-hall houses continued to be built in Hampshire after 1540, there must have been different priorities in different parts of the country.

Brick chimneys had been built in royal palaces and the houses of the nobility for some time, but bricks were expensive. A cheaper alternative was to build a 'half-bay' – a narrow bay to contain the fire – either in the centre of the house or at the end. This 'smoke bay' allowed the smoke to be contained, and for an upper room to be built above the 'hearth room'. These smoke bays were common from 1540, and were installed by many until about 1600 (fig 37).

Brick-built chimneys started to be constructed at the domestic level from about 1500 in small numbers and gained popularity after 1550. It had been thought that chimneys were usually later, after 1600 (Harding 1993), but it is now known that cost was a key factor. The technology and production methods of bricks gradually improved, increasing the local availability and reducing the cost, particularly that of transportation. By 1570, chimney houses appear to have been built in equal numbers with smoke-bay houses (fig 37). Fashion and style are also likely to have played a part in the use of chimneys; some were constructed into highly decorative patterns allowing a fashion statement to be made from a very functional feature. The Reverend William Harrison, writing at the time, tells us that what chiefly struck old men in his village in Essex, apart from the 'growing comfort and seemliness of internal domestic arrangements', was the 'multitude of chimneys, lately erected, whereas in their young days there were not above two or three, if so many, in most uplandish [that is to say 'provincial'] towns of the realm' (Harrison 1577). This quote matches well with the dendrochronology results shown in figure 37.

No smoke-bay houses have been dated after 1610. Some 'smoke hoods' can be found. These are quite like chimneys but are timber-framed with wattle-and-daub infilling, rather than being brick built.

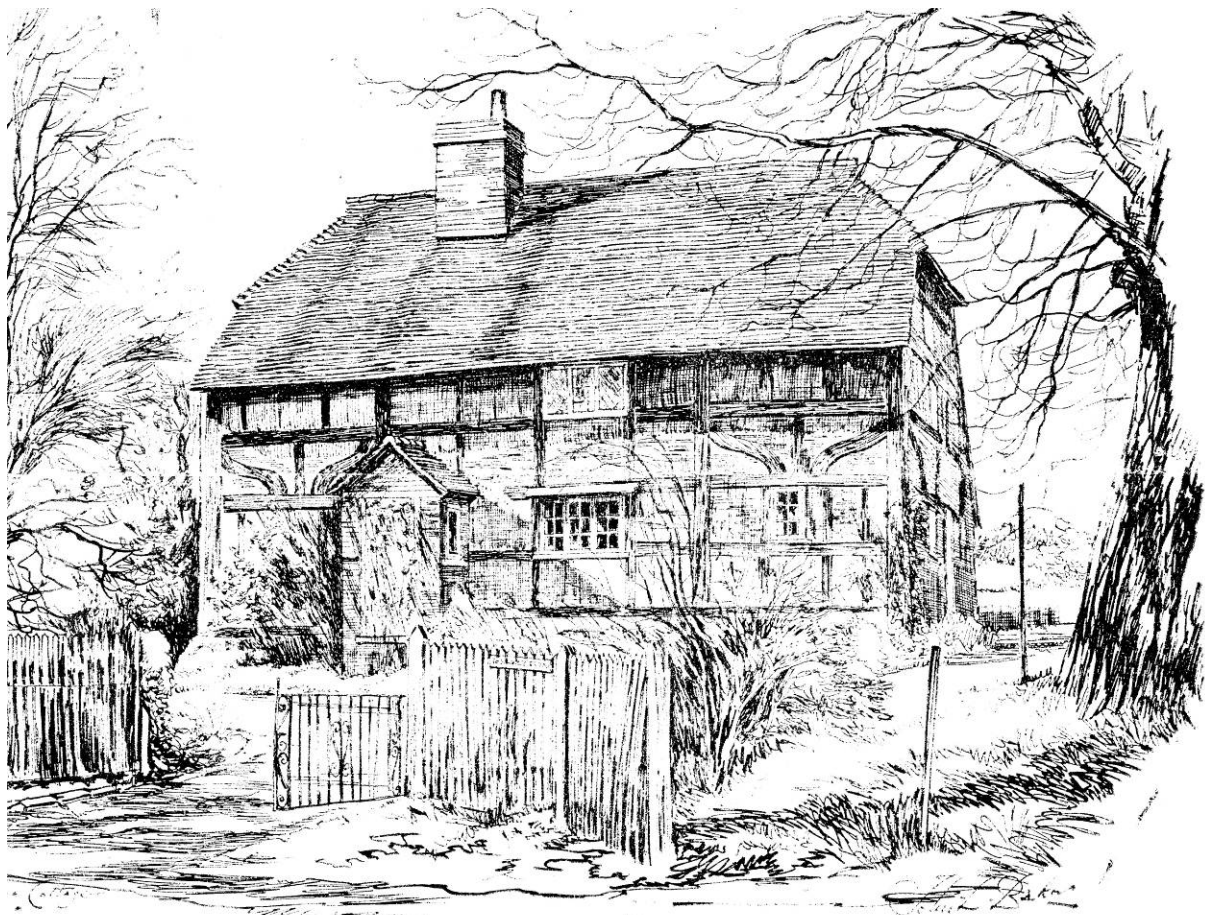


Fig 25 **Tunmore Cottage, East Clandon, 1573**, is an example of the transitional type of 16th century house on the way to a proper brick chimney. It has a smoke hood, a type of timber-framed chimney, in this case in the half-bay behind the porch, in the framing that now contains the later brick chimney. Notice the small, square panels, coming into fashion about this time, and the fine ogee braces, of which there are twelve, beautifully matched all round the building. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

They crop up along with smoke bays and chimneys from 1540 to 1600 (fig 37).

Whatever the building materials, smoke control meant that instead of open halls, there were single-storey 'hearth rooms', less grand but warmer and with the benefit of an extra chamber overhead. An efficient chimney allowed the use of coal, which generated more heat and reduced the pressure on the woodlands of south-east England. These had been severely depleted by the industrial development in the iron industry in Surrey and Sussex. However, there is little evidence that coal was being widely used instead of wood during the 16th century.

The owners of open halls may well have looked on with much interest as smoke bay and chimney houses were built around them, doubtless with many accolades. They gave less smoke, more warmth, fewer draughts and that extra chamber. Quite soon, these owners started to convert their open halls, building in smoke bays or chimneys.

Four examples of inserted smoke bays and smoke hoods are dated to the period 1541m–1564m, with just two later, 1594 and 1603m (fig 41). (Note that as the tree-ring dating in such cases has to be based either on the hearth bressumer or the timbers of the inserted floor, it is often difficult to get an exact date.) Some owners went straight to a chimney, two such examples in Charlwood both being dated at 1557m. This is remarkably early as, at that time, chimneys were hardly being used even in new builds.

In contrast, owners of houses with smoke bays seem to have been content with them for a while before converting them to chimneys. Three cases of conversion to chimneys were dated and were much later: 1622, 1669doc and 1691. The 1669 case is worth quoting in detail. Hilllands in Charlwood was an open hall originally and then at some time it had a smoke bay added. It belonged to Christ's Hospital, and in 1669 the tenant made a request to the governors that: 'whereas he hath a forrest chimney made up of lome and lath which was very



Fig 26 **Malthouse Cottages, Gomshall** (Shere parish), 1581, shows a very decorative style that flowered briefly in Elizabeth's reign. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

dangerous to use and apt to take fire [...] they would build him a brick chimney in the room thereof [...] to build the same for the lower room and a chimney to serve the upper room wherein there is none at present' (Guildhall Library, MS 128834); £5 was given to him for the work. Several generations managed to live in this house with its 'lome and lath forrest chimney', while others all around them were moving to brick.

Less immediately obvious changes also came about after the middle of the century and gathered pace during Elizabeth's reign (fig 31). The appealingly named 'diminished haunch tenon' joint came into use for attaching ceiling joists to spine beams or girding beams. This was a simple but effective innovation, strengthening the simple tenon by means of the haunch and making it less likely to twist in its mortice. Simpler roof structures enabled attics to be built to use the roof space (fig 42). This sometimes brought about the ingenious 'dropped tie' structure, whereby the tiebeam was dropped below the level of the wall plate.

Certain developments may have reflected some sections of society increasingly seeking to demonstrate their wealth and status. The first ogee braces came into use (fig 25, Tunmore Cottage). This presaged the most dramatic fashion of all, the

habit of adorning the fronts of timber-framed buildings with complex patterns of squares and circles. Surrey has a few examples, mostly in the area around Godalming. The Project dated three: 1 Church Street, Godalming; Malthouse Cottages, Gomshall (Shere parish, see fig 26); and Jordans, Shackleford. There is a fourth example, Great Tangle Manor, Wonersh, which is dated not by dendrochronology but by inscription on the corbels of a very ornate frontage. The first two mentioned are easy to see from the road and all four are tightly clustered in date, 1571–82. In Surrey at least, it was a brief fashion in comparison with other places such as Shropshire where it continued into the early years of the 17th century (Moran 2003, 83). Such frontages must have been very difficult to weatherproof and maintain. Owners making extravagant statements were unlikely to take much account of the cost of maintenance, but it may explain why the style was short-lived.

It takes 100 trees or more to build a timber-framed house (Varlow 2015). Concern had been growing for some time about timber supplies. In 1543, Henry's parliament had tried to take action, passing a 'Preservation of Woods Act' (Acts of Parliament: 1543 35 Henry 8, c.17). The opening words of the act make the purpose clear:

The King our Sovereign Lord perceiving and right well knowing the great decay of timber and woods universally within this his Realm of England to be such, that unless speedy remedy in that behalf provided, there is a great and manifest likelihood of scarcity and lack, as well of timber for building, making, repairing and maintaining of houses and ships and also for fuel and firewood

This may not have had the desired effect as in 1581, a similarly named act was passed (Acts of Parliament: 1581 23 Elizabeth 1 c.5) and another in 1585 (Acts of Parliament: 1585 27 Elizabeth 1 c.19). All these Acts were essentially concerned with restricting the felling of oak trees.

Some of the willingness to experiment that was evident in this century was turned to good use in this regard. New methods saved both money and scarce timber. Flat-laid joists had been replaced by square or edge-on joists in the period 1540–60 (fig 62). Soon after, quite abruptly, windbraces changed from curved to straight (fig 55). Timbers in the roof were less visible, now open halls had gone, so functionality was what mattered and straight braces worked just as well as curved. Furthermore, they were much easier to source and manufacture. It took longer for curved braces in the walls to be replaced by straight ones (fig 57) even though the science is the same. Curved wall braces look attractive and are very visible on the front of a timber-framed house, a style it seems owners wished to continue, at least for a while. They did not start to be replaced by straight braces until about 1580, a generation after straight windbraces arrived. Even after that time, curved wall braces remained the more popular until the end of the century and eventually they stopped being used, about 1610. Meanwhile, a few arched braces (rising up from the posts rather than downwards) could still be found, but their use had been in decline since the middle of the 16th century and fell out of use by 1620 (fig 57).

The economies continued, with braces of any kind sometimes being foregone. This is the fashion called ‘small square panels’. They were quite regular, about 1m square, and needed more timbers, but most of these could be slim and short. A frontage constructed in this way is attractive and straightforward in carpentry terms. Their period of use starts at about the same time as the ornate squares-and-circles panelling (fig 58) and they may have been a ‘poor man’s’ version. Perhaps the most regrettable of the economies, enforced or otherwise, was the demise of the jowled post, which slowly fell out of favour during the latter half of the 16th century (fig 63). The hugely appealing three-way

joint had served timber framing well since about 1300, so this marked the end of a very old tradition. However, posts without jowls were easier to make and used thinner timbers. Posts without the teasel tenon into the tiebeam seemed to work just as well, provided the rest of the joint was well made.

Yet another change in this fertile period was the arrival of the raking-queen-strut roof. It came into use during Elizabeth’s reign, without ever quite replacing the normal queen strut (fig 45). It did not need collars, which was a small simplification at little cost in building strength, and saved timber, but otherwise did not have much in its favour.

This was not the end to the changes in this century. Before the Project, Surrey’s vernacular architecture experts talked of ‘17th century features’. The Project showed that many of these started earlier, in the late 16th century. The tree-ring dating for the period has brought about some quite dramatic reclassifications. Previously, Barrow Green Court, brick built, was thought to be ‘Jacobean’, having been expertly dated on stylistic grounds to early–mid-17th century. Tree-ring dating (from the roof timbers) showed it to be built in 1594. It can now be accurately described as ‘Elizabethan’. Manor Cottage, Betchworth, 1589, was also brought back to the earlier century, an unexpected result for the chairman of the DBRG, the then owner. It was all summed up in the joke within the Project: ‘The 17th century started early in Surrey’. It was quoted often, during the Project and since, as a reminder to be careful when trying to date houses of this period.

Several of these features formerly dated to the 17th century have been mentioned already: posts without jowls, raking queen struts, small square panels, and a habitable third storey. All arrived at least a quarter of a century before 1600. Gables had always been used on the front of cross wings and on the walls with flues of one sort or another, but they became quite common by about 1580 on all end walls (fig 52). Even lamb’s tongue chamfer stops, almost a 17th century signature, were becoming quite prevalent by 1580 (fig 64). Glazed windows (at the vernacular level) and plastered ceilings arrived about the same time.

Quite apart from tearing up previous timber-framing dating guidelines, the Project has made it clear that Elizabethan village carpenters and builders advanced the design and framing of domestic buildings in Surrey to a remarkable degree. The many social and economic changes influencing this provide great scope for future research.

The 17th century – gradual modernisation as timber framing declined

Following the flurry of building innovations towards the end of the 16th century, in the 17th century, in Surrey at the vernacular level, advances came slowly. Shortage of wood had an effect on the choice of building materials, with existing timbers often being reused. A series of Acts for the preservation and management of timber that were passed during the 16th century has been mentioned; these continued in the 17th century. Transportation costs affected the availability of materials and the evidence of the 5-mile haulage limit for vernacular building materials exists everywhere (Mason 1973, 24). The increasing use of brick for ordinary domestic buildings slowly became more usual by about 1630. Glass in windows became more widespread about the same time, held in wrought-iron casements in wooden frames, and replacing simple timber, unglazed windows with shutters. Timber framing lingered on in domestic buildings until about 1700, and longer in agricultural buildings.

Brick making, especially on a local scale, became commonplace. It allowed proper brick chimneys to be built everywhere and brick gables simplified

roof building. The queen-strut roof was prevalent, although principal rafters changed slightly, the ‘diminished’ type being replaced as the century started. Now the principals were just notched to take the clasped purlins more simply. This is another of those changes that was surprisingly rapid. It meant less cutting for the carpenters, even though assembly would be a little harder. Now the purlins had to be fitted under the principals rather than just dropped into place.

One neat innovation was the staggered-butt-purlin roof. Butt-purlin roofs of the in-line type had been used in higher-status buildings for a long time and now came into use quite commonly. They were used in parity with the queen strut roof until the latter half of the century. The difference was that in ‘staggering’ the purlins, making them at different levels in different bays, it spaced out the mortices and weakened the principal rafters less. Again, this may have been brought about by the need to use timbers of a smaller scantling. There were some developments that were principally decorative. Ovolo moulding sometimes brightened up the timbering of the now frequently glazed windows. Oriel windows had come into use even in some otherwise unexceptional houses, whether in town or



Fig 27 **Volvens, near Ockley** (Abinger parish) 1623. A textbook example of a higher-status 17th century house, with a central chimney, a forward-facing gable, small square panels with short straight braces, oriel windows and a pentice roof. Drawing by John L. Baker, reproduced courtesy of the *Surrey Advertiser*.

country. Bay windows, sometimes two storeys high, adorned grander houses even quite early in the century.

Notwithstanding these developments, it seems to have been an unremarkable time for changes in building methods in Surrey, with the obvious exception of brick. Elizabeth's stable rule saw building craftsmanship progress in a way that was not repeated under the Stuarts or during the Commonwealth. This is not at all surprising, given the many political instabilities of the 17th century and the savage Civil War. In Surrey there was a sharp decline in its cloth industry and the plague was endemic in many parishes.

The 18th century – houses in brick not timber

The story of brick houses in Surrey has been well told (Howard 2001). These are the styles known to most of us as 'Queen Anne' or 'Georgian'. Brick facades, often symmetrical, were enlivened with string courses, dentils, modillions or parapets. Windows were now vertically sliding sash windows. Against this background, new timber-framed houses had become rare. Legislation for the rebuilding of the City of London after the Great Fire in 1666 prohibited the use of timber on the outside of houses (1666 Charles II, 'An Act for rebuilding the City of London'). Once the style had filtered out to Surrey, unless a house was built of brick or stone, it looked old-fashioned and was deemed dangerous. The Project dated just one, Pagewood Cottage, Charlwood, 1705. It is a picturesque little house with a chimney on the rear wall, all very much in the 17th century manner.

Barns continued to be timber framed and would be so until modern times. The Project dated one from this period, Great House Barn, Hambledon, 1751. It is impressive: 42m with a cat-slide roof, a dramatic sight in front of Great House. Under its extraordinary length, it shows a selection of the features one would expect of this and the following centuries: queen struts, raking queen struts, staggered butt purlins and a very few straight windbraces. The only novelty is the face-halved and bladed scarf, which had at last replaced the side-halved and bridled scarf. Once more a simpler form supplanted the efficient but complex joint.

Other new features were on their way in. Roofs had a ridge board along the top, instead of just pegging the rafters together. Before this, carpenters preferred to use a good, strong, rafter junction at the top, and then to rely on the purlins to keep the rafter pairs upright. Apex-suspended king posts became more common. Developed from earlier

arrangements where the king post was supported by the tiebeam, this innovative design had the king post supported by the rafters (which act as a simple arch) and the tiebeam actually held up by it.

The Project dated a remarkably early prototype at Place Farm, Bletchingley, 1547, once the gatehouse of Bletchingley Place (see 'King-post roofs' and 'Brick or stone buildings' in Part 3, and the Gazetteer). With further developments, the king-post roof was later to become the mainstay of many Georgian and Victorian buildings.

It would be good to explore these later features more by using dendrochronology. Even brick buildings can be dated by using the roof timbers. The Project dated one, the brick-built Rowhurst, Leatherhead, 1632.

The Master craftsmen

It is impossible to work among these ancient buildings without developing a huge admiration for their builders. The buildings were usually over-engineered, using much bigger scantling timbers than were necessary. They may not have understood the mathematical theory behind the geometry and structural engineering, but the results have to be admired. They learned from experience and knew that oak should be felled in the winter, before the sap begins to rise, as then the timbers last better. Dendrochronology has confirmed this winter practice as even the season of felling can be detected, not just the year. Skills were needed in selecting the standing trees to provide timbers, in the felling and in converting the timber. Their buildings were prefabricated, labelled ready for erection, each joint meticulously cut and tested using basic hand tools like the axe, saw, adze and auger. With more than 100 trees needed for a house (Rackham 1972; Varlow 2015), it was onerous and difficult work.

They had no lifting equipment beyond a simple tripod hoist. On many houses, the original 'hoisting slots', cut into the timbers during the construction, can still be seen. Through all this, they contrived to construct buildings of beauty and long-lasting strength. Their memorial is in the buildings we study. Our science complements their endeavours by helping us to understand, interpret and admire their achievements. It is a privilege to be able to use dendrochronology to explore and calibrate their work.



Fig 28 **The Guest House, Lingfield, 1474**, is a stunning example of the pleasures of traditional timber-framed buildings. It is in the Wealden style, with jetties, a bridged-over centre, close studding, and a Horsham stone roof. It may have been the hospitium for a monastic college. The interior is just as beautiful, with a rich open truss. It is a public library, so open to all. It has been restored, but the masterful carpentry shines through.



Fig 29 **Taylors, Capel**, has pleasures of a different kind. It is extraordinarily picturesque and needed a combination of archaeology and dendrochronology to unravel its history: west wing (left), 1345; centre part, 1467m; east wing, 1642m. The Horsham stone roof and tile-hanging are very 'Surrey'.

PART 3 – AN ANALYSIS OF THE DENDROCHRONOLOGY RESULTS FOR SURREY’S TIMBER-FRAMED BUILDINGS

The basis of the analysis

The Project has been running since 2003 and has used tree-ring dating (dendrochronology) to date 167 buildings across the county. Together with datings by other laboratories, some documentary cases and pertinent datings on the fringes of neighbouring counties, this report covers an impressive total of 256 buildings. Furthermore, several of the buildings had more than one dated phase, increasing the data available. Against this, some of the datings were excluded for one reason or another – perhaps insufficient data or a type of building outside the main categories of the Project.

In the end, the total number of buildings used for most of this analysis is 177 ‘dwellings’ (that is, residential houses) in Surrey, this total including any additional dated phases. With other building types (for example, religious buildings, barns, detached kitchens) the total is 228. Figure 30 shows

the distribution of dated buildings. Apart from an inevitable shortage in the more developed areas, there is good coverage of the county. The map also shows that the Project succeeded quite well in covering all the timber-framing centuries, rather than concentrating on the medieval period. These remarkable numbers mean that the statistical results are well based and even small sub-groups usually contain enough data for valid analysis. It has allowed the histogram periods to be very short: decades. Note that these are labelled on the histograms only by the beginning year, for example 1540 meaning the 1540s, or 1540–49.

Notwithstanding the strengths of the work, it must be emphasised that any work of this nature requires that the conclusions be treated with an element of caution. Is the sample size large enough in any particular case? Is the sample representative of the subject matter? Have survival rates biased the

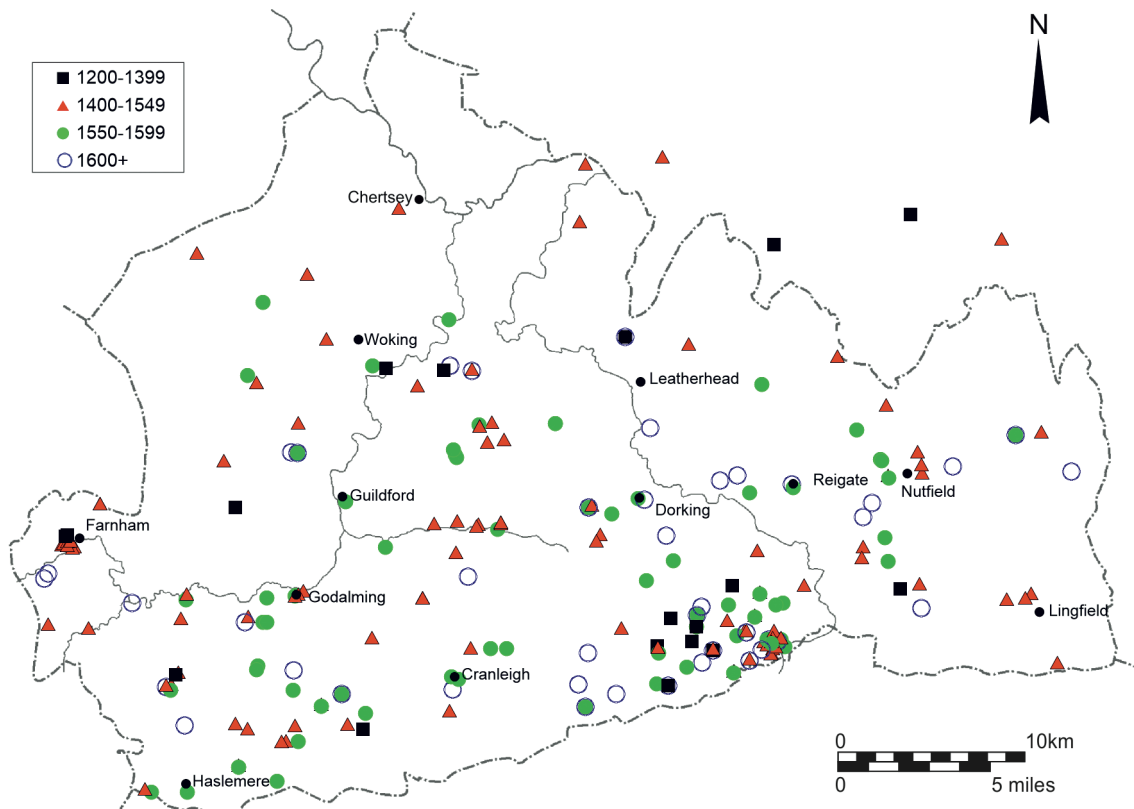


Fig 30 **Distribution of dated buildings**, showing date ranges. Low survival rates prevented the dating of more buildings to the north-east – towards Greater London – or for those built before 1400. Otherwise, there is quite a good spread by area and period.

results in any way? It is not thought to be necessary to be continually questioning the results given here, as they are laid out. They are believed to be sound in all essentials – but it is always possible that further work may contradict or refine them.

Most of the buildings studied are ordinary domestic ('vernacular') buildings, with only a few from higher social levels. The conclusions given do not necessarily apply to such buildings, which often show innovations earlier than humbler dwellings.

Very early buildings (before 1400) are considered separately, as they have many different characteristics. Similarly, the 'other building types' mentioned have separate sections at the end. Fig 31 shows the summarised conclusions of the analysis, the main 52 key features selected for special study, against a 1400–1700 'timeline'. Table 1 shows the background statistics, which can be used to check such things as the earliest and latest cases for each feature.

	Count	Min	1 Q	Median	3 Q	Max	Mean	Percentile Range	SD
Open Hall	85	1254	1347	1467	1546	1593	1461	199	58.5
Smoke Bay Central	18	1537	1540	1560	1608	1609	1570	69	23.0
Smoke Bay End	13	1544	1548	1578	1605	1607	1578	57	22.4
Smoke Hood	7	1539	1543	1571	1582	1582	1565	39	15.8
Chimney Central	27	1550	1551	1596	1688	1698	1606	137	42.4
Chimney Lateral	18	1503	1527	1588	1662	1705	1595	135	44.3
Chimney End	6	1547	1556	1604	1636	1642	1601	80	31.2
Open Hall 2 bay	44	1309	1342	1446	1544	1571	1452	202	58.7
Open Hall 1 bay	27	1389	1431	1494	1548	1552	1489	117	39.5
Wealden	9	1440	1442	1476	1497	1499	1475	55	20.7
Overshot Cross Entry	20	1436	1445	1481	1539	1541	1489	94	30.4
Internal jetty	12	1380	1392	1449	1540	1541	1454	148	48.3
Attic	27	1550	1555	1600	1687	1698	1605	132	39.6
Jettying	24	1391	1401	1523	1611	1642	1518	210	67.8
Hipped	61	1254	1338	1464	1554	1627	1461	216	62.7
Half Hipped	37	1430	1516	1560	1673	1705	1571	158	47.4
Gabled	74	1391	1443	1581	1657	1688	1563	214	66.1
Common Rafter	6	1254	1272	1398	1445	1449	1379	173	70.8
Crown Post	49	1309	1350	1446	1520	1534	1446	170	48.0
Crown Strut	5	1345	1356	1436	1474	1474	1427	118	52.9
Fan truss	4	1452	1454	1468	1468	1468	1464	14	7.8
Queen Struts 2	74	1436	1474	1555	1635	1648	1558	161	45.9
Queen Struts 3	14	1543	1545	1583	1622	1627	1581	77	28.5
Raking Queen Struts	18	1557	1559	1599	1672	1705	1602	113	34.9
Clasped Purlin -total	107	1411	1468	1560	1642	1705	1562	174	51.9
Butt Purlins InLine	13	1554	1554	1594	1633	1634	1595	79	27.5
Butt Purlins Staggered	5	1617	1625	1683	1696	1698	1671	71	31.9
Windbraces Curved	44	1411	1448	1538	1564	1602	1520	117	41.6
Windbraces Straight	42	1547	1552	1589	1637	1656	1590	84	24.3
Diminishing Principal Rafters	59	1411	1457	1552	1609	1642	1542	152	46.6
Flatways Rafters	81	1254	1346	1468	1574	1608	1468	228	65.3
Joists Flat	61	1309	1380	1460	1543	1557	1461	163	48.5
Joists on Edge or square	75	1503	1536	1583	1671	1705	1588	134	39.5
Arch Braces	71	1254	1343	1481	1595	1617	1486	252	71.0
Dropped Tie	5	1555	1562	1608	1639	1642	1606	77	32.5
Down Braces Curved	54	1440	1446	1555	1607	1627	1538	161	53.6
Down Braces Straight	18	1576	1579	1610	1674	1683	1617	95	30.0
Framing Large Panels	93	1254	1349	1477	1582	1609	1485	233	67.6
Framing Small Square Panels	45	1547	1568	1596	1673	1705	1604	105	31.9
Decorative Panels	4	1571	1571	1578	1582	1582	1577	10	5.2
Jowled Posts	119	1309	1378	1499	1594	1617	1497	216	65.9
Diminished Haunch Joist Joint	36	1537	1543	1595	1653	1683	1592	110	33.9
Simple Tenon	21	1411	1425	1508	1578	1617	1499	152	57.2
Scarf Side Halved	45	1334	1420	1518	1620	1683	1516	200	72.7
Scarf 3/4 depth bridled	29	1415	1438	1554	1613	1617	1548	175	48.7
Stops Flat Step	31	1334	1352	1467	1521	1533	1458	169	48.6
Stops Curved Step	37	1440	1458	1560	1613	1627	1561	155	39.5
Stops Lambs Tongue	29	1572	1575	1607	1680	1705	1611	105	32.2
Moulded Crown Post	9	1309	1343	1436	1488	1491	1432	145	52.3
Moulded Dais Beam	10	1415	1424	1474	1528	1539	1476	104	35.6
Dais Panelling	5	1452	1454	1499	1531	1533	1494	76	34.0
Spere Screen Evidence	13	1436	1438	1472	1528	1533	1475	90	29.5

Table 1 Details of date spans for the Project's main key features. The order is the same as in fig 31.

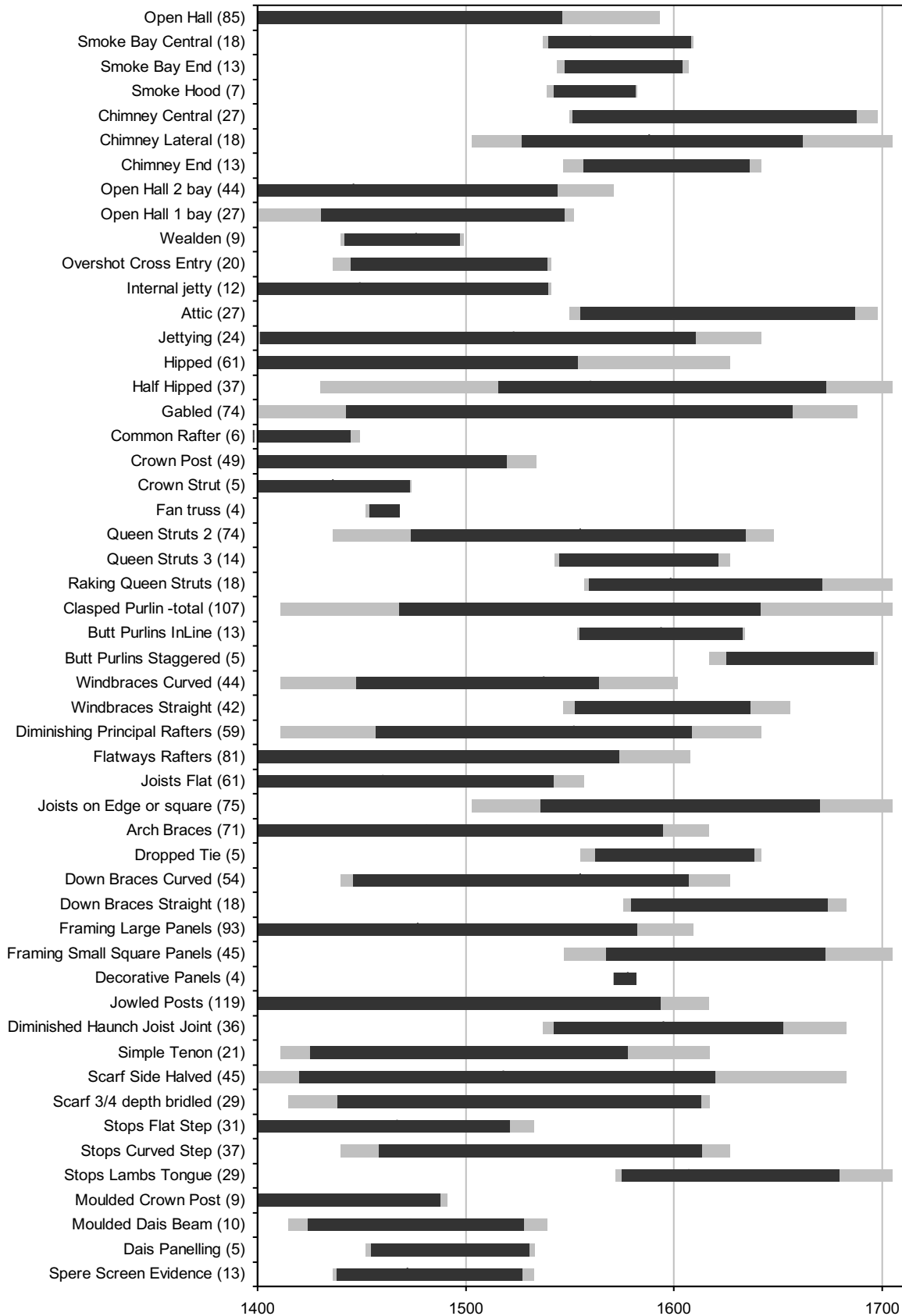


Fig 31 **Summary date spans for the Project’s main key features** for the 177 dwellings and additions to existing dwellings. The dark range shown is between the 4th and 96th percentiles so as to encompass at least 90% of the data whilst eliminating outliers. The total range of data is represented by the lighter shade. It does not cover pre-1400 features, examined separately.

AREA DIVISIONS

This report is about Surrey as a whole. For the most part, it is a quite uniform county in its use of timber framing as the primary building technique, so it is usually possible to give overall conclusions. There are some differences between the western and eastern parts of the county. Accordingly, for the purposes of this report, the data were separated into west, central and east Surrey (without leading capital letters for these unofficial designations). The detail of this separation of data is not included in this report, for reasons of space and simplicity, but any significant conclusions are mentioned in the text. The three areas are:

- west Surrey, defined as Surrey Heath, Runnymede and Spelthorne Boroughs, together with Waverley Borough's western parishes, namely Farnham, Frensham, Tilford, Elstead, Thursley and Haslemere.
- east Surrey, defined as the District of Tandridge and Reigate & Banstead Borough.
- central Surrey is the rest, which provides the greater part of the data.

NEIGHBOURING COUNTIES

A similar approach has been taken for those useful datings just over the border into Kent, Sussex, Hampshire or Greater London ('within 5 miles (8km)' has been taken as a guide). They are not included in the histograms, but have been taken into account in the analysis and there are references in the text. One exception is a few datings in places that were in historic Surrey but are now in Greater London. They are included in the Surrey analysis.

The comparisons with other counties are possible in part because the Project has occasionally strayed over the borders. Also of considerable help has been the work by Edward Roberts (2003 revised 2010) in Hampshire, and by Sarah Pearson (1994),

Paul Barnwell and Allan Adams (1994) in Kent. These surveys are particularly valuable as they have a basis in dendrochronology. Most of the references to Essex and London are helped by the work of John Walker (1998), David Stenning (2011) and Richard Bond (1998). Comparisons with Sussex are possible through the work of David and Barbara Martin (1989; 1991) in their series on the Eastern High Weald. Another frequently used source is the work in the Weald by Peter Gray (1990). There have also been many informal conversations with Diana Chatwin and Annabel Hughes, of the Wealden Buildings Study Group, about Sussex traditions in particular.

Building type (the basic overall structure of the building)

OPEN-HALL HOUSES

The first question any timber-framed building expert asks when approaching an old building is, 'How was it heated?'. This refers to the well-recognised progression: open hall, smoke bay, or masonry chimney (see Glossary in Part 1 for details). After answering that question – not always easy – there is a basic understanding of the house, and consideration can then be given to the bay structure, and all the various timber features. But already there will be a rough idea of when it was built.

Open halls were the norm throughout the Middle Ages until they stopped being built, quite suddenly, about 1540 (fig 32). This was one of a number of building changes that happened around this time. It follows on from the Dissolution of the Monasteries (1536–40) and the Reformation (from 1534 in England). How these may have affected building practices has been mentioned in Part 2 but there were other factors applying at this time. A full discussion is outside the scope of this report but it is a striking period of change and one of the

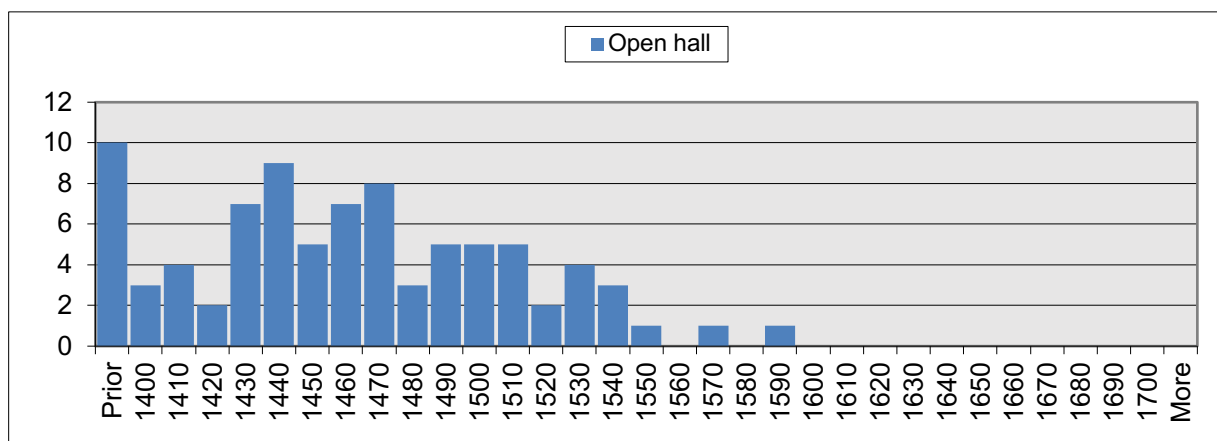


Fig 32 **Dates for open-hall houses.** The drop in usage of the style after about 1540 is clear (the '1540 changes'). Three of the dates after 1540 are for open-hearth service wings rather than true 'open halls'.

Project's more notable findings. It is mentioned in some of the discussions below, where it is simply called, for simplicity, 'the 1540 changes'.

Two of the actual open-hall hearths were seen during the work. One is wonderfully preserved under a trap door at Skinners Land Farm, Chiddingfold, with tightly-packed vertical tiles and stones still in place. The other was found at Woolborough Farm, Nutfield, during a visit following the dendrochronology work. It had a hard-packed, sooted surface. Both were a reminder of a different way of life, with a fire constantly smouldering away, for both cooking and heating, and very much the centre of social life.

The last three dated examples on the histogram, after the 1540s, are rather different. Two are not really open halls: they are service wings at Frosbury Farmhouse, Worplesdon, 1552, and Roppeleghs, Chiddingfold, 1593. They are better referred to as 'open-hearth service wings'. They are similar to 'detached kitchens', which are sometimes found, but are attached. Of the 1540s examples, one is the north end of Brook Cottage, Charlwood, 1548. It is another open-hearth service wing. The third 'outlier' is Wyndrums, Ewhurst, 1571. This appears to be a four-bay hall house, two being open, and with clear evidence for a gallery connecting the floored ends. But the rafters are clean, so there may well have been some sort of ephemeral chimney, later replaced. It was indubitably an open hall, but not with a fire in the middle of the room. Therefore, the 1540s cut-off looks to be valid, with the last 'true' open hall in the survey being Vann, Hambledon, 1543. It is one of the Project's more surprising discoveries.

THE BAY STRUCTURE OF OPEN-HALL HOUSES

The basic structure of an open-hall house was an open hall, of one or two bays, with floored bays at either end (see 'The open-hall house' in Part 2). Almost all the open-hall houses dated to before 1440 had two-bay halls (fig 33). The only two exceptions were Walnut Tree Cottage, Frensham, 1430 (Surrey's only full-cruck house), and Ketleas, Capel, 1389 (only two bays in total, one open, one floored). After 1440, roughly equal numbers of one-bay and two-bay halls were built, until about 1500 when one-bay halls were suddenly predominant. Dating the arrival into common use of the one-bay hall to 1440, with few exceptions, is another remarkable result for the Project. It has often helped with house datings in the 15th century. Possible reasons for this are discussed in Part 2, 'The 15th century'. Whatever these may be, single-bay halls were quite often made more spacious by internal jetties and overshot cross entries. See 'Framing' for dating these aspects.

As stated above, hall houses nearly always had two floored end bays, one at either end of the hall, for the parlour and service bays. Some hall houses had only one floored end. They were usually three bays in total, a two-bay hall and the floored bay. Examples include: Dormer Cottage, Charlwood, 1412; Little Dolby, Charlwood, 1497; Vynes Cottage, Pirbright, 1512. This does not appear to have any significance in dating. The same is true for the rare one-bay hall with one floored end, of which the Project dated: Ketleas, Capel, 1389 (see above); Swan Cottage, Charlwood, 1460; Meadow Cottage, Brook, 1515.

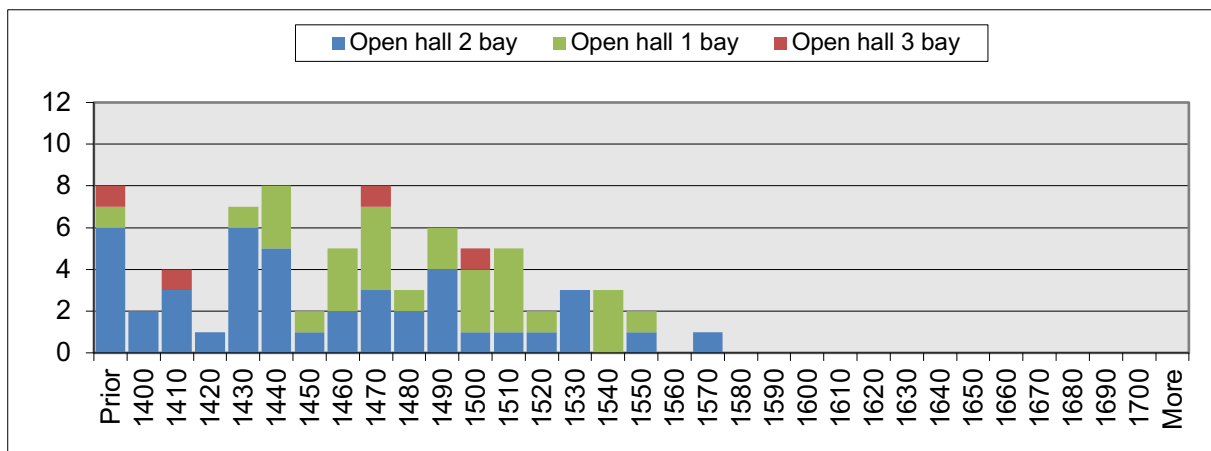


Fig 33 **Dates for open halls of various sizes.** With rare exceptions, the one-bay open hall does not start to be used until about 1440.

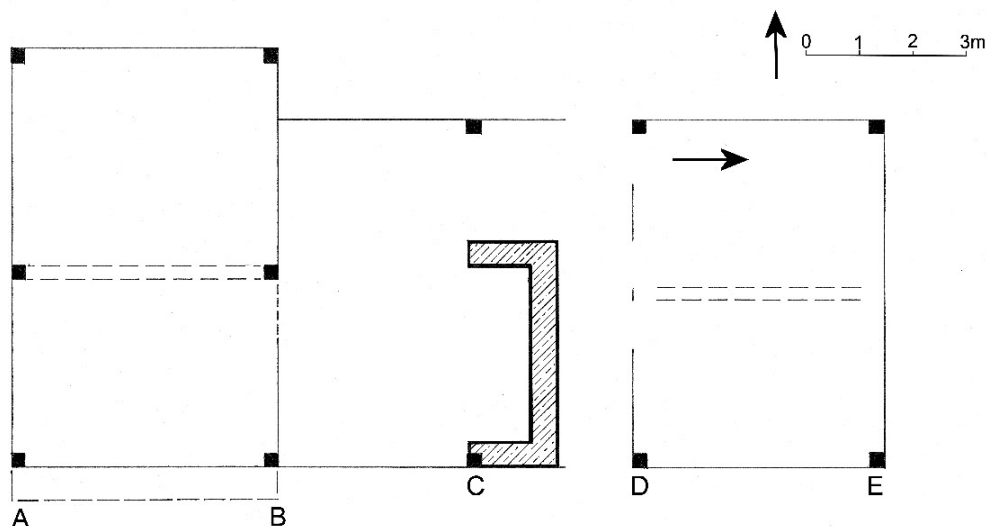


Fig 34 **Floor plan of Tollsworth Manor House, Chaldon.** B – D was a two-bay open hall, to be expected at its date of 1436, with dated, surviving, one-bay open halls not coming in until c 1440. The bays are unequal, the upper or high end being slightly longer, to accommodate a hall window to light the high table. There is a cross entry across the low end, and two central doors led into a divided service bay, D – E, for the pantry and buttery. There was a third door, against the rear wall, probably to a stair, shown by the arrow. All this is the classic pattern. A – B would normally have been a parlour bay, like the service bay floored with a chamber over. But here there is a two-bay parlour wing (later extended backwards). The front is now masonry but probably hides a jetty, shown dotted. This wing is much earlier, dating to 1342m. It is an example of ‘alternate rebuild’, whereby an old portion of a house is reused to be part of a new construction. Much later, the hall was ceiled and the central chimney inserted. Research by Laura Berry of DBRG has shown that such a position, backing onto the cross entry, is the most usual position, at least for average or larger houses. This keeps the cross entry in use. There are a number of additions to the north not shown, including a stair turret, bakehouse and dairy. Drawing by Martin Higgins, simplified from the DBRG report.

A few houses had three-bay halls (fig 33). They were atypical for one reason or another: Forge Cottage, Dunsfold, 1254 (a very early aisled hall with a scissor-braced roof – see figure 20); Wintershall, Bramley, 1415m (a grand hall, in a higher-status building); Edmonds Farm, Gomshall, 1473 (another higher-status building, not really vernacular); Reel Hall service wing, Wonersh, 1508 (three bays without partitions on the ground floor, but only two open to the roof). The dates of these three-bay halls are spread throughout the open-hall period.

CROSS WINGS

Cross wings are not usual in Surrey, most buildings being single range, in-line. Where these wings do exist, they are sometimes first-build, sometimes additions or alterations. Their dating information has not yet been correlated, but there do not seem to have been any strong changes over time. All types occur in all periods.

WEALDEN HOUSES

The attractive ‘Wealden’ style of house (figs 16, 28) has been discussed in Part 2. Most have two-

bay halls, are sturdily built, and their decorative design indicates wealth. The distribution of known Wealdens in Surrey, and some close by, is shown in figure 35. They include nine tree-ring dated examples. Most are in the east, close to Kent, where they are quite numerous. A few more are scattered along the Sussex border, in which county they are again well represented. Hampshire has very few, mostly in the east. The style was never well represented in Surrey.

The dates for those in the Project can be seen in figure 36. The examples in Surrey are rather later than those in Kent and Sussex, as if the fashion moved into the county slowly. Of the nine dated cases, all are dated after 1440 and two-thirds to the last third of the century. Only two Wealdens have been dated after 1500, one in Kent and one in Hampshire (Alcock 2010). The latest date found in Surrey is 1–3 Rose Cottages, Lingfield, 1499. The fashion stopped being used, quite suddenly, at the turn of the century. This is another useful dating guideline established by the Project. Fortunately, notwithstanding this decline in use, some beautiful examples remain.

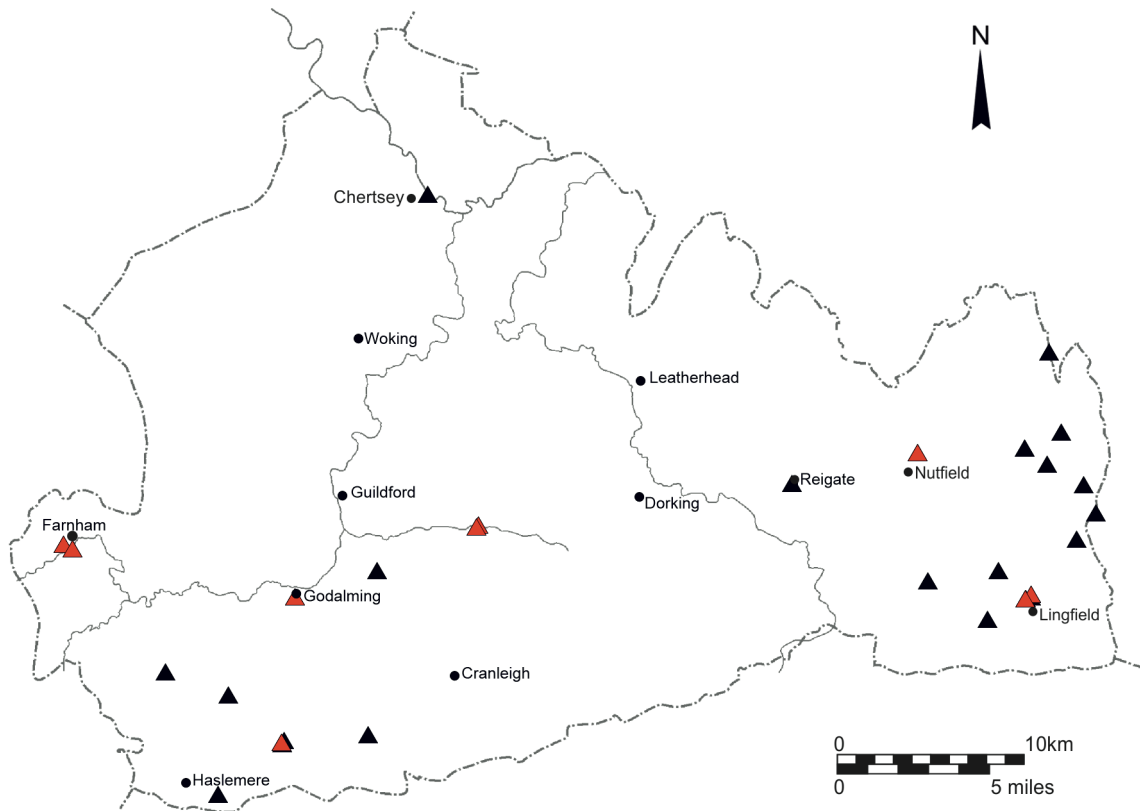


Fig 35 **Distribution of known Wealden Buildings in Surrey.** The fashion barely reached central Surrey from the more Wealden counties of Kent and Sussex. Dated examples are in red, undated in black.

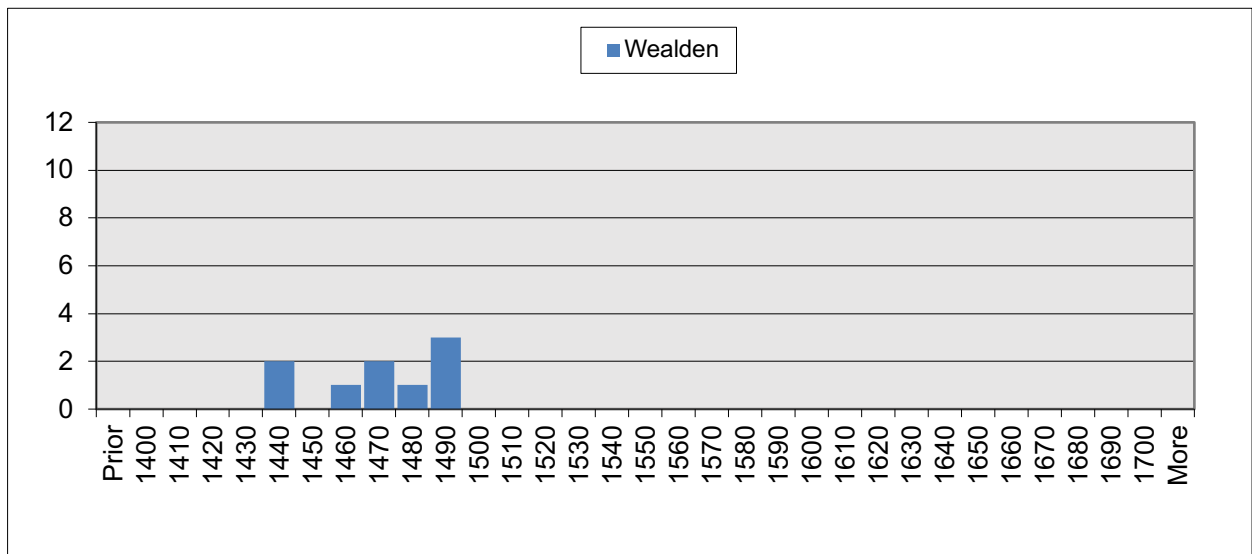


Fig 36 **Dates for Wealden-style houses.** These dates are a little later than in neighbouring counties. The sharp cut-off at 1500 is remarkable.

None of the Project's datings were of 'half-Wealdens' – those with only one jettied wing. Two have been dated just over the border in Kent. Their dates were typical.

HALF-FLOORED HALLS

A 'half-floored hall' is a two-bay hall, but with only one bay open to the roof. They are sometimes called 'boot-shaped' halls. They are often quoted as a plan type, but are rare in Surrey. The clearest example dated was a Wealden house: 11 Bridge Square, Farnham, 1476. This has clear evidence that one of the bays was originally floored. Four 'half-floored halls' were in service wings or detached kitchens where their use seems to have been normal. The earliest of these was 37 High Street, Bletchingley, 1496. The others were all 16th century, towards the end of the open-hall period. Soon all houses would be fully floored; the half-floored type was transitional.

FLOORED HALLS

After open halls came floored halls, halls with a ceiling, and now referred to more properly as 'hearth rooms'. These had some form of smoke control: smoke bay, smoke hood, or a masonry chimney (see fig 14 for details). Builders were now flooring over the main room to have an extra chamber over it. Open halls faded out rapidly during the 1540s. Houses with smoke control arrived to take their place. A very few came much earlier (fig 37). Fry's Yard, 37/38 Bridge Street, Godalming, 1503m, was the earliest in the survey. This is a confusing house, with much rebuilding, but has an apparently original rear chimney and a clean, smoke-free roof. It might have had some sort of commercial purpose, largely unheated, but an early chimney house is more likely. This is an early date for a chimney house in Surrey, but it would not be out of place in Hampshire or Kent. Roberts (2010, 149) has shown that town houses in nearby Hampshire were well in advance of rural dwellings,

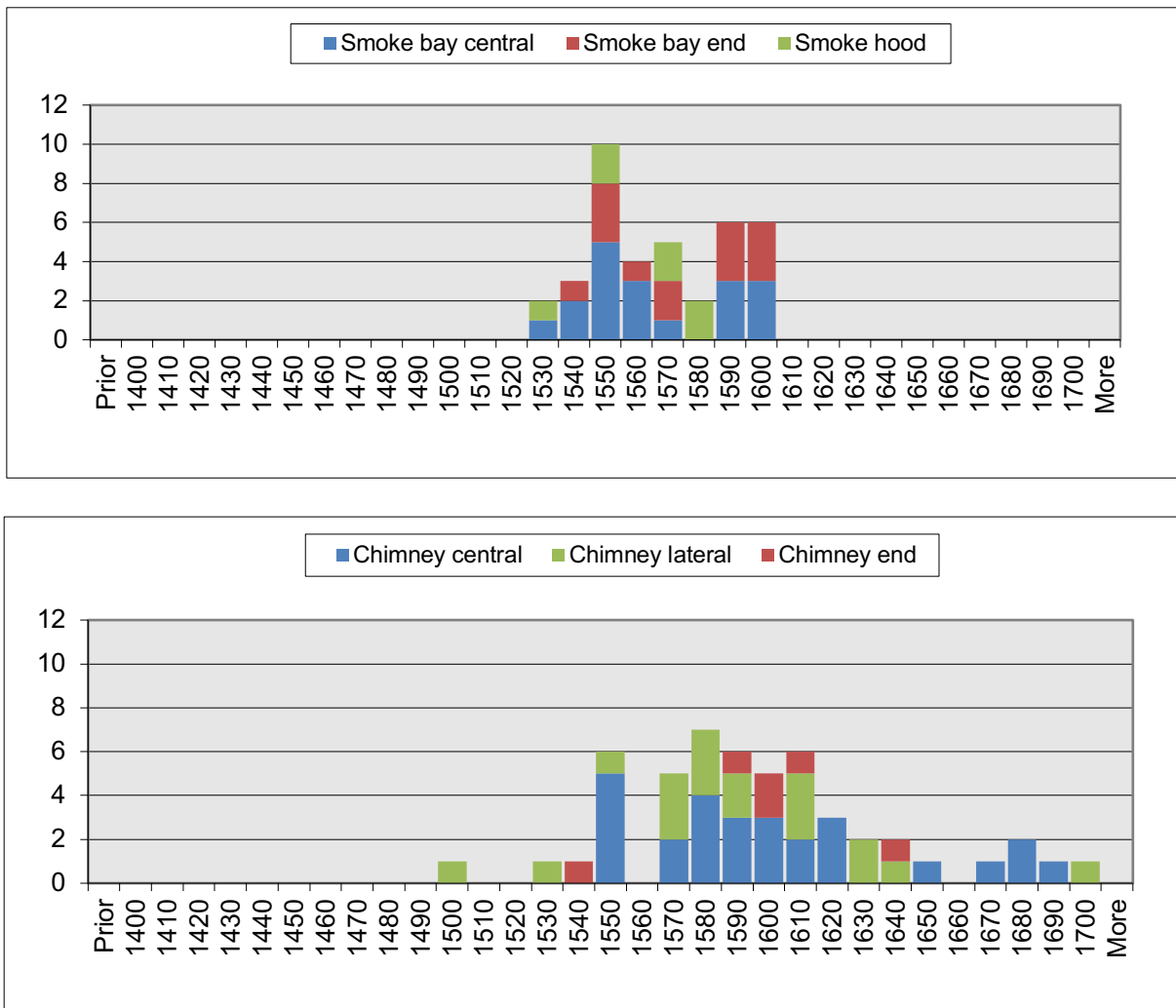


Fig 37 **Dates for the methods of smoke control after open halls.** For smoke bays, there is a tight range, starting about 1540 and ending abruptly soon after 1600. Chimneys started to be used about the same time and were equally popular - it was a matter of wealth - until brick became readily available about 1600.

and Fry's Yard seems to confirm this. Once again, Surrey is behind its neighbours. In Kent, Sussex and Hampshire the data for the period is sparse, but there are sporadic examples as early as the late 15th century, particularly in towns. Apart from Fry's Yard, the next dates for floored halls in Surrey were close to the 1540 changeover date: Barlings, Farnham, 1537 (smoke bay); Greenings, Charlwood, 1539 (smoke hood); Reel Hall parlour wing, 1538m (lateral chimney). After 1540, smoke bays and chimneys appeared quickly. Thereafter, they were the normal method of heating a house (fig 37).

SMOKE BAY AND SMOKE HOOD HOUSES

Notwithstanding the emerging popularity of masonry chimneys, smoke bays or smoke hoods continued to be used until about 1610 (fig 37). It is again remarkable how quickly the custom ended. Black & White Cottage, Abinger, 1608, is the last firm dating found by the Project. Joan Harding had pinpointed this *c* 1600 date for the end of smoke bays. It is not unusual to find her to be correct, but even she would have been surprised at how sharp the cut-off was.

It had been thought that end smoke bays might be later than central smoke bays, but this is not the case (fig 37). It was simply a matter of size. Houses with three full bays had central smoke bays; those with only two full bays had end smoke bays (fig 38). There were some exceptions, Black & White

Cottage being one. It had a central smoke bay with just one bay on either side.

A smoke hood is similar to a masonry chimney, but is timber framed with wattle-and-daub infills (fig 14). They must have been quite unsatisfactory, suffering from leakage and fire damage. They are less common than smoke bays, but are fairly evenly spread throughout the period. They died out a little earlier, which is perhaps to be expected. The last two dates found were at Boscawen Cottage (1581) and Lamp Cottage (1582), both in East Clandon. Perhaps they were from a local carpenter who particularly liked them. It is intriguing when dendrochronology reveals such ideas.

Open halls with smoke bays

An elusive, even controversial, plan type is the 'open hall with smoke control'. These houses appear to have had an open hall, but also a smoke bay, or possibly an ephemeral timber chimney. The clue is that the hall has a clean roof and investigators are sure that the hall was indeed without a ceiling. One example was early and very clear, Brewerstreet Farmhouse, Bletchingley, 1491. Four other examples were less certain and gave datings in the mid-16th century, as the two types were changing over. They are Langmans, Woking, 1538; Old Pound Cottage, Chobham, 1548; Maytree Cottage, Hambledon, 1560; and Wyndrums, Ewhurst, 1571.

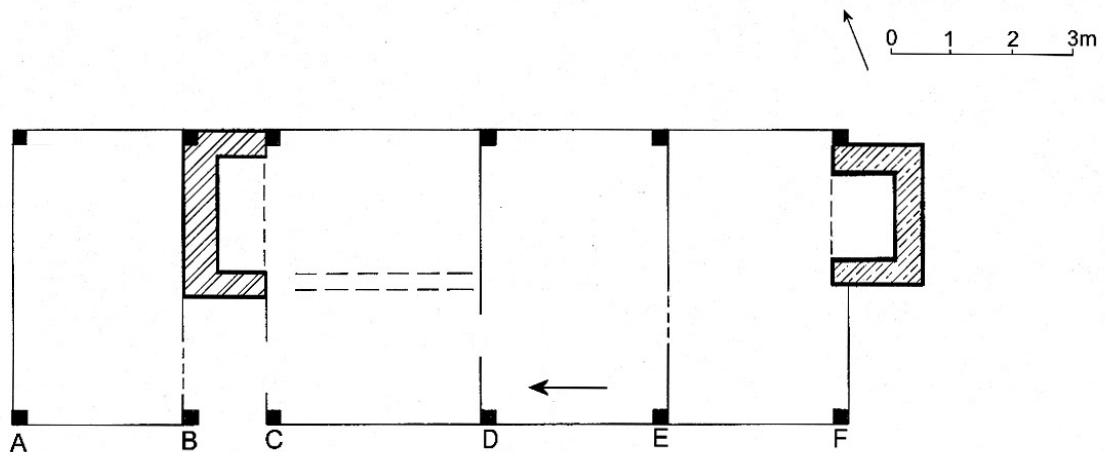


Fig 38 **Floor plan of Snowhill Cottage, Abinger.** Sometimes, houses can be difficult to unravel without dendrochronology. The oldest part is a 2½ bay, end-smoke-bay house, dated to 1596. B – C is the smoke bay, C – D the hearth room, D – E the service bay or kitchen. This is a typical end-smoke-bay layout although the hearth is often more towards the centre. Bay A – B was added in 1617. But for the dating difference, the whole could have been assumed to be a 3½ bay, central-smoke-bay house. Bay E – F is also later, as are the two chimneys, one inserted into the smoke bay and one added at the end. The arrow shows the staircase, which could be in its original position. Drawing by Martin Higgins, simplified from the DBRG report.

Back-to-back smoke bays

Back-to-back smoke bays, heating both the hearth room and the parlour, are rare in the county. Two examples dated were quite late, *c* 1600 (Apple Tree Cottage, Elstead, 1591, and Bridge Farm, Tilford, 1601). This is when smoke bays were giving way to chimneys, and indeed the base dimensions of back-to-back smoke bays would have invited a solid brick chimney.

Hearth passage plan

In Surrey, smoke bay or chimney houses are usually ‘lobby entry’, with the front door opening into the half-bay containing the smoke bay, or beside the chimney stack. There are just a few examples of the ‘hearth passage plan’, with a cross entry behind the smoke bay or stack, and these all dated to the period 1540–55 (Old Beam Brook, Newdigate, 1541; Leather Bottle Cottage, Nutfield, 1550; The Old Cottage, Old Woking, 1552; Brittleware, Charlwood, 1555). This is a curiously narrow dating band, soon after open halls gave way to smoke control methods. The hearth passage plan is far more common in other parts of the country.

CHIMNEY HOUSES

It had been thought (Harding 1993) that chimneys started to be used at the vernacular level in Surrey around 1600. In fact, there are plenty of examples much earlier. Fry’s Yard, 37/38 Bridge Street, Godalming, 1503m, has been mentioned but is rather uncertain and an exception in Surrey terms. There is then a gap in the survey dates until Reel Hall parlour wing, Wonersh, 1538m (see ‘Floored halls’, above, and not entirely understood). Then Barlings parlour wing, Farnham, apparently had an end chimney in 1547. These are wings, rather than main builds, so the earlier use of a chimney might be expected, as they would not have had the benefit of heat from the hearth in an open hall.

After these few early examples, chimney houses came quickly in the 1550s (fig 37). One of these is Castle Arch, Guildford, 1554 (fig 39). This date – for an important museum building – was a local success for the Project, being much earlier than the previous estimate of *c* 1630. (The error in the earlier stylistic estimate can be excused by a confusing amount of re-facing in brick). The tree-ring date was obtained from the roof timbers, and applies only to the centre range, not the later wings.



Fig 39 **Castle Arch Guildford, 1554**, an early chimney house, now home to Guildford Museum. The tree-ring dating was obtained from the roof timbers, and applies only to the centre range, not the later wings. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

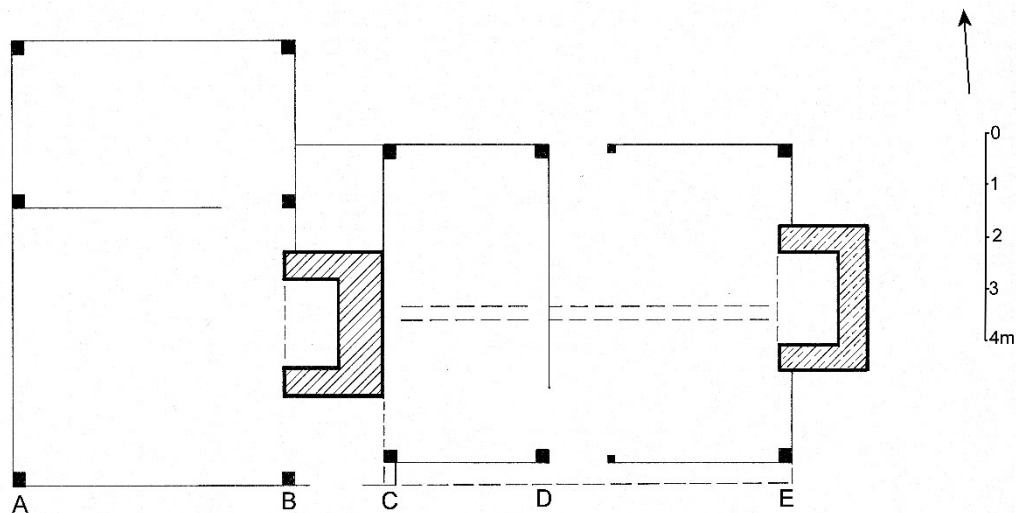


Fig 40 **Floor plan of Reffolds, Newdigate.** Originally this was a two-bay, end-chimney house (C – E) with the chimney at the end E. Built in 1608, chimneys are now to be expected. The house had a continuous front jetty running from C to E (shown dotted), as well as a forward-facing gable – decorative and unusual. There is documentary evidence confirming that, in 1608, the site came into the possession of a saddle-tree maker (an indenture retained with the house). The parlour wing, A – B, was added in 1611. This has a slightly different type of chimney, a lateral chimney on the side wall of the new build, in the gap between the two builds, B – C. There is a later stair wing to the rear not shown. Drawing by Martin Higgins, simplified from the DBRG report.

The earlier chimney houses tend to be the larger ones or in towns, but not exclusively so. This reflects experience in Hampshire: ‘Timber chimneys do not pre-date brick ones, but are a poor man’s substitute introduced at the same time and phased out as brick becomes more readily available’ (E Roberts, pers comm). By 1570, chimney houses were being built in equal numbers with smoke-bay houses. Then, as has been mentioned, it would seem that, after 1610, no-one built houses with smoke bays.

Central and end chimneys

Uniformly throughout the period, most chimney houses had a central chimney (rising up through the ridge of a house). Lateral chimneys (that is, against the rear wall) were common in larger or town houses. End chimneys (for example fig 40) look to be introduced in the 17th century (fig 37), but there is little data and, again, it was probably a matter of the size of the house. The earliest end chimney found in the survey is a huge stack in the parlour wing at Barlings, Farnham, 1547. It was added to the old range at Barlings, one of the first smoke-bay houses, which had been built in 1537. DBRG member Pat Heather found a documentary explanation for the two builds. The owner left the farm to his son-in-law on condition that he built for his surviving wife a ‘chamber on the same ground’ (Heather 2005). He died in 1546 and the son-in-law acted promptly and in fine style. That an early

chimney should follow an early smoke bay in this way shows an adventurous family, albeit possibly influenced by the nearby Hampshire fashions. The Gazetteer gives more details.

CONVERSION OF EXISTING OPEN HALLS TO FLOORED HALLS

Just as builders started to build floored halls in the 1540s, so did existing open halls start to be converted to being floored. Fulbrook Cottage, Charlwood, 1519m, is the earliest dated example of such a conversion, having been carried out in 1541m. Several more followed in the next twenty years (fig 41), but a few traditionalists left their open halls unchanged until close to the end of the century. Some of the early conversions were to masonry chimneys, rather than smoke bays or smoke hoods, showing a sense of innovation not always demonstrated by the builders of new houses.

Smoke bays and smoke hoods were only ever going to be a temporary measure. Some of these simple ‘timber-framed chimneys’ continued in use up to and throughout the 17th century before being converted to brick chimneys. Hilllands has been mentioned in Part 2, converting in 1669. The latest date found for such a conversion was at Black & White Cottage, Abinger. It was built as a smoke-bay house as late as 1608, and then not changed to having a brick chimney until 1691. It is deep in the

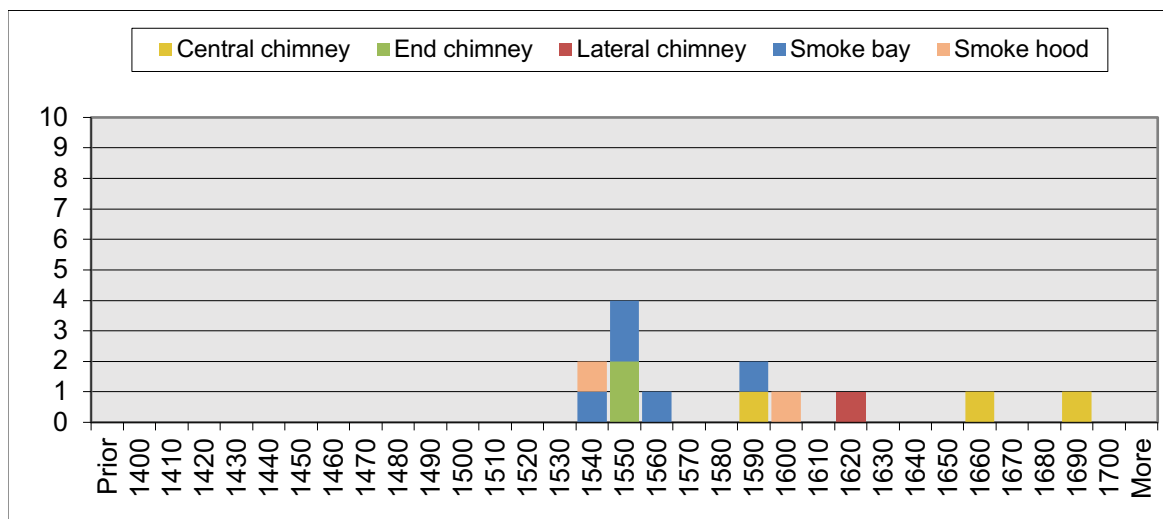


Fig 41 **Dates for inserted smoke control methods.** These cover the sequence: open hall to smoke bay to chimney, and the dates for converting, sometimes missing a step. It is surprising how long the process took.

Weald. The owners must have been aware of chimneys appearing elsewhere, but may not have had the motivation, or perhaps the means, to make the change.

ATTICS

A term often used is ‘two storeys and an integral attic’, sometimes shortened to ‘two-plus storeys’. It refers to houses built with some sort of attic, either for accommodation or at least storage. The space could have a triangular cross-section, or occasionally low side walls (‘dropped-tie’ construction, see below). Crown-post houses have no space suitable for attics. Those beautiful timbers would get in the way. In any case, owners must have liked to see their crown posts. They left not only their open halls without a ceiling, but also

their end-bay chambers (fig 13). The first attics appeared together with the clasped-purlin roofs of the 16th century: the first four dated were all in the 1550s. Noteworthy is Brittleware, Charlwood, 1555, which used the space as a granary; the corn bins are still in place.

Attics became commonplace after about 1570, rather earlier than previously supposed. They had been thought to be one of those ‘17th century’ features. After about 1600 they are indeed almost the rule.

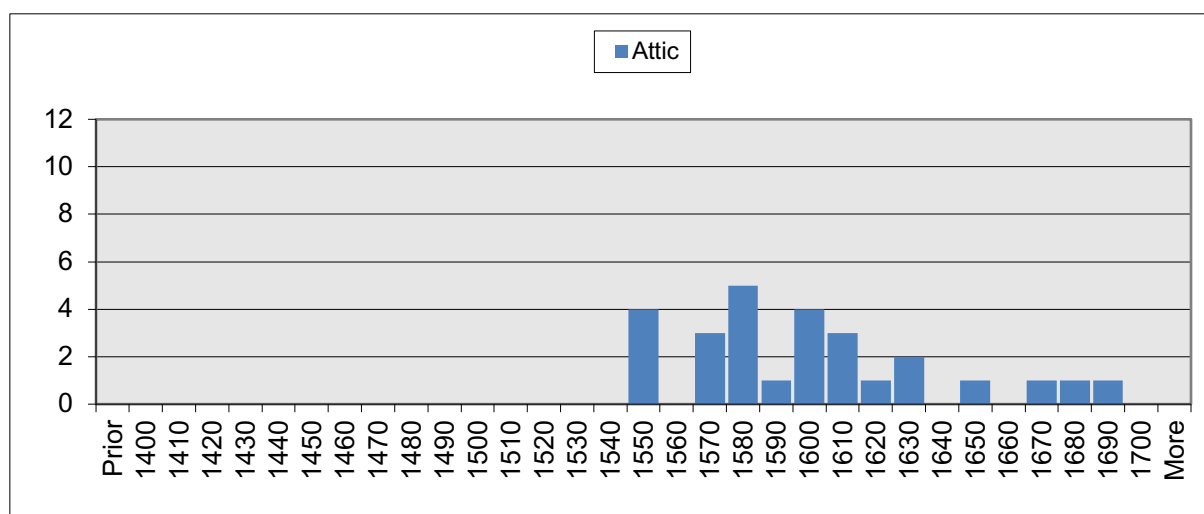


Fig 42 **Dates for buildings with attics from the beginning.** This is another example of the ‘1540 changes’, made possible by the more unobstructed roof spaces of the side-purlin method of roof construction.

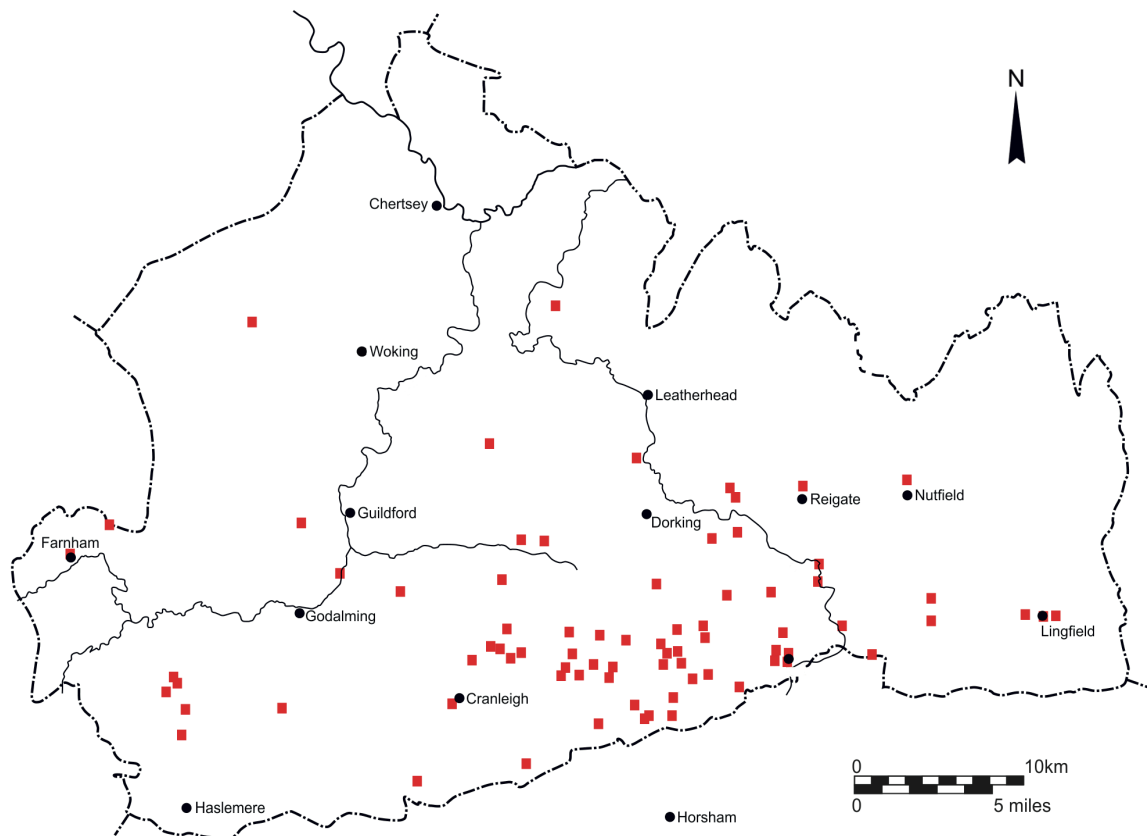


Fig 43 **Distribution of Horsham stone roofs**, dated and undated examples. Although most are within about 10 miles of the stone beds around Horsham, there are examples further afield. This map may not be complete and some of the stone may not be ‘Horsham’.

BRICK OR STONE BUILDINGS

The use of brick at the vernacular level seems to have begun about 1630, but the data are limited. Two dated examples in the 16th century were of higher status. Place Farm, Bletchingley, was reroofed in 1547, but has earlier brick walls. It was once the gatehouse for Bletchingley Place, one-time home to Anne of Cleves after her divorce from Henry VIII (see ‘King-post roofs’, below, and the Gazetteer). Barrow Green Court, Oxted, 1594, is a large and complex brick building based around three parallel ranges – more of a mansion. Datings in the 17th century start with 1632 and 1634 (Rowhurst, Leatherhead, and Bridgefoot Farmhouse, Ockham parish), proceeding to 1648 (Frosbury Farmhouse rear bay, Worplesdon) and beyond. A corresponding decrease in timber framing takes place although it continues to be found occasionally for the rest of the century and even just into the 1700s. The last timber-framed house dated was Pagewood Cottage, Charlwood, 1705. In farm buildings, timber framing continued until the present day.

One ‘hybrid’ (timber-framed only to the rear and sides) dated at 1670sto. This was Whites Farm,

Worplesdon, the date being built into the brickwork of the fine two-storey porch (fig 11).

The only stone house dated was Smallfield Place, Burstow, 1617. This is a much higher-status house, so stone at this date is not surprising.

Horsham stone tiles

Eight houses were dated that still have Horsham stone roofs. They are in the parishes of Capel, Ockley, Nutfield, Bletchingley and Cranleigh. Figure 43 shows the locations of dated and undated examples. Most are to the south of the county and quite close to Horsham and the beds of calcareous, flaggy, often rippled, sandstone that carry the Horsham name.

The dates range from 1389 to 1572, so there is no dating significance in the material, although it is very scarce now. The house in Ockley is Buckinghamhill Farm, 1415, evocatively situated on a stretch of Stane Street which is now unmetalled. In addition to the stone tiles, there are huge stone slabs in the kitchen.

OVERALL BUILDING RATES

The distribution of dates for the 228 buildings (or building additions) making up the Project's data for analysis is shown in figure 10. Buildings dated to the early 1400s are rather less common than those built later in the century, although this could be the result of lower survival rates. From about 1440, the rate of building seems to have been quite uniform until the reign of Henry VIII (1509–1547) when there looks to have been a reduction. The apparently increased activity after the Dissolution (1536–40) has been mentioned, as has the high rate of building during Elizabeth's reign. Apart from the difference before and after 1550, the Project provides no evidence for the 'Great Rebuilding' of 1570–1640 (Hoskins 1953).

Hampshire has rather different results with plenty of buildings dated to Henry VIII's time and fewer to Elizabeth's (Roberts 2010, 210). The England and Wales figures (Meeson 2012, 59) show little difference for the two monarchs, but apparent building rates can easily be distorted by the selection for sampling. The Project sought to include a good representation of late hall houses (ie likely to be early 16th century) as well as plenty of later buildings, but these different figures could be

explored. There are no obvious topographical reasons for the difference

The main roof types and the movement of styles

CROWN-POST ROOFS

The crown-post roof dominated medieval buildings in most of the county until about 1500 and was sometimes very decorative (fig 23). After that date, various forms of side-purlin roof took over quite rapidly. Of the crown-post examples after 1500, all are deep in the Weald. The last tree-ring date of these is Hilllands, Charlwood, 1533 (mentioned previously with regard to its very late conversion in 1669 to a brick chimney). It is an extraordinary building. It is a four-bay hall house with a two-bay open hall, but the parlour bay is 'turned' into a two-bay cross wing, all within the rectangular footprint. This is unique in the area. Both parts had crown posts, those in the main build remaining. All is ornamented, with chamfers and straight step stops to the wall plates and a dais end with double braces over a plank-and-muntin screen. It may seem strange that such an expensively-built house should be constructed in the dying years of the open-hall era. (By way of a contrast, there is still in place a trap door able to seal off the top of a later staircase – presumably a security measure).

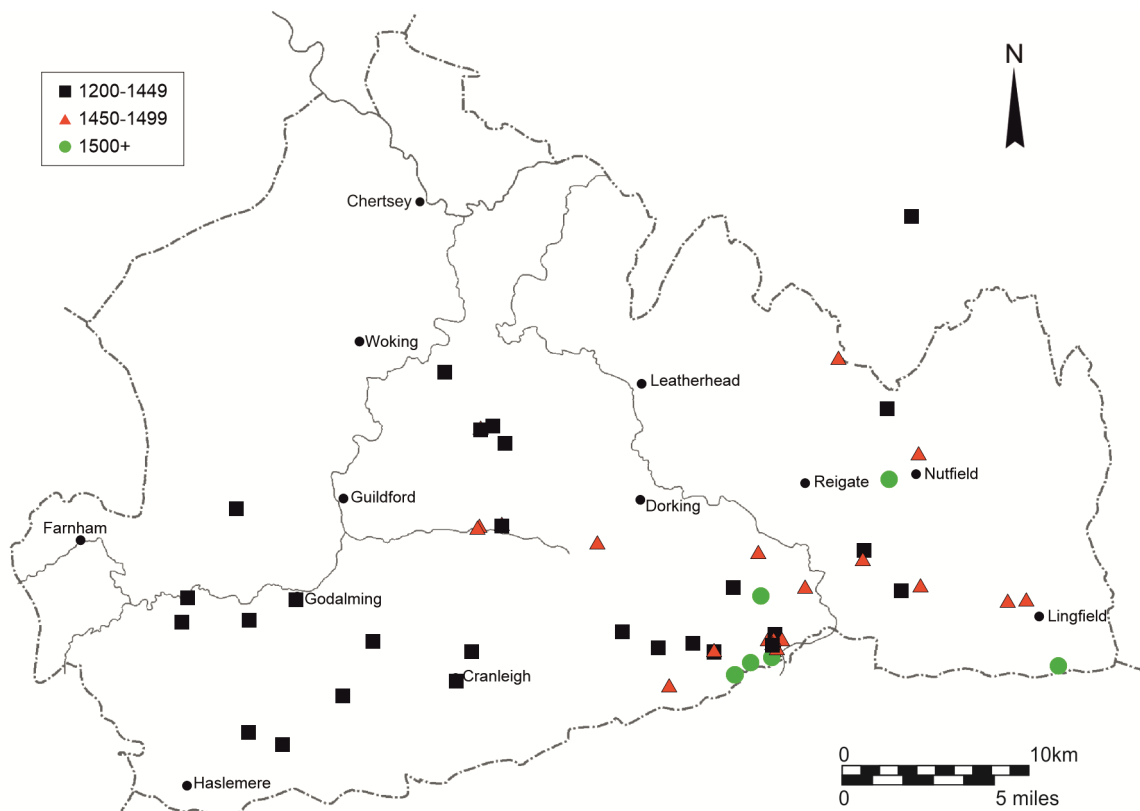


Fig 44 **Distribution of crown-post roofs**, showing date ranges. The paucity of crown-post roofs after 1450 in the western edge of the county is clear, even though they were sought after for sampling. It contrasts with the way late crown posts, after 1500, linger in the Weald along the southern edge.

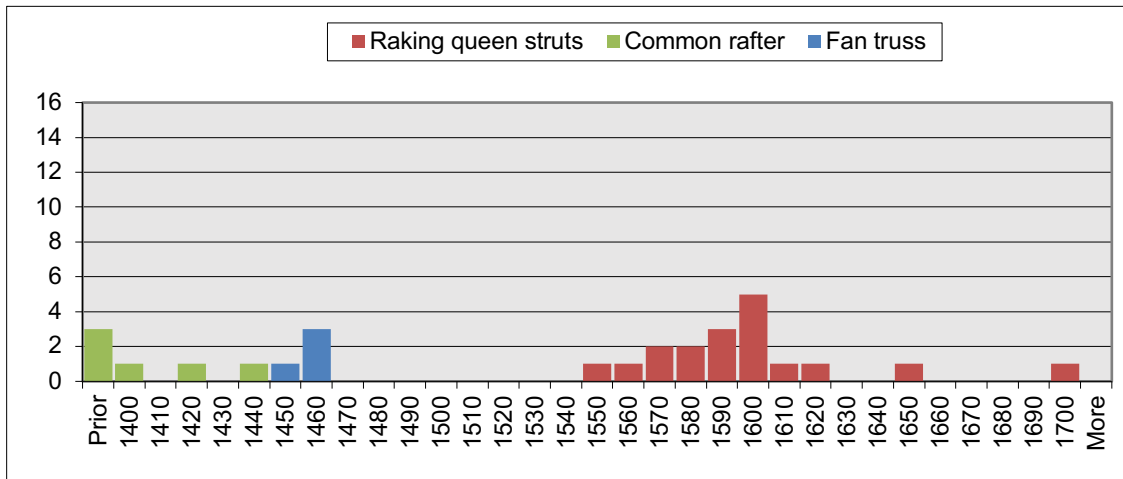
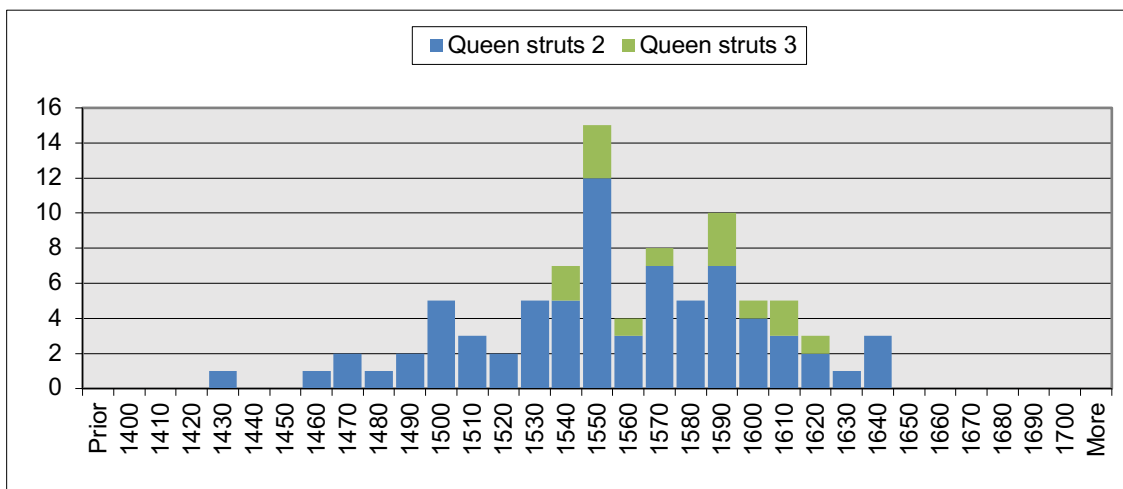
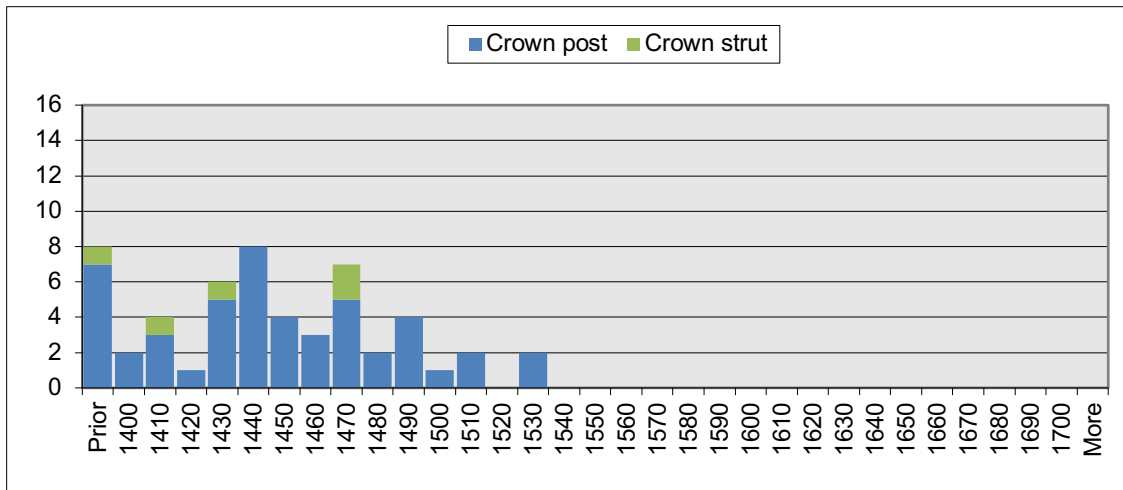


Fig 45 **Dates for various types of roof truss.** The three main types are crown post, queen struts 2 and raking queen strut. The sequence can be seen, with the change to queen strut at about 1500 and then the beginnings of the raking queen strut about 1570.

Two other buildings in Surrey can lay claim to being later examples of crown-post roofs. Moor Hall, Wilderwick, 1518–50, includes a rather fragmentary crown-post hall. It is in Lingfield parish, on the very edge of Surrey, in the south-east corner close to both Kent and Sussex. The other is Frosbury Barn, 1549, now in Worplesdon. It has lost its crown posts but the evidence is clear. It was originally from Coolham, near Horsham, so is a Sussex barn and not included in the Project's analyses. It appears to be the last securely-dated, crown-post roof to be built in the south-eastern counties. These dates all serve to confirm that crown posts were used for longer in these Wealden areas, much later than in the rest of Surrey. On the data available, Kent and Sussex also have some of these later crown posts, and indeed later than the rest of the country (Meeson 2012, 71–3).

West Surrey is a striking exception, with very few crown posts. The work in Hampshire has shown that they are a rarity after 1400 (Roberts 2010, 31) and west Surrey is the same. The Hampshire influence on these west Surrey houses is no surprise as the Bishops of Winchester had substantial

landholdings in the Farnham Hundred. The Project found it difficult to find any crown-post houses in the area, but two were found and dated successfully. Both are in Elstead: 1 The Gables, 1432, and the Old Farmhouse, 1446. They are unusual in another respect. Their open-truss crown posts are octagonal and without any braces, up or down. Perhaps they were the work of a single, local carpenter – a man wedded to the old ways.

Figure 44 shows the distribution of crown-post roofs and their date ranges. This shows two things: first, the lack of any late (post 1450) crown posts in west Surrey and, secondly, the way such crown posts are clustered in the once heavily-wooded, almost remote, Wealden areas along the south-eastern border.

QUEEN-STRUT ROOFS

The side-purlin roof, in various forms, became the usual roof structure after the crown post (fig 45). It normally took the form of the 'clasped-purlin roof with queen struts'. Matching the demise of the crown post, queen struts appeared around the middle of the 1400s in west Surrey, particularly on



Fig 46 **11 Bridge Square, Farnham, 1476**, is a well-disguised Wealden-style house, the jetties having been under-built and the recessed centre filled in. A forward-facing gable was added, with a remarkably-carved oriel window, now very much a feature of the house. It is unusual in a number of ways: a half-floored hall (discussed above); attractive ogee braces; and a roof of clasped-purlin construction – at this date elsewhere in Surrey it would have crown posts.

the Bishop's lands around Farnham. The earliest dated by the Project was at Ridgeway Farm, Thursley, 1436. It occurs only in the open truss. In its original form, the truss was augmented by braces arching towards the centre under the collar, creating an arch; which can be deduced from the mortices. Otherwise the building had crown struts, a transitional type of clasped-purlin roof (see below).

The next earliest queen struts were also in the west: Old Cottage, Frensham, 1472, and 11 Bridge Square, Farnham, 1476, a Wealden-style house (fig 46). Only one other queen-strut roof as early as this was found in the other parts of Surrey: Ashlea & Church Gate Cottage, Ockham, 1469. But there is a suspicion that this house also is Winchester influenced. It is next to the church and handsomely built, with five bays and an open truss with concave chamfers. The windbraces are pegged at the top, a feature thought to be Hampshire in style. Although the purpose of the building is not clear, it is hard to escape the conclusion of a diocesan influence.

Another early queen-strut roof is Rectory Barn, Albury, 1469, again with obvious ecclesiastical connections. Then there is the Guest House, Lingfield, 1474, a remarkable Wealden-style house next to the church (fig 28). It was associated with a nearby monastic college (Turner & Saul 2014). It has crown struts as well as queen struts and is considered below. There is a clear and quite abrupt statistical divide. Early queen-strut roofs are either in the west or in some way had a connection with the Church. Otherwise, in the rest of Surrey, queen struts appear about 1500 and are then the rule. Notable are The Green, Worplesdon, 1504, and Robins Farm, Charlwood, 1505. It remained the most common roof style until at least the mid-17th century, when it had to share popularity with the newer staggered-butt-purlin roof (see below).

CROWN STRUTS

There were, however, some transitional roof structures between the crown-post and queen-strut roof. The most notable is the crown-strut roof, an early form of the side purlin style. Here the central



Fig 47 **The Great Barn, Harmondsworth, 1426**, is a magnificent barn linked to William of Wykeham, Bishop of Winchester (Impey 2017, 13). The structure is pioneering, with single central crown struts, forming 'T' shapes with their collars in the roof. The struts are like crown posts, but there is no central collar purlin joining their tops along the length of the building. Instead the collars hold in place side purlins, quite new and much more efficient. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

timber rises to a collar, but instead of a central collar purlin, the purlins are moved to the side. Dates are shown in figure 44. Apart from a single example in Lingfield, crown struts occur only in the western half of the county (Gray 2002, 23). Four other examples in this area were dated: the Old Parsonage, Thursley, 1411; the Old Vicarage (coeval rear wing), Farnham, 1418; Ridgeway Farm, Thursley, 1436; and 57–59 High Street, Godalming, 1471. They are all notable buildings, particularly the Old Parsonage, which is a four-bay, open-hall house (the two-bay hall having been re-opened to the roof, a rare restoration). Once again, it would seem that the church authorities, or at least those of the Winchester Diocese, were quite pioneering in their building. The clasped-purlin, crown-strut roof is more common in Hampshire, where the datings also group before 1450, with just two examples around the end of the century (Roberts 2010, 35).

The Lingfield crown strut example is the Guest House, 1474, (fig 28), next to the church. It has already been mentioned above as an example of an early queen-strut roof as it has both types of trusses. Queen struts frame the end walls of the two-bay hall and the central open truss is a crown strut. It is unusual with two curved braces to the collar and concave chamfers along the tiebeam and down the posts – very ornate. The windbraces are pegged, rather than trenched, at the top where they meet the purlins – mentioned in connection with Ashlea & Church Gate Cottage, above, and a Hampshire method. Lingfield is on the eastern edge of Surrey, but these distinctive Hampshire features reached here in this particular building indicating the extent of ecclesiastical influence.

The finest crown-strut building in the area is the impressive Great Barn, Harmondsworth, 1426 (fig 47) just out of Surrey and now in Greater London (Middlesex). It is aisled, with twelve bays, 58m in length and the longest in England except for Frindsbury Barn in Kent. The date is rather early for a crown-strut roof. The style and date reflect the influence of Winchester, and in this case there is a documented link back to an endowment by William of Wykeham, Bishop of Winchester (Impey 2017, 13). In 2012, it was bought by English Heritage for £20,000 and, after urgent repairs, was opened to the public (English Heritage 2012).

FAN TRUSSES

A beautiful variant of the clasped side purlin roof is the fan truss, a crown strut with additional raking struts, sometimes called a ‘butterfly truss’. In this case, the struts do not rise to the purlin, as raking

struts usually do, but just support the rafters beneath them. They are nearly all on the western edge of the county, again copying Hampshire, and the dated examples are tightly clustered (fig 45): 68 West Street, Farnham, 1452; Rose Cottage, Haslemere, 1467; 80–81 West Street, Farnham, 1468; and Hedge Farm, Thursley, east wing, 1468. Hampshire datings are a little earlier, starting in 1400 and increasing until 1450 (Roberts 2010, 34–5). Beautiful the structure may be, but wasteful and over-engineered, it dropped out of use as quickly as it came.

Occasionally, a building just will not date, usually because the timbers are too fast grown to have sufficient rings for the statistical correlations. One such was Hammonds ‘Tithe’ Barn, West Horsley. This has fan trusses, but is well away from Hampshire. It is an impressive barn, six bays, stone walled, and with huge fan trusses. As has been seen, Hampshire styles can track across the border for quite some distance, but seemingly only for buildings that had a connection with the Church. In this case, such a connection has not been confirmed, as ‘tithe barn’ by itself has little meaning.

THE MOVEMENT OF STYLES

For the most part, Surrey is quite uniform in its old timber-framed buildings, with the same styles at the same time throughout most of the county. The foregoing paragraphs have shown that the clearest exception is the west, which seems to have much more in common with Hampshire than Surrey. This is thought to be in large measure because of the influence of the Winchester Diocese and the bishop’s landholdings.

Some of the differences are in constructional details. Windbraces pegged at the top have been mentioned. More obvious is the side-purlin roof. The Hampshire data shows this to be the dominant style soon after 1400. After a transitional period, which used crown-strut and fan-truss roofs, almost everything built after 1460 has a queen-strut roof. The same is true in Surrey’s western fringes. Yet in the rest of Surrey, crown struts and fan trusses are found only very rarely. The queen-strut roofs before 1500 are similarly scarce. On the data available, the same is true of Kent and Sussex.

It looks as if the queen-strut roof moved into Surrey from Hampshire, as the crown post was abandoned. There is more work to be done on this, but it is outside the scope of this report. This would take account of all buildings of the period, not just those tree-ring dated. But, as far as can be seen from

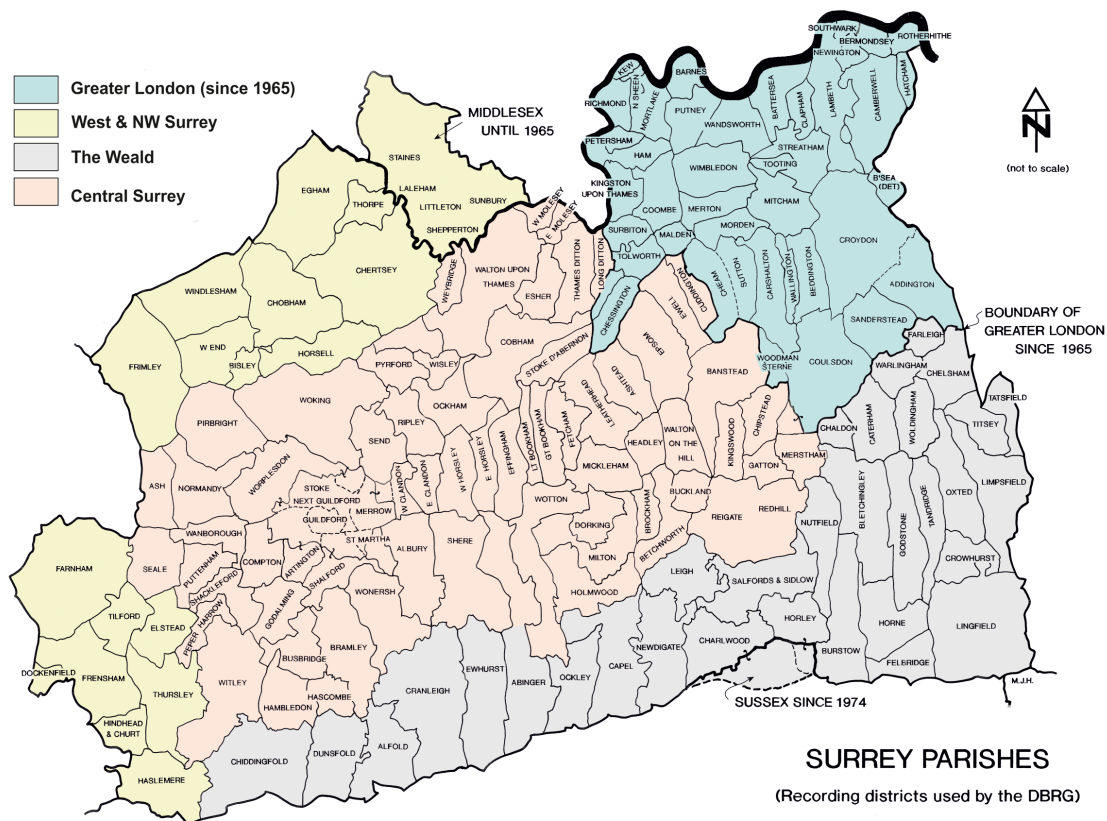


Fig 48 **Three areas of Surrey with distinctive building patterns.** (Parts of Greater London, previously Surrey, are also shown.) The western areas seem to be more Hampshire in style, perhaps influenced by Winchester and Chertsey Abbey. The Weald is much more aligned to Kent and Sussex. The central area may be influenced by London. Survival rates are low in the area that is now in Greater London.

analyses that have been done, it does not appear to have been a gradual transfer that could occur as each generation takes a fresh look. Rather there seems to have been area allegiances to existing ways, and some divisions. Hampshire styles are not found in the Wealden parishes of Chiddingfold or Cranleigh, and the townships of Guildford and Reigate were just as strong a barrier to new ideas from the west. The Hampshire influence did not penetrate far, unless there were clear ecclesiastical connections. Some of the reasons for the variations are suggested in Part 2, including influences from the Continent (Meason 2012, 58–75). Whatever the causes, the differences are clear, even if the boundaries are inexact.

Previous work by Gray (1990, 52–5) shows a greater proportion of crown posts recorded across Surrey, going west–east, and is given as evidence of a gradual movement of the style. However, this is more likely to reflect the geographical area of the Weald and its apparent resistance to new styles. The triangular shape of the Weald distorts the statistics, giving the impression of a gradual encroachment of the side-purlin style, whereas the

Weald held firm to its traditions uniformly across the region. Regions did things their own way until after the Reformation, when styles merged, perhaps because of the reduced influence and wealth of local ecclesiastical authorities.

A CONJECTURE AS TO HOW SURREY MAY BE DIVIDED INTO ‘STYLE AREAS’

The roofing data indicate that Surrey may perhaps be divided into three areas with markedly different methods. The detailed analysis enabled by this survey has shown that the differences apply to most aspects of timber-framed building, but are shown most clearly in methods of roofing. Even with the wealth of data from the Project, such an exercise must be speculative, but figure 48 shows the results of one suggestion that seems to fit the data. The analysis indicates three areas: ‘West and North-west Surrey’, ‘Central Surrey’ and ‘The Weald’. (In this case, to differentiate from the more general classification of west, central and east Surrey used elsewhere in this report, capital letters are used).

‘West and North-west Surrey’ is taken to be the boroughs of Runnymede, Surrey Heath and Spelthorne, and the western parishes of Waverley. It is dominated by the landholdings of the Bishop of Winchester and of Chertsey Abbey. It equates to the Hundreds of Farnham and Godley. In this area, the Project had difficulty finding crown-post structures to study. In the event, only the two in Elstead were dated. Overall, the roof style for this western area for the 15th century can be said to have had ‘almost no crown posts at any time’. The side-purlin roof came very early. This is all in accord with the Hampshire results.

‘Central Surrey’ represents the bulk, and includes the emerging townships of Godalming, Guildford, Dorking and Reigate, together with the quite agricultural parishes just to the south. This region may have been influenced by London. Crown posts start a slow decline in use after 1450 and are gone by 1500. This fits with the previously understood pattern for Surrey in general, before dendrochronology enabled a more accurate picture of the variances.

‘The Weald’ is the area of the clay weald and is still quite heavily wooded. For the purposes of the Project, it is defined as the district of Tandridge in the east and then the line of southern parishes stretching from Salfords & Sidlow and Horley via Charlwood, Newdigate, Capel, Ockley, Ewhurst, Cranleigh, Alfold and Dunsfold to Chiddingfold in the west. Here crown posts continued to be used until well into the 16th century. Even as late as this, they are evenly represented alongside side purlins until about 1540 when they eventually stopped being used. This agrees with the Kent results and, on more limited data, with those in Sussex. In these two counties, it is said that side purlins are rare in open-hall houses. The Project’s findings for the Surrey share of the Weald support this belief. The area does have some queen-strut open-hall houses, notably Ivy House, Newdigate, 1518 and Highworth Farm, Charlwood, 1520m, but they are rare. In the rest of Surrey, they are quite usual.

Then, after about 1540, everybody in Surrey seems to have built the same way. Open halls were dropped in favour of smoke bays and chimneys. Roof construction was standardised with clasped purlins and queen struts. This move to uniformity may have been part of the many changes that happened around this time, the reasons for which are discussed in Part 2, ‘The 16th century’.

There is, therefore, a dendrochronological case that Surrey did not have its own style in vernacular architecture. Rather, it was divided roughly into

three ‘style areas’, influenced by Winchester, London and Kent/Sussex respectively. Only after the Reformation did some sort of uniformity prevail. This is a good example of dendrochronology going much further than the dating of single buildings.

Later or more unusual roof types

CRUCKS AND BASE CRUCKS

Cruck buildings are not a south-east England style, but some are found in Hampshire, where they have been dated throughout the 14th and 15th centuries (Roberts 2010, 15). Only one full-cruck house is thought to remain in Surrey, Walnut Tree Cottage, Frensham, 1430. It is close to the Hampshire border near Farnham. It was of three bays, with floored ends either side of an open hall. One of the internal cruck trusses remains, showing full-length true crucks. The blades are held by a saddle carrying the ridge piece (Alcock 1981, Type C). At one end remains a cruck with Type V apex for the half-hip.

Base-cruck houses are also very rare in the county and just one, Cogmans, Burstow, has been dated, to 1476. This is surprisingly late, as Hampshire examples are 14th century. Dendrochronology could only be applied to a wing of the house that was thought, on good evidence, to be coeval with the main range, but the attribution cannot be certain.

THE ARCH-BRACED-COLLAR ROOFS

Sometimes called a post-and-rafter trussed roof, this elegant method dispenses with a tiebeam in favour of elegantly curved braces forming a timber arch between the posts and collar. It gives an effect not unlike a base cruck and is rare in Surrey. Two examples in Farnham were dated, Tanyard House, 1485, and the Lion & Lamb, 1499. Both have spectacular first floor rooms, still unceiled. The Lion & Lamb is the site of an ancient coaching inn and still possesses the original gallery overlooking the courtyard. The ground floor room has deeply-moulded, crossing girders of a quality rare in the county. The building was heavily restored in 1921 but, as far as can be judged, appears to have been faithful to the original. The amount of restoration does mean that neither the archaeology nor the dendrochronology is certain, with some aspects not understood. It is now a jeweller’s shop.

COMMON-RAFTER ROOFS

The common-rafter roof has rafters of uniform size, and no purlins or other longitudinal bracing. It is a quite archaic structure, made up of simple ‘A’ frames. Without any longitudinal support, if the

cladding and battens were to be taken off, it would collapse. It was previously thought to be a very early feature, before 1400 (Harding 1990). In fact, although ten such cases dated to the 13th or 14th centuries, three others were found in the first half of the 15th century and are all in central Surrey. In Hampshire, the type is rare and early (Roberts 2010, 27). In Kent and Sussex, it is much more prevalent and persists until the 16th century, albeit mostly in humble dwellings (Barnwell & Adams 1994, 56). By contrast, all the Surrey examples dated are in otherwise quite ordinary houses. The latest dated was Sumners, West Horsley, 1449 (fig 24).

RAKING-QUEEN-STRUT ROOFS

The raking-queen-strut roof is the natural successor to the queen-strut roof, saving the need for a collar without significant loss of strength. The struts tilt

outwards to support the purlins directly. They are often called raking queen posts, but the Council for British Archaeology (CBA) prefer to use the term 'strut', rather than 'post' in this context. They came into use, as a common form of roof construction, soon after 1550 (fig 45). The first two dated are in the west: 3 Church Street, Godalming, 1557, and Maytree Cottage, Hambledon, 1560. This is not to say that the style began in Hampshire, as they are not common there until the 17th century. One has been dated there to c 1622 (Roberts 2010, 35). Indeed, it is possible that this is a rare case of a style being exported from Surrey to Hampshire rather than the other way around.

In Surrey, the method gained popularity from 1570, but still did not match the normal queen-strut roof in numbers. It does not have a dating significance compared with the queen-strut roof, except that it is unusual before 1580. After 1650, the data are

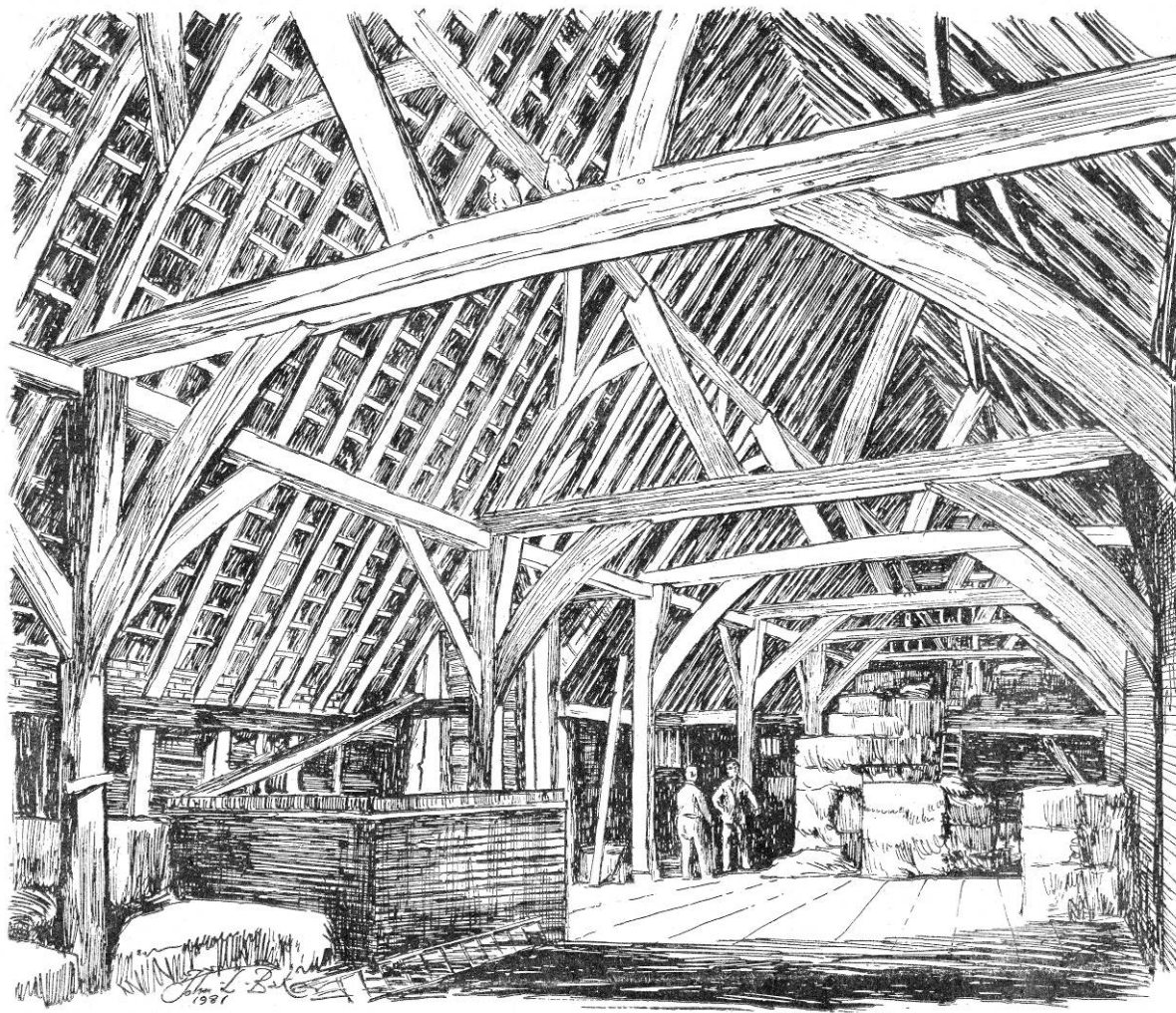


Fig 49 **Hardwick Court Barn, Chertsey, 1445.** This fine six-bay barn could well have been built for the Court Leet of the Godley Hundred, held at Hardwick Court in 1446 (see text). It is strongly timbered, including a complete set of 24 curved windbraces, four in each bay. It has a surprisingly early use of raking queen struts, leaning outwards to support the side purlins directly. Two of the controversial struts were included in the dating (one of which can be seen top left) finally confirming this early date for the raking-strut method. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

limited, but it would seem that at last the style became popular, matching the staggered-butt-purlin roof in usage (see below). The normal queen strut becomes unusual at this time. The house with the latest date found in the survey, Pagewood Cottage, Charlwood, 1705, has a raking-queen-strut roof.

The one extraordinary exception is Hardwick Court Barn, Chertsey, with the very early date of 1445 (fig 49). This uniquely early date for the style has been checked carefully, both structurally and dendrochronologically. Over two visits, 24 samples were taken, of which sixteen dated, including two from the raking struts. The structure was not entirely novel. Side purlins were not new; they had been used since 1400 in Hampshire.

Harmondsworth Great Barn, only 7 miles from Hardwick Court, is a side-purlin, crown-strut structure dated to 1426 and certainly Winchester influenced (fig 47). Raking struts were not new either, having been used as a part of Hampshire fan trusses since 1400 and quite common from 1440. What the builders of Hardwick Court Barn did was to have the courage to drop the non-essential collar and vertical crown strut so early, leaving just the raking struts. It is a big barn, six bays long and 8.5m wide. Some simplification of construction may have been welcomed. It was an important building; it is known that the Court Leet of the Godley Hundred was for many years held at Hardwick Court (Brayley 1878, 189). One such occasion was in 1446 (SHC:G85/12/). This may explain why such an imposing structure was built the previous year – to house the court. Hardwick Court had connections with the nearby Chertsey Abbey. Like Harmondsworth Great Barn, it would

seem to be an example of pioneering ecclesiastical work. The surprise is not so much that the date is early, but that it took humble carpenters so long to use the method in more ordinary buildings. Such are the dilemmas and surprises of a dendrochronology project.

THREE-QUEEN-STRUT ROOFS

Many queen-strut roofs have a third strut in the centre of the outer-wall trusses, making a trio with the other two vertical struts. When all the trusses are like this, including the internal ones, it is called a three-queen-strut roof. No examples have been found before 1540 – it was not an early fashion (fig 45). It was always a minority style, although in west Surrey only, on the basis of quite a small sample, it seems to have been more popular in the 17th century than the normal two-queen-strut truss.

BUTT PURLINS IN-LINE

Butt purlins could be expected to follow clasped purlins, by tenoning the purlins directly into the principal rafter rather than clasping them against it. It would seem to be stronger and more positive, but it does require thicker principals, as they are being morticed. Also, unless the principals are very thick, the rafters cannot lay onto the purlins. They must be cut in half, above and below the purlins, and be tenoned into them. This is often described as ‘butt purlin, butt rafter’. In early cases, the purlins were in-line with each other, either side of their principals, and hence the term ‘butt purlins in-line’.

It follows that butt purlins suit larger buildings and indeed they occur sporadically in high-status or larger buildings from about 1400. The earliest dated

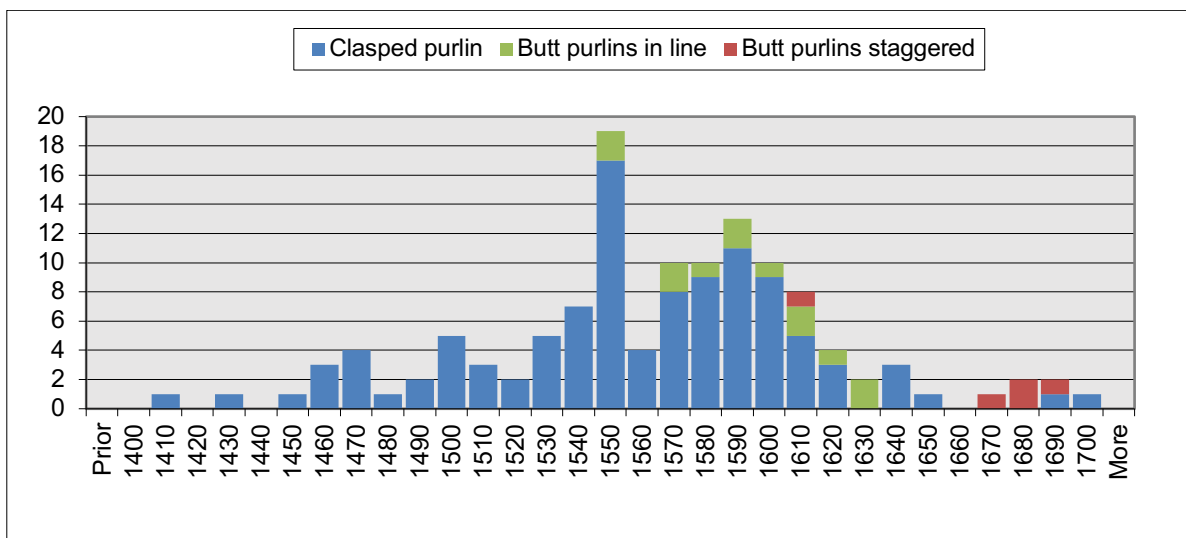


Fig 50 **Dates for the main types of roof framing.** After crown posts, clasped purlins dominated, with just a few butt-purlin roofs in higher-status or larger buildings. Later, the staggered type of butt purlin became the more popular and common at all levels.

by the Project was the Old Vicarage in Farnham, 1418. It was a prestigious building built by the Archdeacon of Surrey for gatherings and meetings. It contains a large three-bay hall on the first floor, and very little residential accommodation, only a small wing.

Also of higher status is the next example dated, the Lion & Lamb, Farnham, 1499. It has an arch-braced-collar roof (see above), mixed in with butt purlins and clasped purlins. Neither of these buildings is classed as a dwelling, so they are not included in figure 50. The method became a little more common after 1550, although again, for the most part, in larger buildings such as Castle Arch, Guildford, 1554, and Temple Elfande, Capel, 1572. The earliest truly vernacular example is Little Santon Farm, Reigate, 1555, but even then only for an end truss. About 1570, they began to be used more commonly with more dated examples up to about 1630, but they are always in a minority compared with the queen strut.

In both Kent and Hampshire, butt-purlin roofs are thought to be uncommon before the 17th century (Barnwell & Adams 1994, 51; Roberts 2010, 36). It may be that more dendrochronology will show some of these to be as early as the late 16th century, more in accord with the Surrey results.

STAGGERED BUTT PURLINS

Staggered butt purlins are a neat variant on butt purlins in-line. The mortices on each side of the principal rafter are offset (fig 54, Coldharbour Farm). This removes a source of weakness and allows the use of thinner timbers. It is surprising that carpenters took a long time to adopt the practice. The first in an admittedly small sample was at Smallfield Place, Burstow parish, 1617, the fine stone house already mentioned. It had been thought that the method became commonplace in the last quarter of the 17th century (J Baker, pers comm), although there are some earlier examples. Certainly it replaced the queen-strut roof in the samplings after 1670; Hampshire examples are similar (Roberts 2010, 37). The style continued in common use in brick buildings in the 18th century.

TRENCHED PURLINS

Trenched purlins, where they sit in a trench on the back of a principal rafter, are common in many parts of the country, but are rare in Surrey. The one full-cruck house, Walnut Tree Cottage, Frensham, 1430, has them as would be expected with such a structure. Otherwise, there are two in East Horsley built in the 1800s as part of the Lovelace Estate, but not tree-ring dated. They are common in

Hampshire, but only in the south-west of the county (Roberts 2010, 33–4). The method barely reached Surrey.

KING-POST ROOFS

King-post roofs have a central upright timber rising to the apex of the roof. In medieval examples, found mainly in ecclesiastical buildings, the post rests on the tiebeam that supports it so that the post is in compression. Later developments were introduced in the 16th and 17th centuries where the king post is supported by the principal rafters, not the tiebeam, and is therefore in tension rather than compression. This is achieved by means of a splayed head (joggle) at the top of the post and the rafters abut against it. It allowed a greater span without having a large tiebeam for support.

Inigo Jones used this type of ‘joggled king post’ in the roof of the banqueting hall at Whitehall, 1616/19, and Wren used it in many of his London churches (Yeomans 1992). These were derived from illustrations by the Italian architects Barbaro (1552), Serlio (1566) and Palladio (1570) or actually seen by Inigo Jones when he visited Italy.

With variations and developments, the king-post roof was later to become the mainstay of many Georgian and Victorian buildings. However, the Project dated a remarkably early one at Place Farm, Bletchingley (once the gatehouse to Bletchingley Place, one-time home to Anne of Cleves after her divorce from Henry VIII), to 1547. The date applies only to the roof which is a transitional prototype and one of the earliest uses of ‘joggles’ at the top of the king post in the country dated so far. The rest of the Place Farm roof is complex, with twin clasped purlins and collars interrupted by doorways (see the Gazetteer in Part 4 for full details).

Other aspects of roof construction

FROM HIP TO GABLE

Medieval roofs were almost always hipped-with-gablet, the full hip being topped with a small triangle, often left open to let smoke out (figs 8, 24, 51). An exception was the front face of cross wings, which were always gabled. Some town houses had gabled main builds, as were country Wealdens like the Crown Inn, Chiddingfold, 1440. In fact, nearly all 15th century gabled houses are Wealdens, seemingly pioneering in this regard. Leaving aside these exceptions, the evident reason for a change is the advent of the side-purlin roof, which invites the construction of a half-hip, with an end collar joining the side purlins. The first half-hip dated in

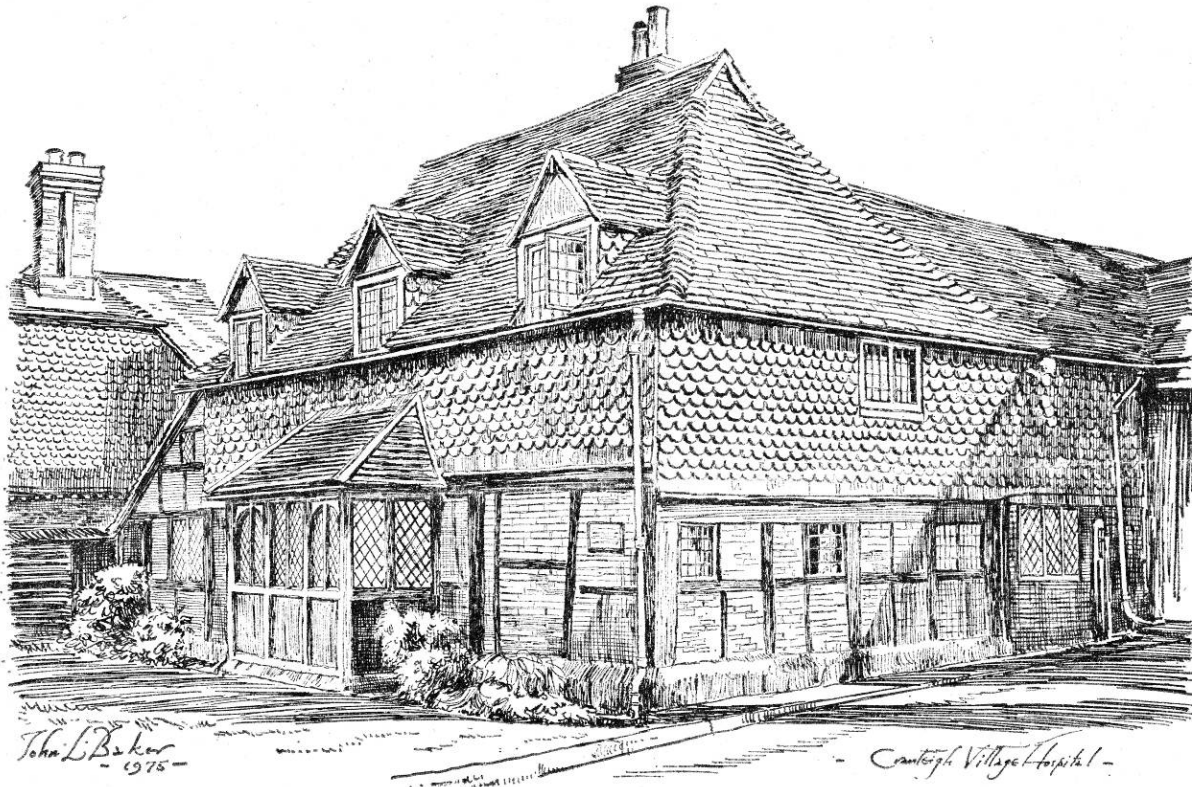


Fig 51 **Cranleigh Village Hospital, 1446**, giving away its age by the ancient hipped roof, with the little ‘gables’, useful for letting out smoke from the open hall. The dormers, chimney, porch and rear part are additions. Quite modern tile hanging helps to keep it weatherproof. There are fine crown posts inside. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

the Project is Surrey’s only full-cruck house, Walnut Tree Cottage, Frensham, 1430, mentioned above. Cruck buildings normally have a half-hip, to save on the need for full-length crucks. After this example, the next dated half-hip is not until 1511, which is a surprisingly slow take-up. The side-purlin roof was well known by 1500 – and had been in minority use for a half-century before that – but

carpenters took some time to take up the opportunity to use a half-hip with it. The 1511 half-hip is at Halsey Cottage, Normandy, where the builder put a half-hip only over the service end.

Those who ignored the half-hip opportunity and continued to construct full hips even with side purlins had to use ‘floating collars’ to support the

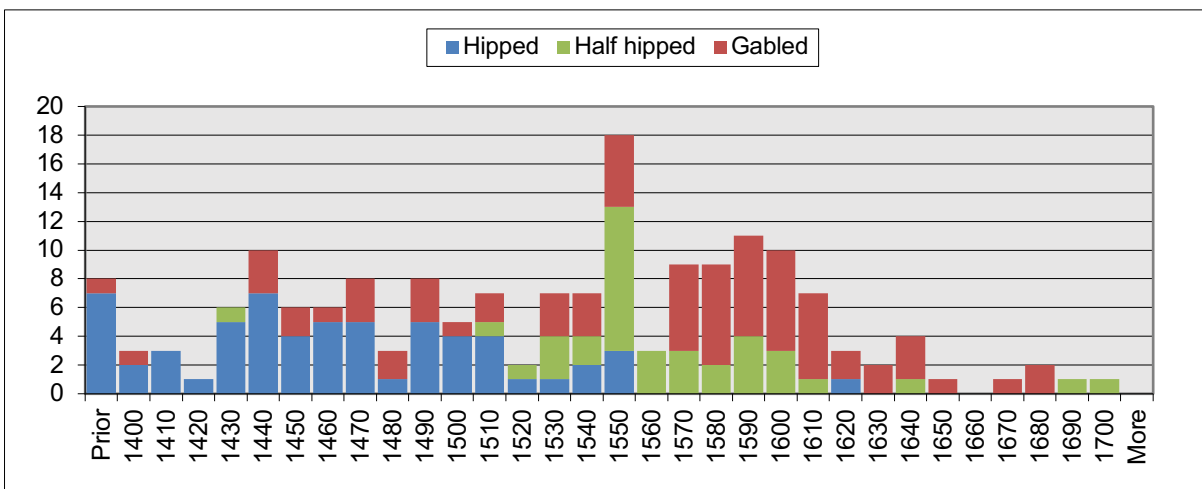


Fig 52 **Dates for different roof shapes.** The early gabled cases are all cross wings or in higher-status or town houses. The change from hipped to half-hipped is because of the switch from crown post to clasped purlin. The change to gabled roofs from about 1570 was in part because of the increasing use of brick which, in an end wall, gave simple and strong support to purlins.



Fig 53 **Coldharbour Farm, Cranleigh, 1683**, showing its forward-facing gables, big central chimney, and Horsham stone roof.



Fig 54 **Coldharbour Farm, Cranleigh, 1683**, staggered-butt-purlin roof structure. If the mortices were in line, they would weaken the structure. It is a good sign of a late 17th century house, although there are occasional earlier examples.

ends of the purlins, which would otherwise sag down between trusses (or join up clumsily with sloping end rafters). In Hampshire, half-hips had become standard from about 1400 (Roberts 2010, 38). ‘Only in the far east of the county did the hipped roof persist until the early sixteenth century’ (*ibid*). In Surrey, the latest-dated full hip is the Old Cottage, Old Woking, 1555. Like Halsey Cottage, it was hipped at one end only, but this time at the service end. This seems more sensible, giving extra headroom to the other end – the master’s chamber. Almost as late a date for a full hip with side purlins is Domford, Elstead, 1554. Domford is an example of the kinship of styles between western Surrey and Hampshire (see ‘Movement of Styles’ below).

Another late date for a house with full hips with side purlins, is Whitemeads, Cranleigh, 1541. This is one of the very last open halls, a four-bay house, and with the roof still hipped at both ends, in spite of its clasped-purlin, queen-strut roof. It had previously been dated on stylistic grounds as *c* 1500. It is an individual house in many ways and the carpenter did things in his own way. There is one exceptionally late date for a full hip – the kitchen wing at Ridgeway Farm, Thursley, 1627. It is a large rear wing with a side-purlin roof

and a hip at the outside end. The dating is from the wall timbers and there are signs that at least some of the roof timbers are reused. This suggests that the date may not apply to the hip construction.

Apart from the town houses and cross wings mentioned (and the clear need for them for an end smoke bay or chimney) gables did not become popular until the last quarter of the 16th century. Then, in the 17th century, they became the dominant form. This was partly, but not solely, because of their invariable use in brick houses.

Forward-facing gables (not to be confused with cross wings) were a decorative feature in a few higher-status houses in the later 16th century, becoming a little more common throughout the 17th century. They must have been useful in giving more light to the attics, rather than relying on windows in gable ends. The latest example dated by the Project was Coldharbour Farmhouse, Cranleigh, 1683. Until recently, it did not have a forward-facing gable, but the evidence was there, so the planning authorities allowed its reinstatement.

WINDBRACES

Windbraces were used in nearly all side-purlin roofs, the earliest dated by the Project being at the Old Parsonage, Thursley, 1411, which has a side-purlin, crown-strut roof. In this case, long, slightly curved, paired windbraces rise either side of the principal rafters of the open truss, but there are no other windbraces. This arrangement was not seen at later times, with the emphasis then being more on windbraces at the ends of roofs. Not until the last quarter of the 16th century were some small houses built without them. These were mostly gabled

buildings where the builders felt able to rely on the gables to keep the building square. Then in the 17th century, it became more common not to use them, about half the buildings dated being found without them. The builders of brick buildings, often gabled, usually built without them.

All the early windbraces were curved, making them a decorative feature in many an open hall. Then, over most of Surrey, almost abruptly, about 1570, windbraces 'straightened' (fig 55). This is a surprisingly accurate dating criterion. Out of 44 curved-windbrace buildings dated, all but two are before 1570. (One of the later cases is a highly decorative cross wing at Jordans, Eashing, proudly and perhaps nostalgically displaying a full set of sixteen curved windbraces. It dates to 1575). The straight windbrace starts in 1547 (Barlings, Farnham) and there are six more before the 1570 apparent change. But after that there are 35 examples of straight windbraces, as against only two curved. The changeover would have been even more abrupt but for west Surrey, as always in advance. Of the seven early straight braces, four are in the western fringe of the county. An exception is the high-status Royal Oak, Wrecclesham, which used curved windbraces as late as 1609. It is included in this analysis of 'dwellings' as it is believed to have been so originally (Heather 2008).

The *c* 1570 changeover is very useful in dating, but can serve other purposes. The kitchen wing at Ridgeway Farm, Thursley, dated at 1627, but with curved windbraces. On checking the case, the windbraces were found to be smoke blackened. As the wing was heated by a chimney, the braces must have been reused from an earlier building.

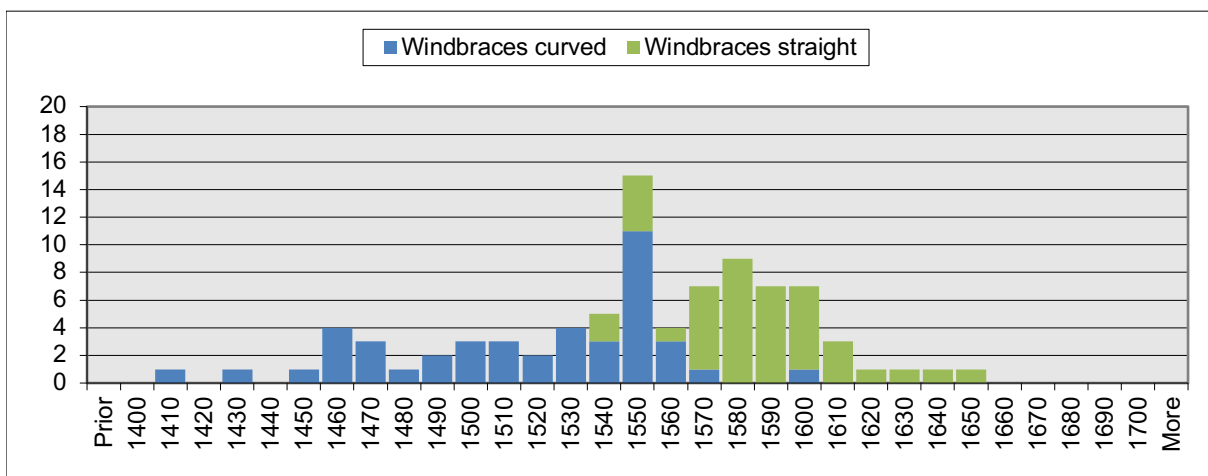


Fig 55 **Dates for the two main types of windbraces.** The change to the simpler straight sort is surprisingly sudden, about 1570.

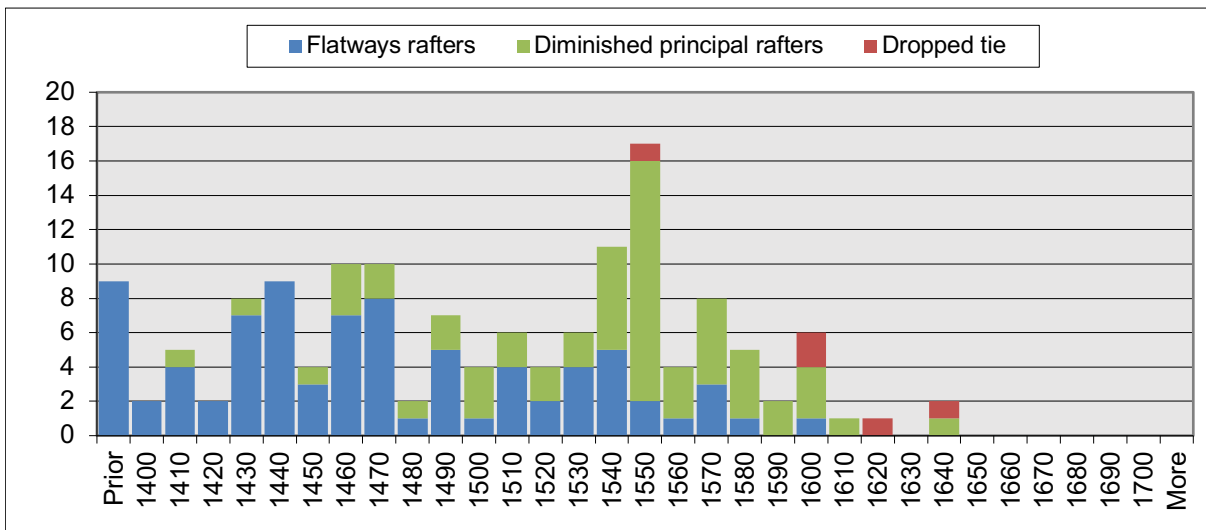


Fig 56 **Dates for various rafter structures.** Common rafters continued to be ‘flatways’ well into the 16th century, albeit in a minority against ‘on-edge’ (which are not shown). The technique of diminishing principal rafters was used in nearly all clasped-purlin roofs until about 1580 when simpler notched principals came into use. Dropped ties give more space to an attic, so are found in later houses.

FLATWAYS RAFTERS

‘Flatways’ rafters (placed flat as distinct from being square or placed on-edge) are always thought of as being medieval and associated with open halls. Sure enough, they occur often up to 1550, although some are still to be found with later houses up to 1600 (fig 56). They are not a good dating feature, although it must be made clear that the Project categorised them only subjectively. However, it is clear that crown-post roofs are reliably ‘flatways’. Queen-strut roofs usually have square or on-edge rafters, but not always so.

DIMINISHED PRINCIPAL RAFTERS

The technique of ‘diminishing’ principal rafters entails them being cut back to a thinner section above the purlins. It was used for all crown-strut, fan truss, queen-strut and raking-queen-strut roofs, from the first use of these roof structures. It gives a natural ledge for the side-purlins to nestle in, and the cut-off piece may have been useful elsewhere. What is more surprising is that it should ever have been abandoned for the simpler notched type. This needed a little less sawing, but the difference is hardly enough to worry such craftsmen. Perhaps, as available timbers became thinner, as they did over time, carpenters preferred not to weaken the upper portion of the rafter.

Over most of Surrey, the change to notched principal rafters was another quite sudden switch, about 1580 (fig 56). One of the last reducing type dated to 1582, and after that they become sporadic. Notched principals (not shown in the figure) start in

the 1580s and are far more popular than diminished principals after that.

As usual, west Surrey is a little different, with a much less clear-cut difference, but the 1580 rule for the changeover from diminished to notched principals suits most of Surrey very well. It is another example of the quite rapid carpentry changes that took place during the Elizabethan era.

Framing

ARCH AND DOWN BRACES IN EXTERNAL WALLS

Buildings before 1440 nearly always use arch braces (fig 57). These rise upward from a principal post to meet a higher, horizontal timber, usually a wall plate or tiebeam. Down braces, sometimes called tension braces, are the reverse, falling downwards from the post to a mid-rail. The earliest down brace in the Project’s data is the Crown Inn, Chiddingfold, 1440, a ‘Wealden’ house. This spectacular fashion has been mentioned and is something of a Kent import. Another Kentish style is known as ‘Kentish bracing’. This consists of decorative pairs of down braces in a fan shape, filling most of a bay wall. It is a feature of that county, and of the Wealden style, and can be seen at the Crown (fig 16). However, houses other than Wealdens also started to use down braces at this time, notably the fine solar wing at Edmonds Farm, Gomshall (Shere parish), 1443.

After 1440, arch and down braces were used over most of the county in quite similar numbers, with no clear reason for each carpenter’s preference.

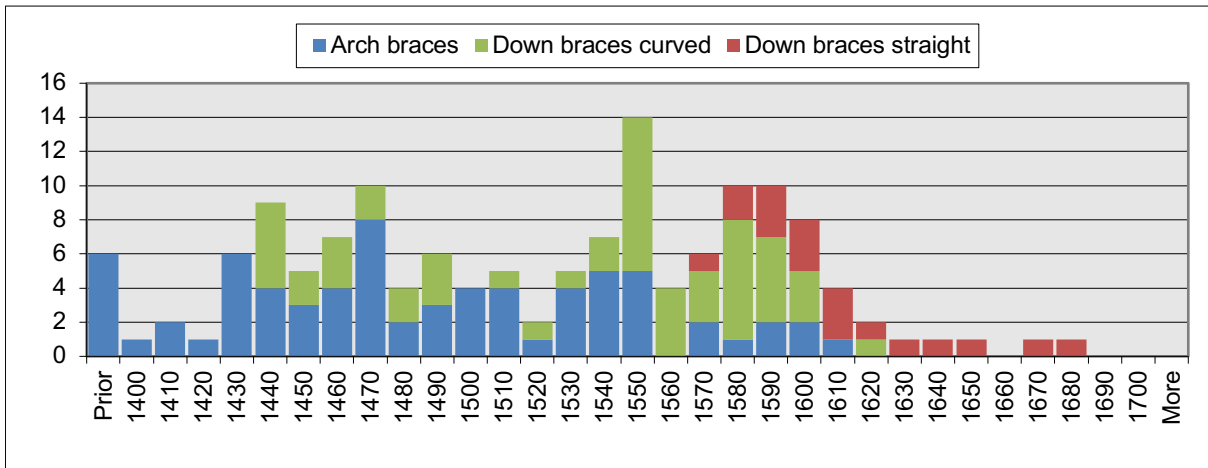


Fig 57 **Dates for different types of wall brace.** Very early braces are arched. Down braces do not come into use until 1440 and even then do not become prevalent until the mid-1500s. In the 1570s, they start to be simpler, straight braces, this type becoming the norm after 1600.

Figure 8 shows an example of arch braces dated to 1445, and figure 24 shows down braces in 1449. The two styles lasted together until about 1550, after which the arch brace fell out of use quite quickly. They are unusual after that date, with down braces coming clearly into favour and dominating after 1560.

Kent shows a similar pattern (Barnwell & Adams 1994, 76) to that found in Surrey, including east Surrey. West Surrey once again shows a striking difference, spurning the down brace until about 1550. Even after that, the arch brace stayed popular. The Project's two latest-dated arch braces are both in west Surrey: the Royal Oak, Wrecclesham, 1609, and Creedhole Farm, Thursley, 1617. The braces at Creedhole Farm are straight, so the better term is 'upward brace' (see below). The work in eastern Sussex gives quite different results, with down bracing more dominant from much earlier (Martin & Martin 1989, 44).

Ogee braces

There are seven dated examples of houses with ogee down braces, all in the range 1556–82. These are cut to a double curve. Tunmore Cottage, East Clandon, 1573, is a fine example with twelve all around the house, beautifully matched (fig 13). A near neighbour, Lamp Cottage, 1582, also has a good collection. The latter part of this period coincides with the highly decorative square-and-circle type of frontage (see below). The ogee down brace seems therefore to be a forerunner to this very attractive Elizabethan fashion. Two examples in Hampshire are earlier, 1508 and 1548 (Roberts 2010, 57). (A prominent Farnham example, 11

Bridge Square, dates at 1476, but the timbers in question could be part of the later frontage rebuild).

Wall braces straighten

Just as windbraces straightened about 1570, so did wall braces, but not until a little later, about 1580. Wall braces are visible and decorative, which may explain why they stayed curved for a little longer, despite being much more difficult to source and work. The earliest straight down brace in the survey is at Chennells, Dunsfold, 1576, and there are others in 1581 and 1589. The change then gathered pace remarkably quickly, the curved brace being almost unknown in buildings dated after 1600.

Hampshire started to use straight braces in much the same way, but does appear to have made the change a little earlier, with examples throughout the second half of the 16th century (Roberts 2010, 57).

Other braces

Occasionally, braces rising from post to plate are straight, or even sagging, rather than arched. They are more properly called 'upward braces'. In this brief analysis, they have been classified with arch braces and tend to be rather later in date.

Sometimes, braces are recessed or set back. They were meant to be plastered over, to be invisible from the front. This device was used in conjunction with small square panels (see below), presumably so as not to spoil the pattern. An example is Charlwood Place Farm, Charlwood, 1596.

Most braces are set in the upper storey, but they are sometimes found in the ground floor framing. An extreme example is Edmonds Farm Upper Barn,

Shere (Gomshall), 1471, where a complete set of twenty arch braces is still in place (in arched pairs) in the upper framing, and two remaining (out of six originally) in the lower. Extraordinarily, these lower examples are below the ground floor mid-rail.

Summarising dating criteria for wall braces

Braces can help in dating a house but, as has been seen, it is not clear cut. Generally speaking, there are arch braces before 1440 and then a mixture of arch and down braces until about 1550, after which down braces dominate. Then, about 1580, braces straighten. These three turning points are useful, but care must be taken with houses in the west, where the arch brace stayed popular longer. As with all the dating criteria suggested in this report, they can only be a guide. They remain an impressive advance on the stylistic dating criteria that preceded dendrochronology.

SMALL SQUARE PANELS

Small square panels, *c* 1 x 1 m, are a common feature of post-medieval houses. The earliest examples are about 1550, and by 1570 they are almost the rule (fig 58). During the rest of the 16th century, there are some imperfect examples, as quite large braces still occur in some cases and interrupt the style. But in the 17th century, with short straight braces, or no braces at all, there are strong mid-rails across each storey and an unblemished pattern of squares (fig 27). It is a very recognisable pattern and a good sign that the building is 17th century, provided the pattern is complete. Otherwise it can be a few decades earlier. The earliest dated examples are in the west: Barlings parlour wing, Farnham, 1547, and 3

Church Street, Godalming, 1557. This is expected as Hampshire examples can be early (Roberts 2010, 54). Sussex is more in accord with Surrey (Martin & Martin 1989, 63).

DECORATIVE PANELS

Some parts of England, particularly the Welsh Marches, have timber-framed buildings with great complexity and decoration. Surrey has a few so-called square-and-circle frontages that are equally fine, and four have been dated. They are in a tight range of 1571–82 (fig 58), following on from ogee braces (see above). It was a beautiful but brief Elizabethan flowering, doomed to a short life, presumably because of expense and maintenance difficulties.

Surviving examples are all in the Godalming area. Looking from the ‘Pepper Pot’ is a remarkable street scene: 3 Church Street has fine ogee braces and twin jetties. Next door is 1 Church Street, the earliest dated, 1571, with its square-and-circle decoration. Then across the road is Godalming Museum with crown posts on display inside. Church Street and the High Street have further fine timber-framing examples.

The next two square-and-circle frontages in the dating sequence are Jordans, Eashing, 1575, and Malthouse Cottages, Gomshall, 1582 (fig 26). The latest date to be found is Great Tangle Manor, Wonersh, 1582, a splendid ensemble of squares-and-circles, jetties, gables and oriel windows. The dating is by inscription on the corbels. (There is older work in the main house behind). It might have been thought that the Manor would lead the way in terms of fashion, whereas it followed – but in quite a style.

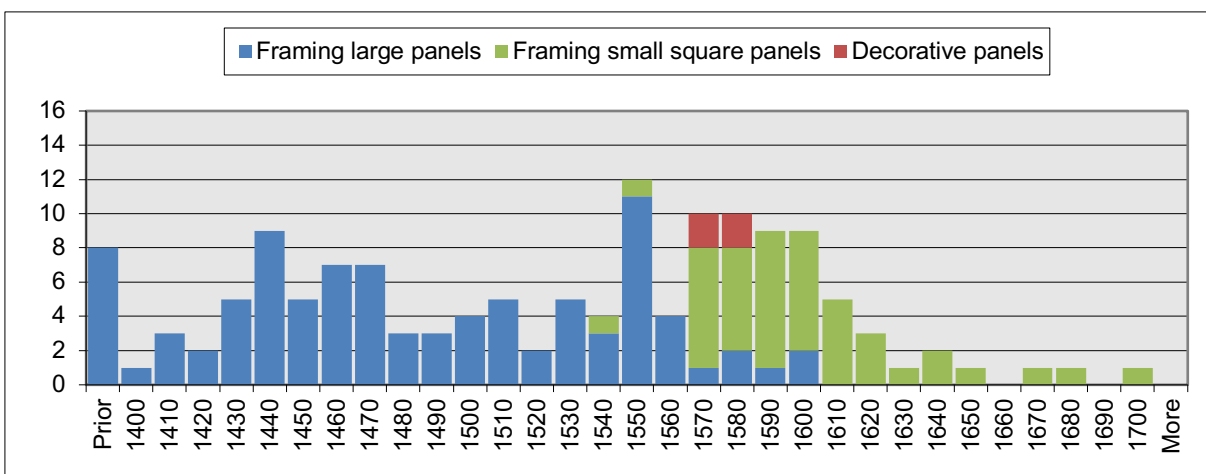


Fig 58 **Dates for different types of wall panel.** There is a sharp change about 1570 when the fashion for small (1 x 1 m) panels began. The intensely decorative ‘square-and-circle’ fashion seems to have been very brief.

CLOSE STUDDING

In comparison with other counties, Surrey is not well furnished with close-studded houses. The Project has dated only seven examples in the county (with two more just over the border into Sussex). The Surrey cases are nearly all close to either Kent or Hampshire, both of which have more close studding. For what they are worth, the results are strongly clustered just before 1500, with just three in the 16th century (1547, 1551, and 1575), but there are too little data for firm conclusions.

Both Kent and Hampshire have close studding over a wide period, quite evenly spaced between 1450 and 1550, with a few examples for a century after that (Barnwell & Adams 1994, 124; Roberts 2010, 55). Sussex would seem to be similar (Martin & Martin 1989, 61). Throughout the South East, therefore, the existence of close studding is of limited value as a dating parameter, although its presence does seem to imply a date after 1450. Examples in East Anglia are earlier, some as early as the 14th century (Walker 1998, 12).

Some of the Surrey examples are without a mid-rail and this type are all before 1500. This gives the following suggested guidelines for Surrey: close studding will be after 1450 and, if without a mid-rail, before 1500.

Surrey's close-studded properties are mostly in larger or higher-status buildings, as would be expected. Three of the seven dated are Wealdens: the Guest House, Lingfield (1474), Brewerstreet Farmhouse, Bletchingley (1491), and Rose Cottages, Lingfield (1499). An intriguing exception is the tiny front wing at Home Farm, Effingham, 1551. This is a 5m long, two-bay build that was

originally detached. It faces across the road to the church. The close studding is fragmentary but clear, and is strongly built. The function of this prestigious little building is not clear. It was apparently unheated, except perhaps by braziers. Some sort of church function is a possibility, perhaps as a 'church house' (see 'Churches, yew trees and church houses', below).

EXTERNAL JETTIES

External jetties may have some structural function, but the impression remains that they were used mostly because of their appearance. They enhance any building and were used particularly on Wealden-style buildings.

End jetties on single-range buildings are almost unknown in Surrey (unlike Kent, where they abound). Jetties on cross wings are far more common and there are a few houses with continuous jetties along the front. Those on cross wings are spread throughout the timber-framing period, with little dating significance except for a slight increase in the later 16th century. The earliest dated was Vintage Cottage Ripley, 1391, and the latest Taylors East Wing, Capel, 1642m.

Continuous jetties are nearly always after 1550, as it is very difficult to fit them to open halls. Two exceptions in the late 15th century were fully floored when built and both are Farnham buildings: Tanyard House, 1485, and the Lion & Lamb, 1499. Most continuous jetties are in towns, but one exception is Reffolds, Newdigate, 1608 (plan in fig 40).

Kent datings for jetties are also quite evenly spread (Barnwell & Adams 1994, 24). The same is true for

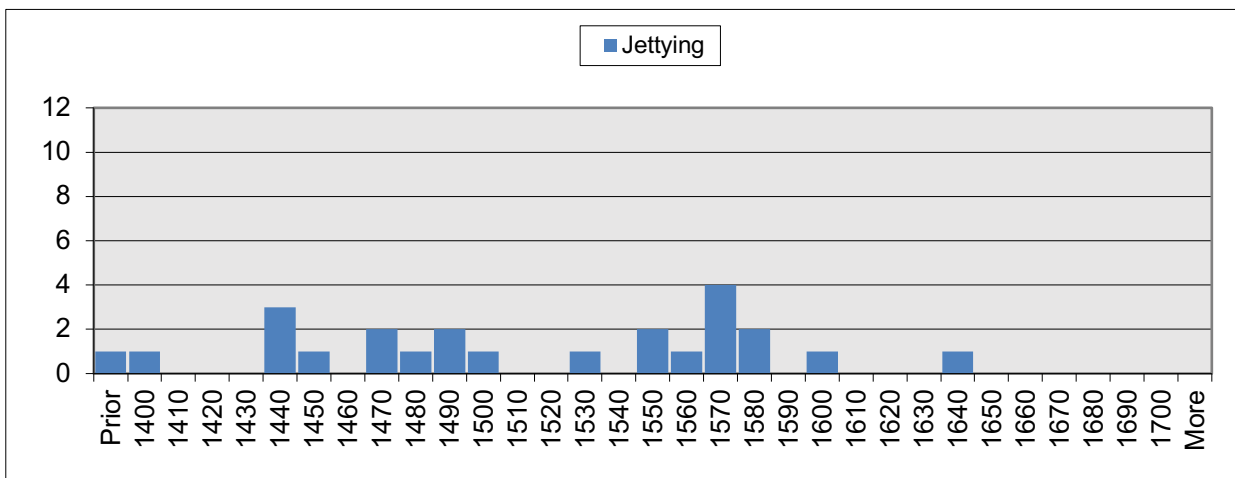


Fig 59 **Dates for external jetties**, including jettied cross wings (the great majority) and continuous front jetties. There is little dating significance.

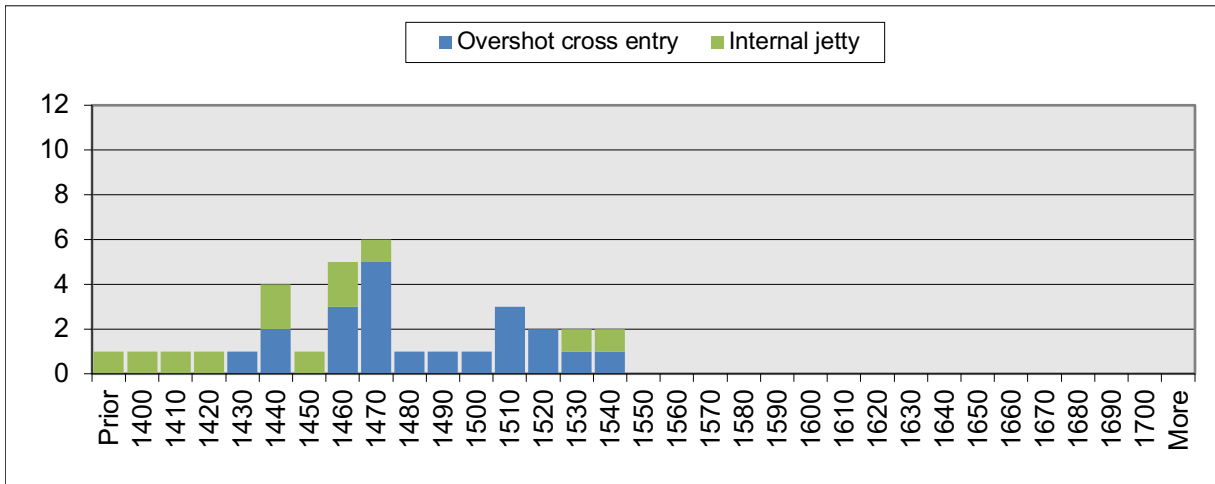


Fig 60 **Dates for overshoot cross entries and internal jetties.** They do not go together as often as expected. Overshoot cross entries are curiously peaked about 1470 and continue in use until the end of the open-hall period. Internal jetties are usually pre-1470 but can be later.

Hampshire (Roberts 2010, 42), although there is quite a strong peak in the middle of the 15th century that is not apparent in Surrey datings. Otherwise there is much uniformity across the whole region. There is just that slight suggestion of relative poverty in Surrey until Elizabethan times, when Surrey's examples become more numerous.

INTERNAL JETTIES AND OVERSHOT CROSS ENTRIES
Internal jetties are not very common in Surrey (although the evidence is not always easy to see). Although they give a little more space to the hall, their purpose was primarily decorative and to give status to the high table. They were used equally for one-bay and two-bay halls. There is a particularly

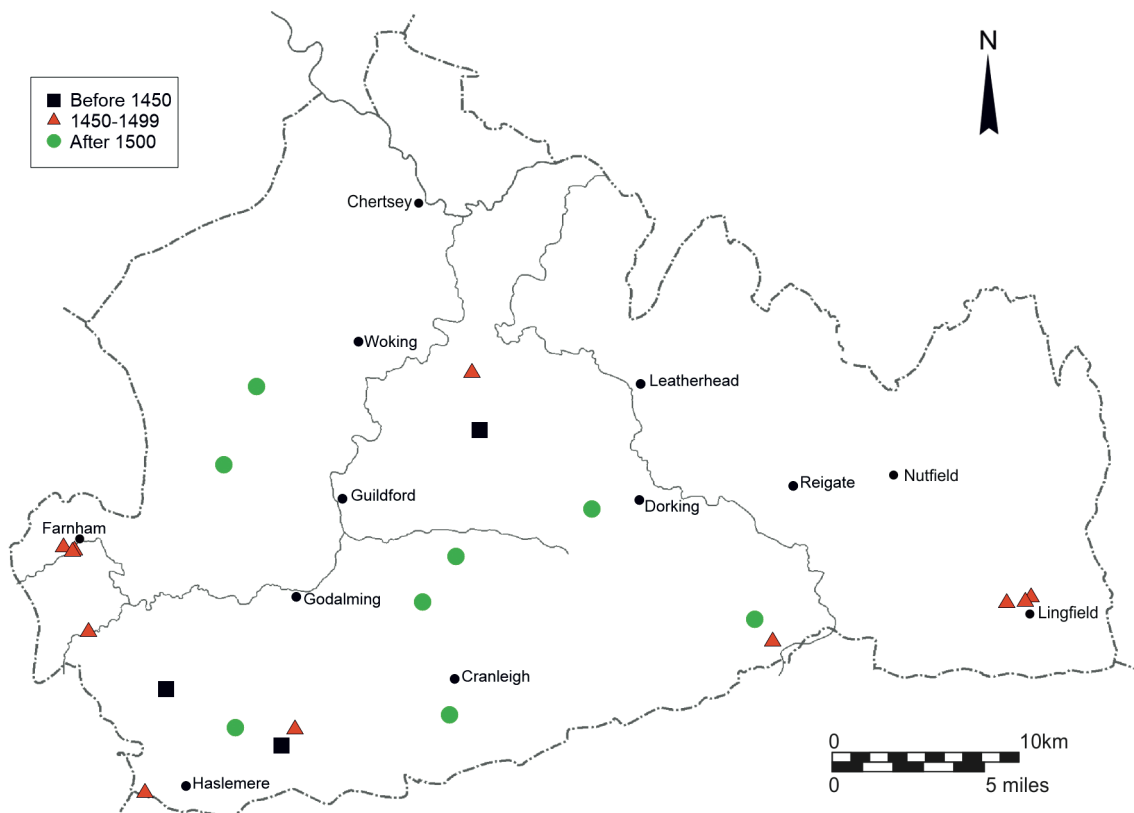


Fig 61 **Distribution of the overshoot cross entries dated.** This is an example of local variation. The later, post-1500, examples can be seen to be in the central Wealden areas. This almost isolated region does not seem to have taken up the fashion until after the more prosperous and developed areas closer to Hampshire, Kent and London.

fine example at Brook Farm, Westcott, 1407, supported by a pair of long fan braces. Only twelve have been dated by the Project, without any apparent dating significance. Four are in West Surrey, close to Hampshire where they may be more common.

Overshot cross entries, where the upper floor overshoots the entry below, are less unusual. They were useful in augmenting the space of one-bay halls, and arrived about the same time, Ridgeway Farm, Thursley, 1436, being the earliest in the survey data. Thereafter they were used in about half the examples of one-bay halls that have been dated. The concept was also used for two-bay halls at the low end of the hall, and found in about a quarter of cases after this date. In central Surrey, most overshot cross entries dated to the declining years of the open hall – the 16th century – which was not expected. These late examples conjoined one-bay halls and, with just two exceptions, did not have a corresponding internal jetty. This is all in curious contrast to the eastern and western fringes of Surrey where all the examples are 15th century and, for the most part, with internal jetties. These are strange results, but statistically significant. Most of the central Surrey examples are in parishes in the Weald. It has been shown that in these parishes carpenters seem to have been reluctant to embrace the use of the clasped-purlin roof. The use of overshot cross entries (and internal jetties) seems to have been equally resisted – although then adopted with some enthusiasm. The map (fig 61) shows this quite marked regional difference.

Even in the last throes of the open-hall period, neither overshot cross entries nor internal jetties dropped out of fashion, at least not for wealthier people. Whitemeads, Cranleigh, 1541, has both an internal jetty and an overshot cross passage.

JOIST, FLAT OR ON-EDGE

Joists were laid flat until approaching 1540, when there was a fairly abrupt change to using square-section timbers or laying them on-edge. There are just a few examples of the change happening earlier. This date mirrors quite precisely the equally sharp change from open to floored halls. In a way, this result is predictable. Just by observation, almost all the open halls surveyed had flat-laid joists in their floored bays. Similarly, houses with floored halls are expected to have square section or on-edge joists. It is still surprising that dendrochronology has confirmed the correlation so convincingly, and another example of the changes that came in apparent unison around this time.

The work in Hampshire agrees the timescale change and gives detailed measurements (Roberts 2010, 115).

DROPPED-TIE CONSTRUCTION

In this construction, the tiebeams are dropped below the level of the wall plates. This is designed to give more space to an attic, and occurs occasionally in houses of the post-medieval period. In a fairly small sample, most are 17th century (fig 56). This is perhaps to be expected, but one example dated as early as 1555, which is more of a surprise. It is in the intriguing Brittleware,

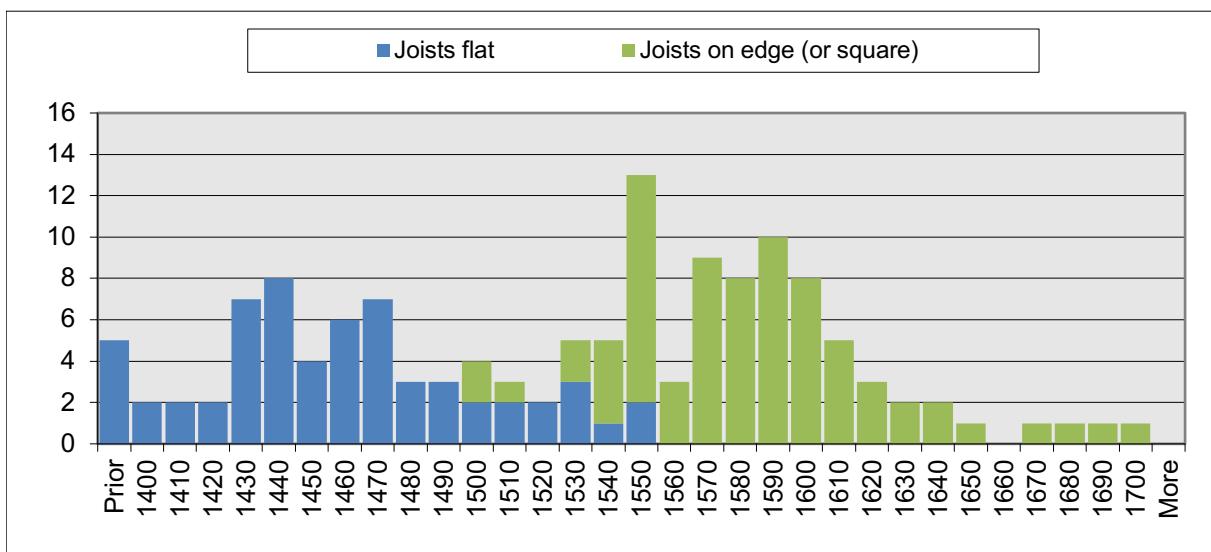


Fig 62 **Dates for joist types.** This is another of the ‘1540 changes’. It coincides with the change from open to floored halls, but there is no structural reason why this should be so.

Charlwood, where the third floor was used as a granary, the corn bins still being in place. The roof also has a well-preserved smoke bay that one can stand in, and a probably later stair turret for access.

PENTICE ROOFS

This is a narrow roof projecting from a wall. Just two examples of this attractive feature could be dated and shown to be original (Waterlands Farm, Holmwood, 1590, and Volvens, Abinger, 1623, fig 27). The dates are typical of the oriel window period (see below) and both houses have oriel windows. This is to be expected as projecting windows are better protected under a pentice.

Windows and doorways

Windows studied in this survey were for the most part simple, unglazed examples with diamond-set mullions. Similarly, the doorways are usually square-headed, without ornamentation. In both cases, more analysis could be done on such things as dimensions, sections and position. For the time being, some particular cases are noted.

ORIEL OR BAY WINDOWS

An oriel window projects from a wall and rests on brackets. Four dated examples are in the period 1570–1600, further instances of Elizabethan decoration. They were made practical by the more general use of glass, at least in the houses of the more affluent. One further example dated to 1623 (Volvens, Abinger, fig 27). The experience in Hampshire is similar, although with two examples a little earlier, in 1560 (Roberts 2010, 69), but the feature can be very early, with examples in Kent throughout the 15th century (Barnwell & Adams 1994, 124).

In the 17th century, the style was simplified into full-height bay windows, rising continuously across both storeys. This can be seen as Jacobean practicality, although the earliest of three dated examples is Elizabethan: Tenchleys Manor, Limpsfield, 1600. The bay window seems to have largely superseded the oriel, as there is only the one dated example of an oriel window in the 17th century (Volvens, 1623, as mentioned).

In three of the more decorative cases (all in the 17th century), there were originally smaller windows, flanking the bays, but set back into the main build, forming a T-shaped outline to the window (Tenchleys Manor, Limpsfield, 1600; Kings Mill House, Nutfield, 1609; Waleys, Ockley, 1656). This is a feature sometimes described as ‘frieze fenestration’ as the glazing, on both storeys, was almost continuous across the facade. Tenchleys

Manor is the finest of these, still with a very impressive facade, even though the bay windows have gone. It has heavy timbers and a chequerboard of small panels. Under the eaves, double wall plates separated by short studs add to the picture (this arrangement necessarily following from the dropped-tie interior).

OVOLO MOULDINGS

Ovolo mouldings are usually considered to be 17th century in date and most surveyed by the Project were in houses of this period. Just two out of eleven dated to the late 16th century, both in notably higher-status houses, although not particularly large buildings (Malthouse Cottages, Gomshall, 1581; Waterlands Farm, Holmwood, 1590). Nearly all the examples were found in window mullions, but one spine beam was so moulded and was itself dated specifically at 1617m (Monteagle House, Yateley, a Project-dated case just over the border in Hampshire).

GLAZING

Windows with diamond-set mullions were unglazed (‘windeyes’). The oriel or bay windows mentioned almost certainly were glazed. It follows that glazing can be seen to have started being used at the top of the vernacular level about 1580, before becoming gradually more widespread during the first quarter of the 17th century. After that, glass, usually in iron frames, is thought to have become more ubiquitous. The Project has not tried to date the framing of such items as they are often replacements.

ARCHED DOORHEADS

‘Durn doors’ have pointed doorheads, with the whole frame made up of just two timbers arching inwards to meet at the top. They are a rare early feature and are discussed in ‘Very Early Buildings’ below. Less rare, but still not frequent, are arched doorheads with ‘depressed arches’ – usually the four-centred ‘Tudor’ type. Surrey examples are spread quite evenly throughout the 15th century and into the 16th century. They are a sign of wealth, rather than date, and occur in open-hall houses. A fine Wealden-style house in Farnham (80–81 West Street, 1467) has three examples, one with hollow chamfering around the arch and down the posts. There are just two late examples in early chimney houses: Barlings parlour wing, Farnham, 1547, and Malthouse Cottages, Gomshall, 1581 (fig 26).

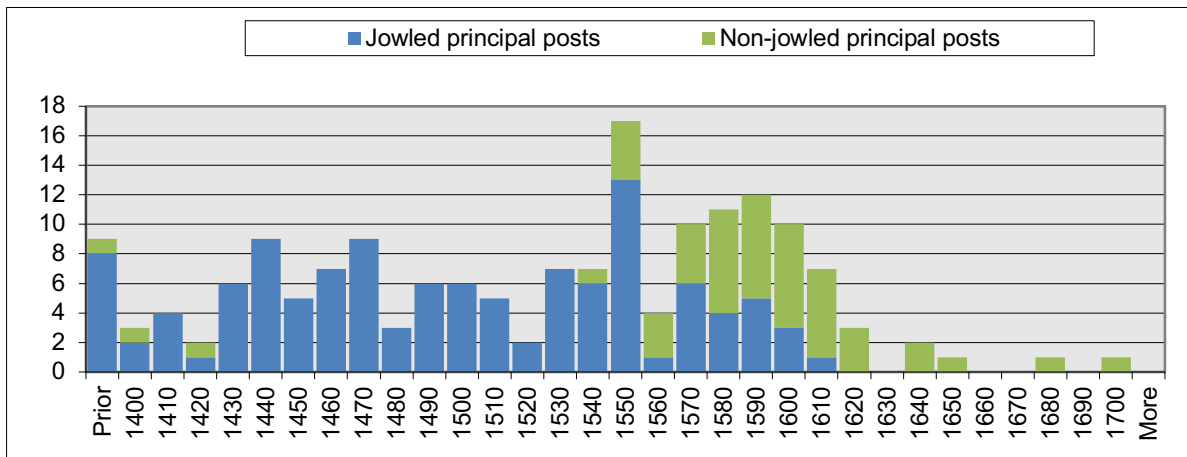


Fig 63 **Dates for the change from jowled to non-jowled principal posts.** This is earlier than expected, about 1560, but it took the next 50 years for the jowled post to fall out of use altogether.

Carpentry

JOWLED POSTS

Some very early buildings have posts without the jowl swelling (see ‘Very early buildings’, below). Apart from a few such examples, medieval houses had jowled posts and it has often been said that they lasted until about 1600. This was thought to be a reliable dating criterion, but it is only partially true. After 1600, jowls did indeed cease to be used, and quite rapidly, but the Project has shown that houses without jowled posts were being built as early as 1548 (Old Pound Cottage, Chobham). Then, from about 1560, there is almost equal use of the two types for the rest of the century.

A few examples of ‘half-jowled’ houses were found. These use jowled posts only at their corners. Their dates are scattered throughout the second half of the 16th century, for a time offering a halfway house to having no jowls at all.

It is said that jowls continued to be used in Sussex for much longer. Indeed, the work in the Eastern

High Weald shows them in use for almost the whole of the timber-framed period (Martin & Martin 1989, 12).

CHAMFER STOPS

The sequence of chamfer stops in Surrey is: flat step top, to curved step stop, to lamb’s tongue stop (fig 64). The use of flat step stop was the rule until 1540, when there was an abrupt change to curved step stops. This exactly mirrors the equally sudden change from open to floored halls at this time. It is confirmed by the remarkable fact that only three open halls in the survey had the curved step stop and no floored halls had flat steps. The latest flat step chamfer stop found was in Hillands, Charlwood, 1533. Joan Harding often asserted that the curved step went with smoke bay houses, so she has been proved right. It is remarkable and reinforces the view that there was almost a renaissance in vernacular building around this time.

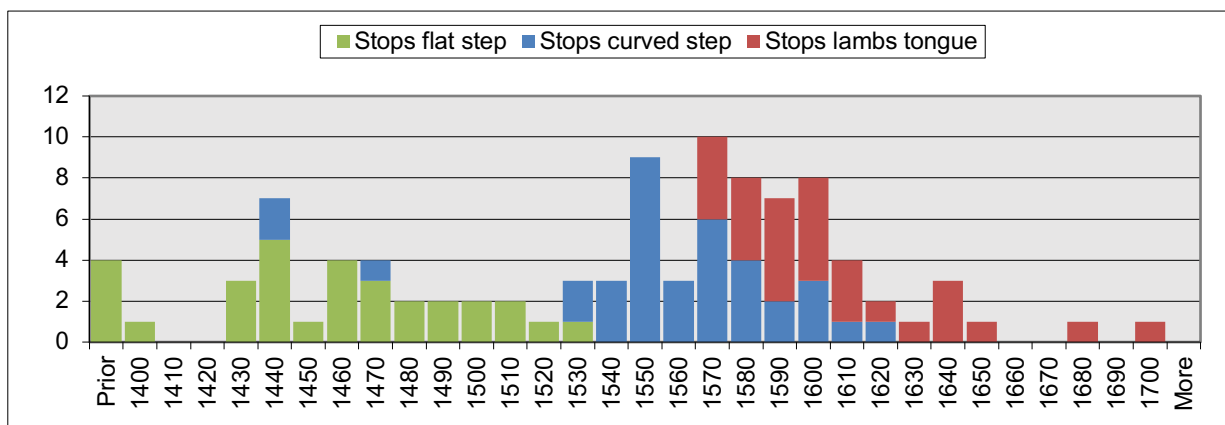


Fig 64 **Dates for different types of chamfer stops.** This is a helpful dating guide, with the changes at about 1540 and then after 1570.

The curved step stop gradually gave way to the more artistic lamb's tongue (ogee) stop from the 1570s. The earliest found was at Temple Elfande, Capel, 1572. Again, the change came about quite quickly, although curved step stops crop up occasionally into the 17th century. The lamb's tongue stop had long been thought to be a 17th century stop, so this is another example of the 17th century 'starting early in Surrey'.

There have been quite fierce disputes between building archaeologists about the classification of these stops, as they are not always easy to distinguish. The survey noted two transitional types: a slightly shorter, slightly curved flat step stop; and a curved step stop with a sloping step, not unlike a lamb's tongue stop. The former type occurs sporadically throughout the medieval period. Most of the latter type occur in the 1570s, just before the lamb's tongue stop became popular. It would seem to be a genuine transitional feature – almost a dating feature – although it continues in use into the 17th century.

The results to the west of the county are broadly in accord, except that there is a prevalence of the transitional types. The carpenters liked to slightly curve their flat steps and slope their curved step stop shoulders. Presumably this is the Hampshire influence again and another example of the quite detailed nature of local tradition. Hampshire stops are broadly similar in date, although their curved step stops start earlier – just as their floored halls start earlier (Roberts 2010, 112–14).

Surrey is not given to having a wide variety of ornate chamfer stops, carrying such names as broach, pyramid or scroll. They occur, but in limited numbers. Only one, the 'shouldered-step stop', occurred in the Project. It has its step cut

back at the sides to give a three-sided step. Four examples were found. All are in the deep Weald area – Capel, Newdigate, Charlwood – suggesting a local peculiarity. More surprisingly, the dates were evenly spread from 1550 to 1700, so the tradition, if there was one, appears long lasting but very sporadic.

The run-out stop, without any step, had been thought to be an early stop. It is infrequent compared with the flat step stop. Four examples dated by the Project were spread throughout the medieval period, but many other undated examples are thought to be later. It seems to be an irregular feature, dependant on the carpenter, and is particularly noticeable in lesser work such as alterations. It is quick and easy to do.

SCARF JOINTS

A scarf joint is a method of joining two timbers end-to-end, with some kind of overlap. The side-halved scarf is the dominant type of scarf in the survey. In the 14th century, it occurs in roughly equal numbers with the splayed scarf (see 'Very early buildings', below). Thereafter, its use is almost the rule in all parts of the county with examples up to the end of the Project's data around 1700. There are just two other types to be found: the face-halved scarf and the 'face-lapped, straight-bridled scarf joint of three-quarter depth'. Although there were variations, this latter scarf looks like a normal lapped joint except that the lap takes up only a quarter of the depth and a pegged tongue or bridle reaches down into the broader part and is pegged through (see Glossary). It is something of a Surrey speciality, although Hewett describes something similar (1980, 197, 269–70). In Surrey, it is mostly a 16th century scarf, occurring particularly in the second half, but there are examples earlier (as also described by Hewett).

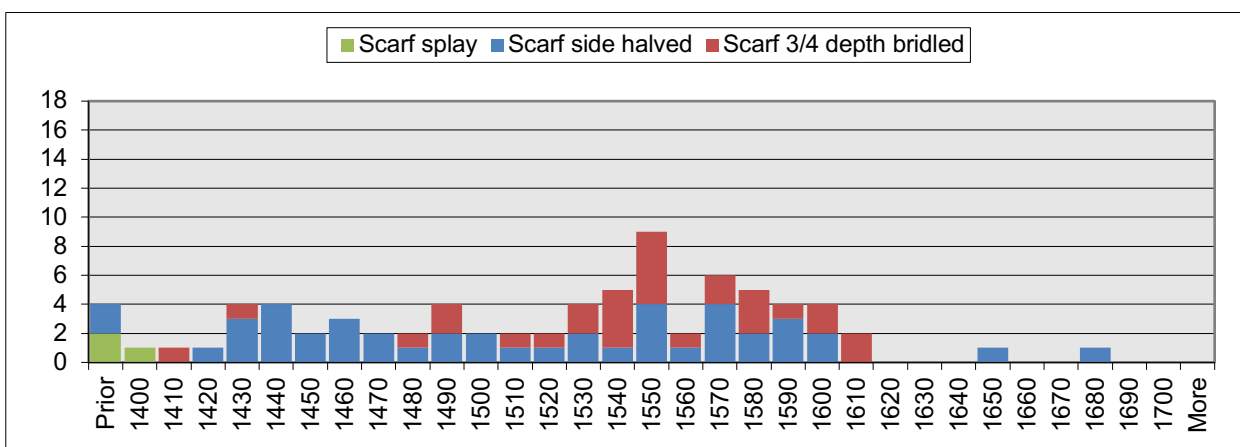


Fig 65 **Dates for different types of scarf joint.** Apart from a few early splayed scarfs, the side-halved and bridled scarf was the almost universal method of joining two timbers end-to-end. The only surprise is the frequent occurrence of the face-lapped and bridled three-quarter-depth scarf, apparently something of a Surrey speciality.

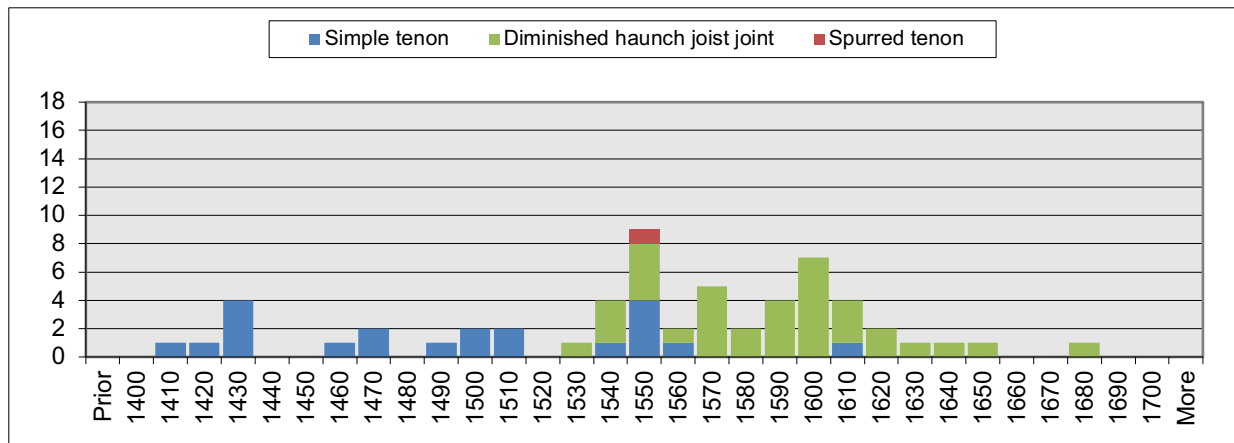


Fig 66 **Dates for the joint at the end of a joist.** The change from the simple tenon to the stronger diminished haunch method happened quite suddenly after its introduction about 1540. This is another of the changes that happened, seemingly together, around this time.

Only two were dated in east Surrey, both in the 1490s. Otherwise, perhaps surprisingly for such a curious joint, it is present in all parts. Because of their wide and overlapping spans of use, these two main types of scarf are not good dating features in Surrey.

The face-halved scarf is the widely accepted successor to the side-halved scarf. It is easier to cut but much less strong. Surrey carpenters appear to have realised its limitations and only four examples were found in the survey. Three were in the period 1590–1640 rather than the late 17th century expected. The earliest was at Morgans, Charlwood, 1593m; the latest was Great House Barn, Hambledon, 1751. By then, it may have been the dominant scarf, but there are too few data for the 18th century to be sure.

JOIST JOINTS

Ceiling joists in early houses were joined to their spine beams or girding beams by simple tenons (fig 66). About 1540, the diminished haunch tenon came into use in Surrey and, with very few exceptions, became the rule by the 1570s. This is another example of the quite rapid changes in practice around the middle of this century. The earliest date for this tenon in Surrey is 1537 (Barlings old range, Farnham) but Hewett (1980, 282) attributes the joint to Master Richard Russell at King’s College Chapel at Cambridge in 1510–12. It is a neat and easy improvement, the haunch strengthening the tenon and also helping to stop twisting in the mortice (see Glossary). The CBA calls the type a ‘barefaced soffit tenon with diminished shoulder’. There is no clear evidence for any differences across the county, although the

first dated example for the joint is in the west, the Farnham example mentioned.

A closely related, if misguided, joint is the spurred tenon. They are almost unheard of in Surrey but one was dated (40–44, High Street, Nutfield, 1551). This example is a ‘central tenon with a spurred soffit’. They might be more common as they are not usually easy to see. Another imperfect variant is the diminished haunch tenon with housing (Hewett 1980, 282). A Surrey example, Coldharbour Farmhouse, Cranleigh, was dated to 1683 (matching Hewitt’s estimate of the 17th century for the joint). These two cases showed the willingness of local carpenters to experiment, even if they did not understand the physics involved.

MOULDED STRUCTURAL TIMBERS

Owners who could afford to decorated their buildings and did so throughout the centuries, albeit in different ways. Early buildings had moulded tiebeams, often with the moulding running down the arch braces and principal posts of an open truss. Some jetty bressumers were moulded; so were dais beams, mentioned below. Later buildings, without an open truss to admire, had spine beams that could be moulded or, a little later, ovolo moulded windows. On the basis of the 31 dated cases in the Project, there is no evidence that the presence of moulding on timbers indicates age.

Crown posts were sometimes moulded. This type was usually octagonal in section with moulded caps and bases. Nine cases were found in the houses dated and they were evenly spread throughout the crown post period (fig 67). In the east of the county cruciform crown posts are not uncommon (M Higgins, pers comm).

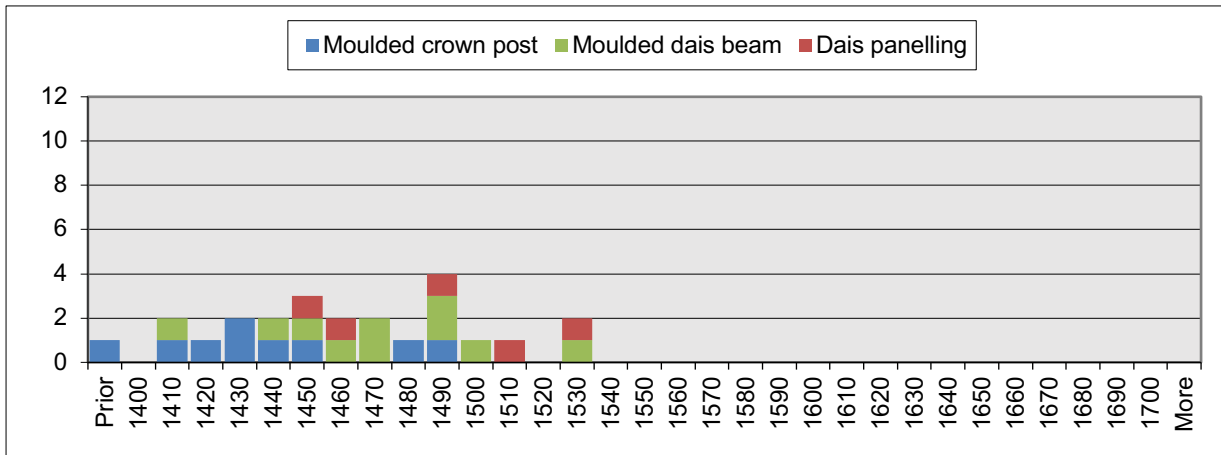


Fig 67 **Dates for various types of decoration in a medieval open hall.** They have little or no dating significance – it was a matter of wealth or temperament.

HIGH-END DECORATION

Moulded dais beams

Moulded dais beams (and very occasionally moulded low-end beams) were not found frequently in the Project, with only ten dated. They are scattered throughout the open-hall period with a slight tendency to be after 1450 rather than before (fig 67). It is interesting that they continued to be used until the end of the open-hall period, Springfield Farm, Westcott, having a moulded dais beam at 1539. Their status-giving presence behind the high table continued to matter.

Curiously, none were found in west Surrey, and there are none there to be dated according to DBRG's records. This accords with Hampshire, where they are rare (Roberts 2010, 110). Most of the Surrey examples that were dated are in the Weald, where the heritage of well-built open-hall houses laps into the county from Kent and Sussex.

High-end panelling

High-end panelling of various types (often of the form 'plank and muntin' or 'stud and panel') is even less common. Five examples were dated, three still in place, and two from evidence of their existence (with only four more in DBRG's records). They show a similar dating pattern to dais beams, with the earliest at 1452 (Pagewood House, Charlwood, from evidence) and the latest a very late 1533 (Hillands, Charlwood). Some houses have both adornments, panelling topped by a moulded dais beam. Taylors, Capel, 1467m, has a particularly fine pairing with a hollow-chamfered, plank-and-muntin screen together with a dais beam 38cm deep. The third in-place example is Ivy House, Newdigate, 1518, close to Taylors. The

distribution is the same as for dais beams with four out of five in the Weald and none in west Surrey.

High-end decorative bracing

High-end decorative bracing is a little more common and usually takes the form of fan bracing, on the ground or first floors, behind the high table. They date a little earlier, with slightly more examples being before 1450 than after. They were a cheaper form of high-end decoration and may have been a forerunner to the more decorative displays of dais beams and panelling. Once again, none were recorded in west Surrey.

Very early buildings

Very early buildings can be said to be 'early medieval' and, for the purposes of this report, are defined to be pre-1400. (This differs from the more usual definition of 'early medieval' as being 5th–10th century). These very early buildings have some different characteristics as identified by such authorities as Mason (1969, 92) and Harding (1990). The results from the Project now permit a degree of verification and calibration.

Compared to some counties, Surrey has relatively few of these very early buildings. Only ten were dated by the Project, to which two can be added that were dated previously. Whereas all the analysis for post-1400 buildings was for Surrey buildings, to get enough data to analyse pre-1400 buildings it has been necessary to look a short distance over the border. It is surprising that, by going only about 5 miles into other counties, the number can be increased from ten to 23. Accordingly, early buildings in Rudgwick and Horsham (West Sussex), Bentley and Binsted (Hampshire) and Chiddingstone (Kent) are included and

Warhams, Rudgwick, W Sussex	1220 mod	Home Farm, Newdigate	1351
Forge Cottage, Dunsfold (fig 20)	1254	Hoglands, Rudgwick, W Sussex	1370
Chennelsbrook, Horsham, W Sussex	1296	Parkhouse Farm, Leigh	1372 mod
West Court Barn, Binsted, Hants	1296 mod	The Old House, Capel	1374
Greens Farm, Newdigate (fig 21)	1309	Swains Cottage, Ludwick, W Sussex	1379
Somerset's Cotts, Bentley, Hants	1311	Bishop's Camera, Farnham Castle	1381
West Court, Binsted, Hants	1315	Wanborough Great Barn	1389
Burstow Manor, Burstow	1334	Ketleas, Capel	1389
Tollsworth Manor, Chaldon, wing	1334 mod	Vintage Cottage, Ripley	1391
Lords & Ladies, Dogmersfield, Hants	1336	Jessups, Chiddingstone, Kent	1398
Snoxall, Rudgwick, W Sussex	1338	Spokeshave, Chiddingstone, Kent	1398
Taylors, Capel, west wing	1345		

Table 2 **Buildings tree-ring dated to before 1400**, and used for the analysis of 'very early features'. They are in Surrey unless mentioned. The others are close by, within about 5 miles. Details are given in the Gazetteer. With these few important early dates, where there is a range, the modal value is given rather than the midpoint (see Introduction, 'Dates in the text'). In the above list, this is shortened to 'mod'.

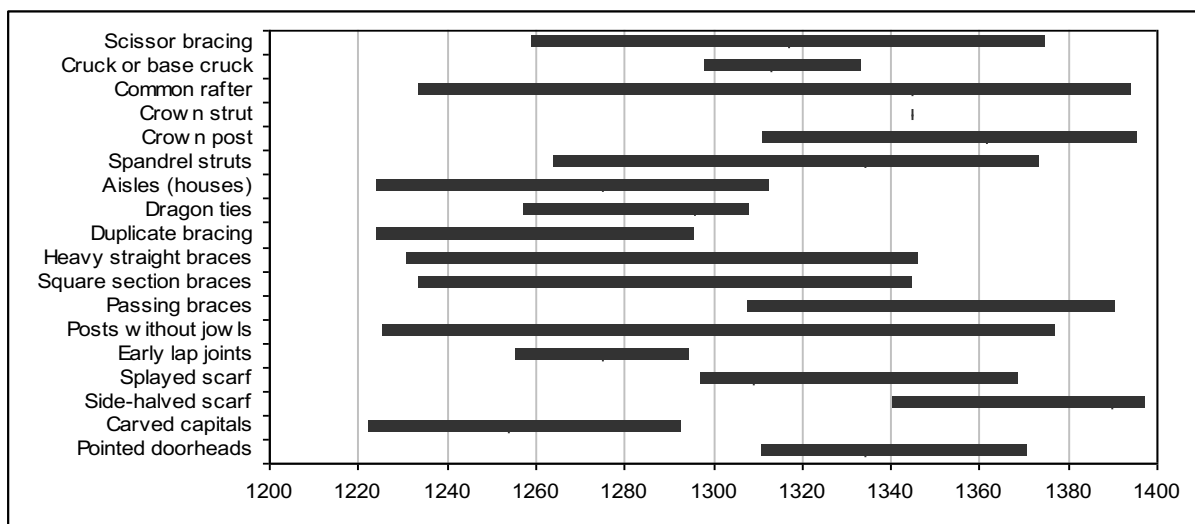


Fig 68 **Summary date spans for the Project's main pre-1400 key features**. This uses data from 21 dwellings and two barns. The range shown is between the 4th and 96th percentiles to encompass at least 90% of the data while eliminating the outliers. Note that the four of these features that approach the 1400 line do continue in use after that time in buildings with a later date. The data are too sparse for firm conclusions.

acknowledgements given elsewhere. Two of the buildings are barns, another departure from the main analysis, which was concerned only with 'dwellings'. Even with these inclusions, the number of buildings is not large, so the results are less rigorous and can only be for general guidance. The buildings included are shown in table 2. (Two recent datings, Chaldon Court, Chaldon, c 1366, and High Bank, West Horsley, 1387 are not included except in the Gazetteer. They do conform to the analysis below).

ROOF AND ROOF STRUCTURE

The most common early type is the common-rafter (sometimes called 'sans-purlin') roof in various forms (fig 69). This simple structure has rafter pairs with no longitudinal support, relying on the battens to keep the rafters upright. All four of the Project's 13th century datings are of this type, and it also occurs quite frequently throughout the 14th century. There are even occasional examples in the 15th century with the last in 1449 (Sumners, West Horsley, fig 24). It is an unreliable indicator on its own. The type is quite common in Kent into the 16th century on simpler dwellings (Barnwell & Adams 1994, 56).

	Percentile Range	Count	Min	4th Percentile	Median	96th Percentile	Max	Mean	SD
Scissor bracing	116	2	1254	1259	1317	1375	1380	1317	89.1
Cruck or base cruck	36	4	1296	1298	1313	1333	1336	1315	16.5
Common rafter	161	11	1220	1234	1345	1394	1398	1333	59.1
Crown strut	0	1	1345	1345	1345	1345	1345	1345	
Crown post	84	10	1309	1311	1362	1395	1398	1357	32.6
Spandrel struts	109	7	1254	1264	1334	1374	1374	1327	43.7
Aisles (houses)	89	4	1220	1224	1275	1313	1315	1271	42.6
Dragon ties	51	3	1254	1257	1296	1308	1309	1286	28.7
Duplicate bracing	72	4	1220	1224	1275	1296	1296	1267	36.8
Heavy straight braces	115	9	1220	1231	1309	1346	1351	1299	40.1
Square section braces	111	11	1220	1234	1311	1345	1351	1305	38.6
Passing braces	83	5	1296	1308	1389	1391	1391	1367	40.6
Posts without jowls	152	5	1220	1225	1296	1377	1389	1295	64.3
Early lap joints	39	2	1254	1256	1275	1294	1296	1275	29.7
Splayed scarf	72	3	1296	1297	1309	1369	1374	1326	41.8
Side-halved scarf	57	4	1334	1341	1390	1397	1398	1378	29.6
Carved capitals	70	3	1220	1223	1254	1293	1296	1257	38.1
Pointed doorheads	60	3	1309	1311	1334	1371	1374	1339	32.8

Table 3 Statistics related to the date spans of the Project's main pre-1400 key features.

Two of the 13th century common-rafter datings have an associated additional feature, also shown in figure 69. Forge Cottage, 1254 (figs 20, 70), has scissor braces. Chennelsbrook, 1296, has base crucks for the open truss to avoid the intrusion of arcade posts into an aisled open hall (Hughes 1997). In the earliest precisely-dated house of all, Warhams, 1220 (modal), the roof structure is unclear, but seems to have been common rafter.

The scissor braces at Forge Cottage are parallel to the rafters. Only one other example of this type is known in Surrey: Old Court Cottage, Limpsfield, dated from the style of some carved capitals to c

1200 (Mason 69, plate XXXII). The other scissor-brace example in the survey is much later, the Bishop's Camera, Farnham Castle, 1381; it is a later type. The braces are not parallel to the rafters but spring from the rafters part-way up, before scissoring across to the opposite rafters. At Farnham, every rafter pair is scissored, rather than just those at the bay divisions. This gives 38 close-set scissored pairs, making a very imposing roof (fig 4).

The most common 14th century roof type is the crown post, with examples throughout the century and much later. The earliest dated was Greens

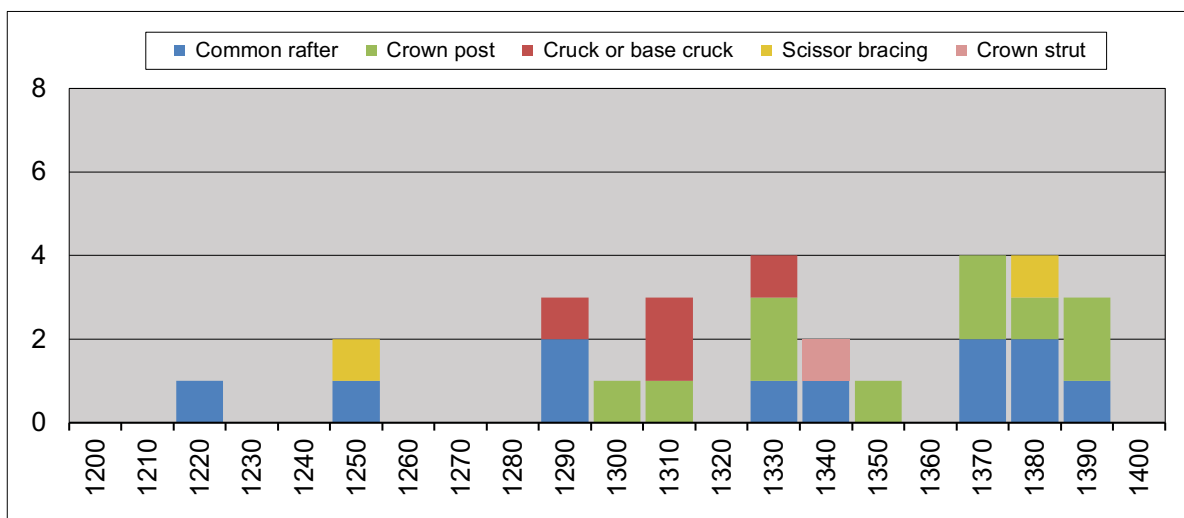


Fig 69 Dates for very early roof structures. The common-rafter roof slowly gives way to the crown-post roof after 1300. There are a few other roof types, all variants of the common-rafter roof, without purlins of any sort. Note that some houses have two entries. Forge Cottage, 1254, is both common rafter and scissor braced. Chennelsbrook, 1296, is both common rafter and base cruck. West Court, 1315, has both crown post and base cruck.

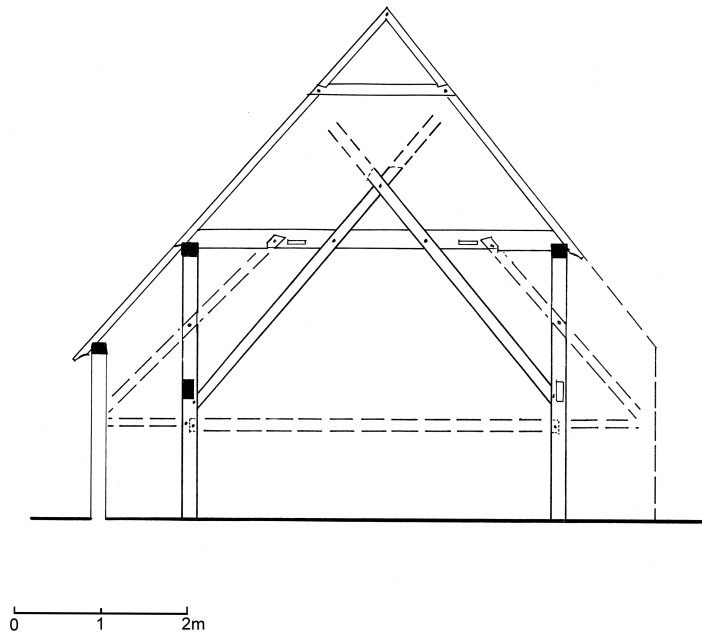


Fig 70 **Cross section of Forge Cottage, Dunsfold, 1254**, Surrey's oldest-dated domestic building. It was aisled, with one aisle remaining and strong evidence for the other. The scissor bracing can be seen, although the braces are now cut off above an inserted ceiling. They would have continued across to the opposite rafters. The trenches for the upper ends of additional duplicate bracing can also be seen – these are for ancient 'notched lap' joints, with a simple notch to hinder withdrawal. Beside the trenches are mortices for corner 'dragon ties'. The posts contain mortices for nearly-straight wall braces. The end bay was floored at a very low level (see 'low end bay' below) but the floor level is higher than originally. Drawing by Martin Higgins, simplified from the DBRG report. The measurements are not precise.

Farm, Newdigate, 1309, but there are late 13th century examples in other counties (Meeson 2012, 71–3). It had been thought that a crown-post roof with no down braces in either the open or closed trusses would be very early. While it is true that the two earliest crown posts were like this, this simple type continues sporadically until the early 16th century, so is of very limited use as an indicator.

Surrey's only full-cruck house, Walnut Tree Cottage, Frensham, 1430, has been discussed earlier in 'Crucks and base crucks'. The two full-cruck instances given here are both just into Hampshire, the Lords & Ladies, 1336, and Somerset's Cottages, 1311. Then there are two base crucks, Chennelsbrook and West Court. The former is of common rafter construction, the latter crown post. Both are aisled but have base crucks bridging the hall without the need for an aisle post. Full crucks continue well into the 15th century in Hampshire (Roberts 2010, 15). Base crucks are a better sign of a building being 'early medieval', if only because they are found in aisled halls. The Cogmans example, 1476, also discussed earlier, may be an exception.

Crown-strut roofs with side purlins are not uncommon in the 15th century, particularly in West Surrey, but the Project found none earlier (fig 45). Crown-strut roofs with no purlins occur in Kent and Sussex. They are common-rafter roofs, but with a crown strut at the bay divisions. They are thought to be early and one example in Surrey, Taylors west wing, did indeed date to 1345.

It follows from this analysis that, with the single exception of a scissor-braced roof, there is no reliable indicator of a roof structure being pre-1400, the so-called 'early medieval'. Crown-post roofs can be a good sign, but continue to be a common form for the next century. A common-rafter structure is suggestive of the roof being pre-1400, but there are exceptions. More reliable dating criteria are needed. Some are discussed below, divided into rather arbitrary categories for the sake of the graphics.

LAYOUT AND FRAMING

These pre-1400 houses had two-bay open halls, the only exception in the survey being the tiny Ketleas, 1389. With this one exception, they all had floored ends in the usual pattern, a parlour bay and a

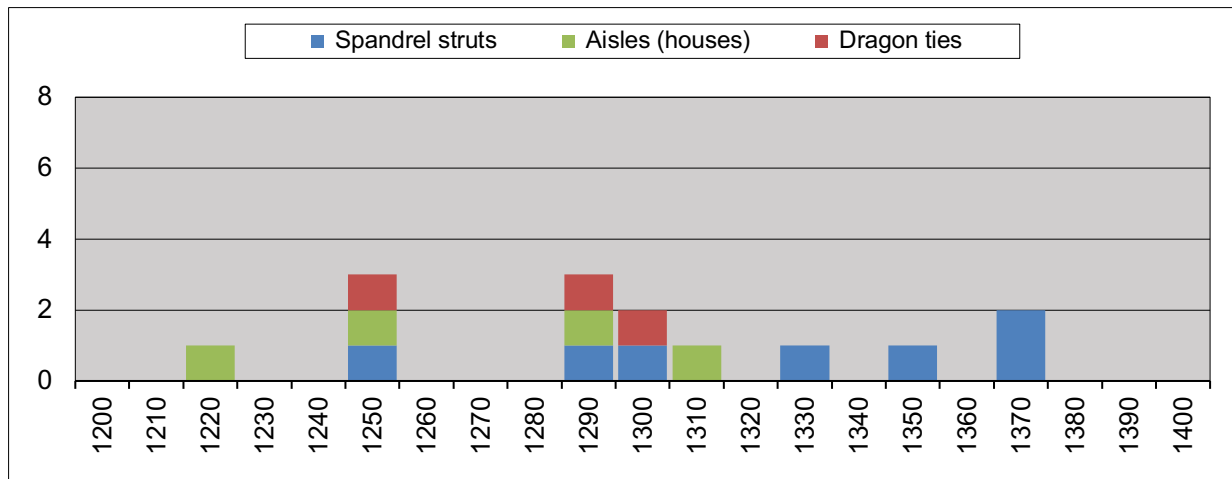


Fig 71 **Dates for very early framing characteristics.** Aisles (in houses, not barns) are a very good indication of a very early date, as are dragon ties. Although not quite so early, spandrel struts are a very good indication of a date before 1400, there being no dated examples after this time.

service bay, both with chambers over, that over the parlour being the so-called ‘solar’ bedroom. Timber-framed houses at this time were hipped, although cross wings could be gabled at the front.

Aisles

The one distinguishing difference in layout for these very early houses is the aisled hall (fig 71). Barns were often aisled from the earliest to modern times, but some early houses have spectacular aisled halls. All three 13th century houses dated were aisled, as well as West Court, Binsted, just into the 14th century at 1315.

Dragon ties and spandrel struts

A dragon tie is a short horizontal tie within the corners of a building to triangulate the framing. They are rare even in these very early buildings. At

Greens Farm and Chennelsbrook they are still in place. At Forge Cottage, there is clear evidence for them.

A spandrel strut, sometimes called a spur, is another example of an early tie, soon to pass out of use. They are usually horizontal but very occasionally vertical or even diagonal, and fit in the spandrel – the space between a principal post and an inward arching brace to a tiebeam. They occur more often than not in these early buildings, but no examples were found later than the Old House, 1374.

Braces

Early medieval braces were often almost square in section, using timbers of a near-equal ratio of width to depth (fig 72). They are up-braces, rising from

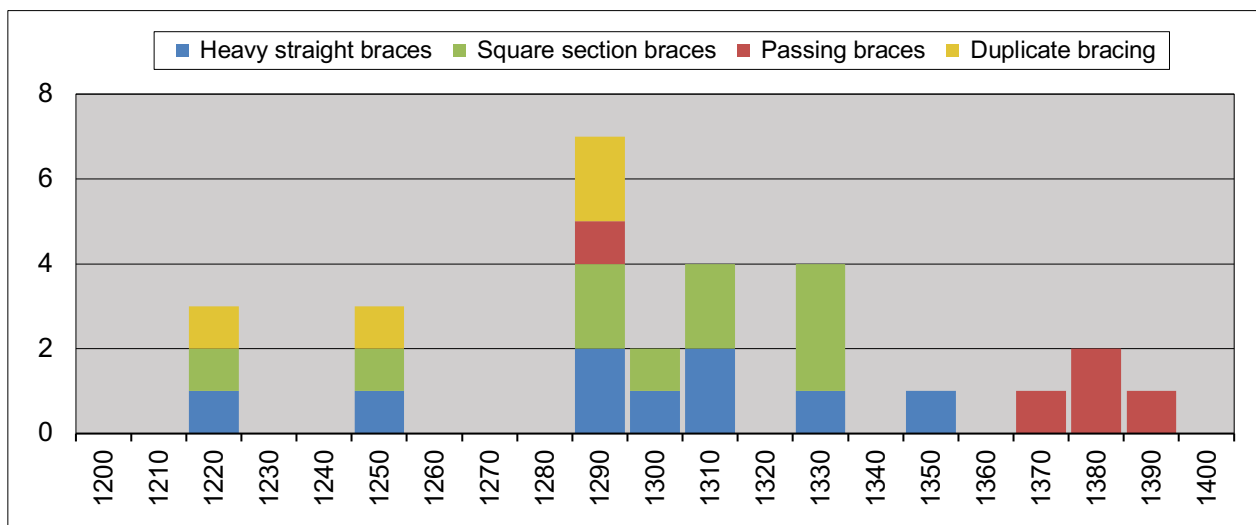


Fig 72 **Dates for very early bracing styles.** Heavy, straight braces with a square section are a very good sign of a pre-1400 building, the two characteristics usually going together. Duplicate bracing is even earlier. Long passing braces are often pre-1400 but can be later.

posts to wall plates or tiebeams. They later became much more bladelike. They were often quite straight and used consistently instead of the later arched form (until the straight form returned much later in the 16th century). Together the combination is described as ‘straight, square braces’ and is very distinctive. The clearest example is often in the bracing up to the tiebeam in an open truss where the carpenters seem to have tried to make the brace, post and tie all the same harmonious width. Nearly all the early houses dated have this characteristic, with the latest example being Home Farm, Newdigate, 1351.

A rare type of early bracing is the so-called ‘duplicate bracing’ which consists of parallel straight bracing in pairs (fig 70). It is usually seen buildings in a transverse truss or arcade. All four 13th century under discussion have them, but none later.

Passing braces are long braces in external walls, rising from almost ground level right up to the eaves, halved across the girthing beam separating the storeys, hence the name. They can be arched or sagging. They are present at Hoglands, Ketleas and Vintage Cottage, Ripley (table 2), so spanning 1370 to 1398. They also occur in the 15th century, with eight more dated examples, the latest at 57 High Street, Godalming, 1471, so they are not reliably early. The same term can be used for the internal trusses of aisled buildings to describe a long timber passing from the outer wall, across an aisle post and up to a tiebeam. Both West Court and Wanborough barns have them and they are impressive. This

internal type of passing brace is not known in later buildings, even in aisled barns, where they might be expected.

OTHER CARPENTRY FEATURES

The principal posts of timber-framed buildings nearly always had jowls until they stopped being used during the late 16th century. Some much earlier buildings did not use them. They had thick principal posts of uniform depth, all the way up, but still deep enough (if the carpenter thought it to be necessary) for a part of it to bypass the wall plate and tenon directly into the tiebeam. These early cases are called ‘posts without jowls’ (fig 73). Only one of the four 13th century cases had jowls (Chennelsbrook, 1296), suggesting that they were devised about 1300. Posts without jowls were also found at West Court (house) and Wanborough Great Barn. Two instances were found after 1400 – Brook Farm, Westcott, 1407, and Barhatch, Cranleigh, 1429 – but it is still a useful indication of a very early date.

Carved capitals on arcade posts are a fine feature of very early aisled halls and occur in all three of the 13th century houses dated (fig 73). They are not to be seen at West Court, 1315. There are no aisled halls in the survey after this date.

Very early doorheads can be gothic-arched – not to be confused with later, shallower, often four-centred, arched doorways discussed previously. The earlier type is sometimes made up of just two huge timbers, the posts arching inwards to meet in the centre. It is known as a durn door and is remarkable

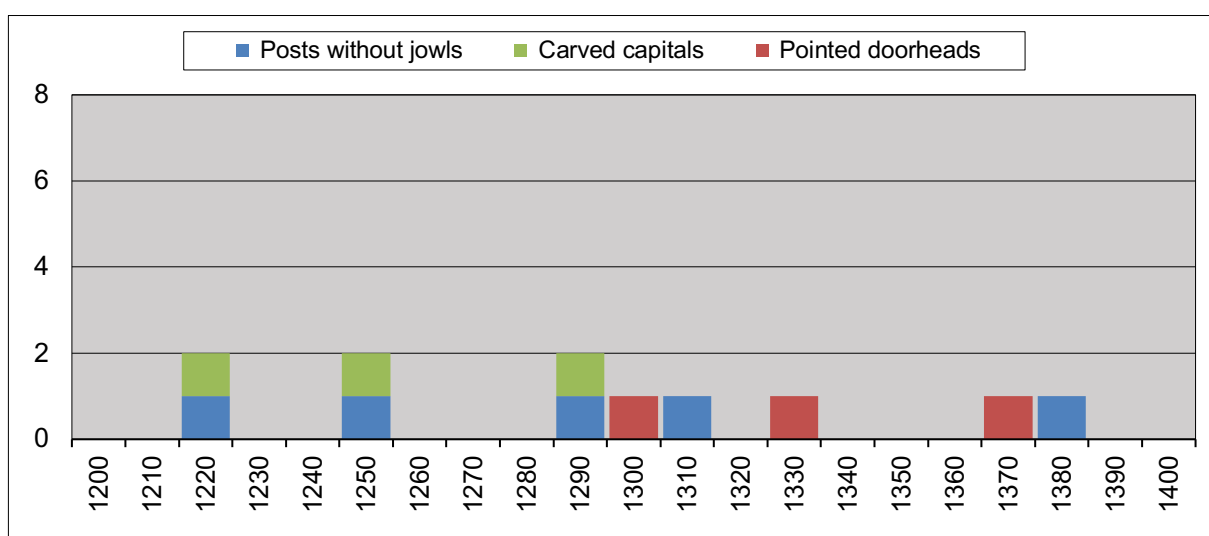


Fig 73 **Dates for some very early carpentry methods.** Carved capitals are an ornamental and reliable indication of a very early date. ‘Tudor’ arched doorheads are not early, but pointed doorheads of various types can be. The ‘durn’ door, made up of just two timbers, is an early type, with one example at 1374. Jowls for posts do not start to be used until about 1300, but then stay in use for 300 years.

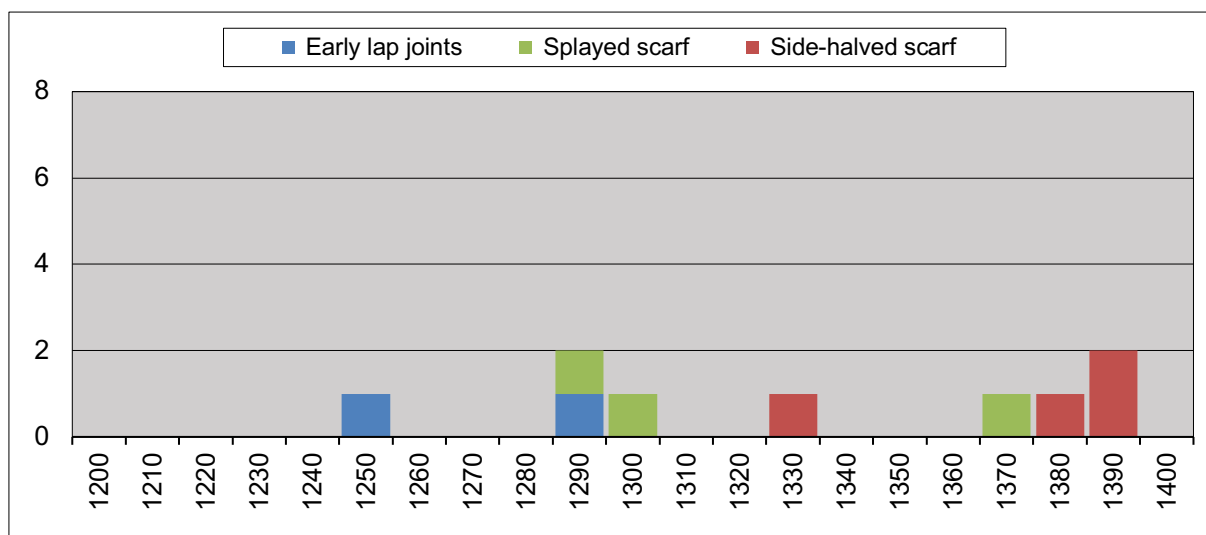


Fig 74 **Dates for joints found before 1400.** The two very early lap joints recorded were the distinctive ‘notched lap’. For end-to-end joints, the splay scarf was superseded by the side-halved and bridled scarf during the 1300s.

carpentry. Three examples of gothic-arched doorheads were found by the Project and were dated to be pre-1400: Greens Farm, 1309; Burstow Manor, 1334; and the Old House, Capel, 1374. Only the latter is a durn door. One further durn door, Hazelhurst, Haslemere, was slightly later at 1413.

Joints

The earliest joints for joining braces to posts or tiebeams are lap joints of various kinds (Hewett 1980, 289). The most distinctive is the notched lap joint, with a simple tooth to hinder withdrawal. This was found at Forge Cottage, 1254, and West Court Barn, Binsted, 1296 (modal) with nothing later (fig 74). Otherwise, such joints were the ubiquitous dovetails (often ‘barefaced’) or mortice and tenons.

Joining timbers in-line presented the medieval carpenter with a challenge, sometimes solved with ‘scarfs’ of extraordinary ingenuity. The best-known early scarf is the splayed scarf, the simplest form of which is a simple diagonal-facing joint reinforced with pegs. This was found to be used throughout the survey period to extend purlins (where shear strength is less important). On wall plates, carrying huge roof weights, early buildings used the ‘through-splayed-and-tabled scarf’, a Z-shaped joint with the memorable common name of ‘Trait-de-Jupiter’. This was found at Chennelsbrook, Greens Farm and the Old House, but also in a two early 15th century buildings: The Cottage, Charlwood, 1402, and Home Farm South Barn, Newdigate, 1411. The side-halved and bridled scarf quickly became more popular. The earliest example

in the survey was Burstow Manor, 1334 and, by later in that century, it was almost the rule.

THE JOAN HARDING GUIDELINES FOR EARLY MEDIEVAL BUILDINGS

Joan Harding (1990) listed twelve features as being indicators of a date before 1400 - her ‘early medieval’ features (see below, using her terminology). With the benefit of dendrochronology, they can now be tested:

- 1 All rafters on the wall plate. This is a confusing phrase intended to mean that none of the rafters come down directly to the end of a tiebeam – there are no ‘principal rafters’. The method is a characteristic of common-rafter roofs (where such alignment is not necessary) and is now shown to be an unreliable indicator on its own. It had also been thought that it might distinguish early crown-post roofs from later, but it does not necessarily do so, with examples as late as Hazelwood Farm, Chipstead, 1481.
- 2 Jowl post uniform width (here called ‘posts without jowls’). Despite some exceptions (up to 1429) these are now shown to be a good indicator of a very early date.
- 3 Long diagonal scarfing joints in the wall plates (here called ‘splayed scarf’). A good indicator with no examples after 1411.
- 4 Long passing braces. In external walls, these give an indication only. In an internal truss, they are a good sign.
- 5 Dragon ties. Certainly a good sign.
- 6 Early openings with pointed arches. In particular, this refers to ‘pointed doorheads’. Another good sign, so long as they are gothic arched, rather than the flatter profile, ‘Tudor’ style.

- 7 Spurs between main post and arching brace (now more properly called spandrel struts). This appears to be the most reliable single indicator of a pre-1400 building, and is often found in such buildings. (A recent documentary dating of 1387 for High Bank, West Horsley, was too late to be included in the Project's analysis, but gave some validation. The previous stylistic dating had been early 15th century).
- 8 Aisles. A very good sign (except in barns).
- 9 Low walls. (Harding used to say, 'more roof than wall'). This is certainly true for aisled buildings and may be so for other old buildings. It was not recorded by the Project as being too subjective.
- 10 Cambered tie. This is not thought to give more than a slight indication. Again, it was not recorded by the Project as being too subjective.
- 11 Square-section timbers of good scantling. A good sign as applied to wall braces, but otherwise misleading.
- 12 Straight braces of good scantling. A good sign, but best when in combination with the point above.

Harding postulated that the more of these features a building possesses, the more likely it is to be ancient and to date to the 14th or even 13th century. At least two of these indicators would be needed to be reasonably sure. She has now been proved to be remarkably perceptive: of the twenty buildings in the survey with two of these indicators, sixteen are before 1390 and the other four are dated 1402, 1407, 1411 (modal) and 1421 (modal). Of the fourteen buildings in the survey with just one of these features, only six are before 1400, with another eight dated up to 1471 – a much less impressive proportion.

Mason (1969, 19 and 92) also mentions aisles, common-rafter roofs, heavy straight and square-section timbers, and dragon ties, as characteristics of very early buildings. He also mentions duplicate bracing, scissor bracing, carved capitals ('mouldings of decorated character') and early lap joints as being found in 13th century buildings in the South East. The Project has confirmed these opinions.

Peter Gray suggested another early sign might be the so-called 'low end bay'. This is an end bay that originally had a very low ceiling on the ground floor (1.5m or less) so was probably used only for storage. The Project has data from five houses with this feature. Forge Cottage, 1254, Greens Farm, 1309, and Swains Cottage, 1379, were proved to be

pre-1400, but Dormer Cottage, Charlwood, 1412, The Cottage, Norwood Hill Road, Charlwood, 1436, and Little Dolby, Charlwood, 1497, were later.

It was widely suggested in DBRG that houses with crown posts without any down braces would be early. It is now clear that this is not true, with fourteen datings evenly spread between 1309 and 1508.

It is therefore now suggested that Joan Harding's list of indicators of a date before 1400 be revised as follows:

- 1 Aisles (in houses, not in barns). These will usually have carved capitals on the arcade posts
- 2 Duplicate bracing. This is parallel straight bracing in pairs, in a transverse truss or arcade
- 3 Scissor bracing. Probably 13th century if the braces are from posts and are parallel with the rafters, but more likely to be 14th century if starting from rafters
- 4 Early lap joints for braces (sometimes notched to hinder withdrawal) rather than dovetails or mortice and tenons
- 5 Dragon ties
- 6 Heavy early posts without jowls
- 7 Straight, square-section braces of heavy scantling
- 8 Splayed scarfs in wall plates
- 9 Gothic-arched doorways, particularly durn doorways made up of just two timbers
- 10 Spandrel struts
- 11 Long passing braces
- 12 Common-rafter roof construction

The first four indicate an even earlier date, possibly 13th century. The next three are also particularly early, perhaps before 1350. The last two are unreliable on their own. The Harding rule of needing at least two of these features to be reasonably sure of a pre-1400 date holds good. The guidelines are only for Surrey, although there are indications that they apply to other south-eastern counties.

Barns

The Project dated eleven barns and a further nine have been dated by other laboratories. In some of these cases, few data are available. Two are large barns with ecclesiastical connections. Wanborough Great Barn was built by the monks of Waverley in 1389. It is a splendid, aisled, crown-post barn, 33.6m long (fig 15). The impressive and pioneering Hardwick Court Barn (fig 49) was built in 1445 (see 'Raking-queen-strut roofs' above). It makes an

interesting comparison with Harmondsworth Great Barn, 1426, only 7 miles away just over the border into Middlesex (fig 47). This is a 58m long, crown-strut structure with strong connections to Winchester. A number of features in the carpentry are described as ‘experimental, precocious and regionally unusual’ (English Heritage, 2012). It would seem that the Winchester diocese was responsible for ambitious and innovative carpentry.

Smaller barns with church connections can also have pioneering structures. Old Rectory Barn, Albury, surprised the Project team with evidence for a queen-strut roof as early as 1469, the second earliest such roof dated in the county.

Farm barns are less remarkable, usually with similar building methods as their farmhouse counterparts. Five crown-post barns dated in the range 1417 to 1517, as would be expected. These were Oakdene (now a house) and Picketts Barn, both Salfords & Sidlow; Home Farm South Barn, Home Farm Old Barn, and Ivy House Barn, all three in Newdigate. Strikingly different is Frosbury Barn, Worplesdon, 1549, with clear evidence for it having been crown posted. This is far later than any Surrey crown-post building, but it is a Sussex barn, originally from Coolham, near Horsham. This Wealden area certainly had late crown posts, but ‘the Coolham Barn’ appears to be the last securely-dated such construction in the south-eastern counties. (That is not to say that crown posts were used later in barns – the evidence is much too slight).

It had been suggested that jowled posts were used later in barns. The lack of a bracing floor halfway up the build would seem to make a strong junction at the post heads beneficial. Three barns (with good enough structural data to assess) were dated in the first half of the 16th century: Bridgefoot East Barn, Ockham parish, 1602; the adjacent Bridgefoot West Barn, 1639; and the added bay at Greenings Barn, Charlwood, 1649. None had jowled posts. Houses stopped having jowls about 1600 and so, it would seem, did barns. On this small sample, there is no evidence of a different practice.

Nor could other differences be found. Wall braces and windbraces ‘straighten’ about the same time. It would appear that houses and barns were built in the same way. In some cases, they were also built at the same time. Greenings, Charlwood, was dated to 1539, as was the main barn. Perhaps a farm barn was needed and not some sort of option to be built later. The same thing happened at Ivy House, Newdigate. Timbers for the barn were felled in the winter of 1516/17, and for the house in the winters

of 1516/17 and 1517/18. The two were planned together and built together.

Two other barns can be mentioned. The Barn Theatre, Oxted, 1434, was originally the Sawmill Barn in nearby Limsfield. It is an impressive six-bay, aisled barn with twelve great arcade posts remaining. Thanks to an old painting (on show in the barn) it is known that there were once very long arch braces rising from low down on the posts towards the centre of the tiebeams. The tiebeams are newer, but mortices remain in the arcade posts. Even in a much-changed state, this is a fine building and put to good use.

The latest date of any building dated by the Project was Great House Barn, Hambledon, 1751. At 42m, this could be the longest barn in Surrey. It has many parts (see Gazetteer) but the roof is uniform and a combination of aisles and outshots means that the dimensions of the roof plane are an almost unbroken 42 x 8m. Set at right angles to the Georgian frontage of Great House, it has a spectacular a catslide roof.

Churches, yew trees and church houses

The Project worked at six parish churches: Old Woking, Newdigate, Capel, Charlwood, Dunsfold and Betchworth. Previously, Surrey Archaeological Society had used dendrochronology at Witley and Thursley. The main focus of the Project was intended to be vernacular houses. The work on churches arose partly from local interest (see the Gazetteer for details) but also to see whether church work was in any way pioneering, compared with domestic architecture.

The earliest dating was the great door at Old Woking, 1114 (modal), discussed at the beginning of Part 2 (figs 17, 18). The earliest roof form to be dated was the common-rafter roof, with two examples at Capel church. These are in the nave, 1413m, and chancel, 1421m. They have the refinement of a ‘seven-canted’ roof structure. The framing sequence (ashlar – rafter – soulace – collar – soulace – rafter – ashlar) makes seven-segment arches. The dates given are range midpoints only, so the roofs are quite likely to be coeval, or nearly so, with a common construction date in the early 15th century. Houses at this time were more likely to use crown-post structures, so common-rafter roofs in a church could be said to be conservative. Capel church has a small west porch, also with a common-rafter roof. This has unusual and beautiful carpentry: short, very deep rafters heavily scalloped in a ‘trefoil’ pattern. It dated to 1419m, so is very

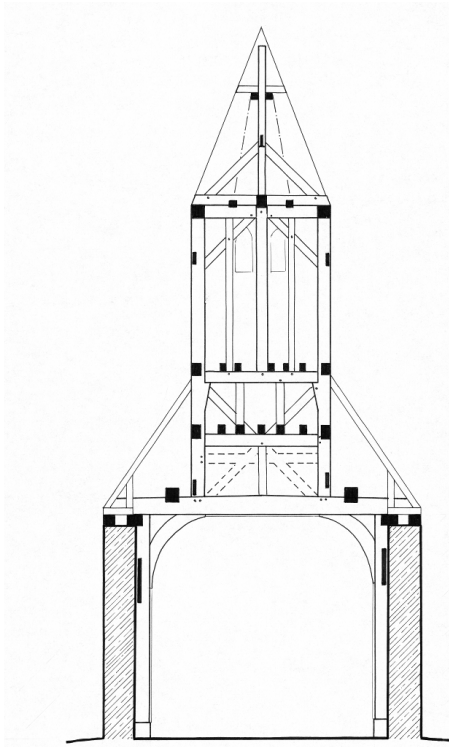


Fig 75 **Dunsfold church tower** – the internal face of the east side. It dated to 1503, or soon after. Many samples were necessary. Five samples from the bell stage gave the date or a confirming range. Of five samples from the spire, just one, a cross-trees floor joist, gave a similar confirming range. Three of the four great posts in the base frame were sampled and two gave a confirming range. It is interesting that all four stages were constructed at the same time, even the small broach spire. This is a sketch by Martin Higgins, not fully measured.

likely to have been built at about the same time as the other roofs mentioned.

Two more common-rafter roofs were dated, at Witley church: the South Transept, 1531, and a single timber from the North Chapel roof, 1537m. This is much later than expected and may reflect a period of repair or reconstruction. The possibly-Saxon windows at the church (Bott 2006) were too fragile for dendrochronology.

Next in the expected roof-type sequence is the crown-post roof, and two fine examples were dated at Charlwood church. The south aisle (which now functions as the nave) dated to 1477m. The chancel, very similar in style, is a little later at 1525m. These are typical dates for crown posts in this conservative Wealden area. The vestry (the old chancel) has a remarkable roof. It is a common-rafter roof in the seven-canted style, but each item is curved to give a smooth barrel effect. Originally,

thin bowed panels slotted between each truss – astonishing carpentry. The date of 1496m shows it is of the same general period as the other two dated builds in the church.

There are six remarkable timber towers in Surrey (sometimes called ‘belfries’). They are Burstow, Horley, Thursley, Newdigate, Great Bookham and Tandridge. Two have now been tree-ring dated. The earlier is Thursley, 1382m. The corner posts are massive, 55 x 55cm, with huge knee braces supporting the higher stages. The dating is from a single timber but looks to be representative. The tower at Newdigate is only a little smaller, with posts 40 x 40cm and with curved, double scissor-bracing between them. The date is much later, c 1525.

Dunsfold church (Bott 2005) also has a fine timber tower although, being built within the walls, it is more supported than the others. The posts, 45 x 45cm, support two further stages and then a broach spire. All parts date to 1503, much later than the rest of the church, which is c 1270. These ‘belfries’ could well repay further study and dating.

The main aim of the dendrochronology at Dunsfold was to attempt to date the ancient benches, or pews (fig 76), suggested by Simon Jenkins to be as old as any in England (Jenkins 2000, 673). The dendrochronology was difficult, with a need to take samples from inconspicuous parts of quite slender timbers, but it was successful, producing a date of 1418 (modal). This is not quite as early as expected, but is still remarkable.

The Gazetteer records previous Surrey work at Ashted church (tower roof timbers, 1510m) and at West Molesey church, Elmbridge District (tower roof, 1518, and bell tower floor, 1513m).

Overall, the work in local churches is seen to be in accord with local carpentry methods, although sometimes of a very high quality. This is in contrast to the work more directly controlled by Winchester (such as the great barns mentioned), which is innovative as well as impressive.

The work at Betchworth church was not about the fabric, but to try to date the old church chest (fig 77). Pevsner (1990, 109) describes it as, ‘Massive and undatable dug-out, with seven iron staples’. In another remarkable feat of dendrochronology, the whole was jacked up and samples drilled from underneath. Previously, there was no idea as to its date, but the dendrochronologist was able to date it to 1505–37 (modal 1521).



Fig 76 **Dunsfold church pews** dated to 1418 (modal). Simon Jenkins (2000, 673) suggested that they could be contemporary with the 13th century church, which could make them as old as any in England. This is now shown not to be so, but they are still ancient and of much interest. The bench-ends have deep cusps ending in knobs with holes for carrying lighted tapers. Six cores were taken from inconspicuous places. The dowel that can be seen at the bottom right shows one such place. It is good practice to mark each position photographically in this way as a record of from where they were taken.



Fig 77 **Betchworth church chest** was hewn from a single great oak trunk, measuring 2.17m long, 0.80m wide x 0.65m high. The sides are approximately 15cm thick, the ends 25cm. There is a lid, equally heavily built, in two pieces. The chest has heavy iron hinges and is encased by seven great iron straps. It is secured by three locks, the keys of which are traditionally held by the vicar and churchwardens, so it could be opened only by three of them in concert. It was dated to 1505–37 (modal 1521).



Fig 78 **The Hambledon Yew** was dated to c 800, making it the oldest yew dated by the Project. A very thin core was taken, not enough to damage the tree in any way. Normally this would be enough, allowing a simple count of the total number of rings, immediately giving the exact age, but when the tree is hollow, more sophisticated methods are required involving adjacent younger trees. The dating is a strong indication of a pre-Conquest planting, and the existence of an earlier church. Photograph by Andy Moir.

Churchyard yews

Incidental to the main Project, Tree-Ring Services dated four ancient yews in Surrey churchyards: Capel (c 1600), Peper Harow (c 1300), Dunsfold (c 1200) and Hambledon (c 800; fig 78). These are approximate dates as the method is different. Ancient yews are hollow. A very thin core is taken from the outer tree rings and these can usually be dated precisely, but the number of lost earlier years of growth is not known. The technique is to find a younger neighbouring yew tree, and there are usually some in the churchyard. This is cored to measure how fast yew trees have grown in their earlier years – when they grow faster – in the local conditions. This rate of growth is mathematically transformed into the inside of the neighbouring hollow yew to give a total age estimate. Although approximate, the method gives a fair estimate and is

consistent with other dendrochronological analyses. It gives younger dates than the oft-quoted Tabbush and White (1996) equation based on girth.

The Dunsfold date is interesting in that it accords with the secure 13th century dating of the church. It suggests that the tree was planted when the church was built. The largest of them all is the Hambledon yew, with a girth of 9.69m. The churchyard is circular, said to be a sign of a very early church. This magnificent yew has grown by its church for over 1000 years.

Church houses

A ‘church house’ has been defined as ‘a distinctive building in the vicinity of a churchyard, which was maintained by the churchwardens for parish festivities’ (Watmore 2012). In the Middle Ages,

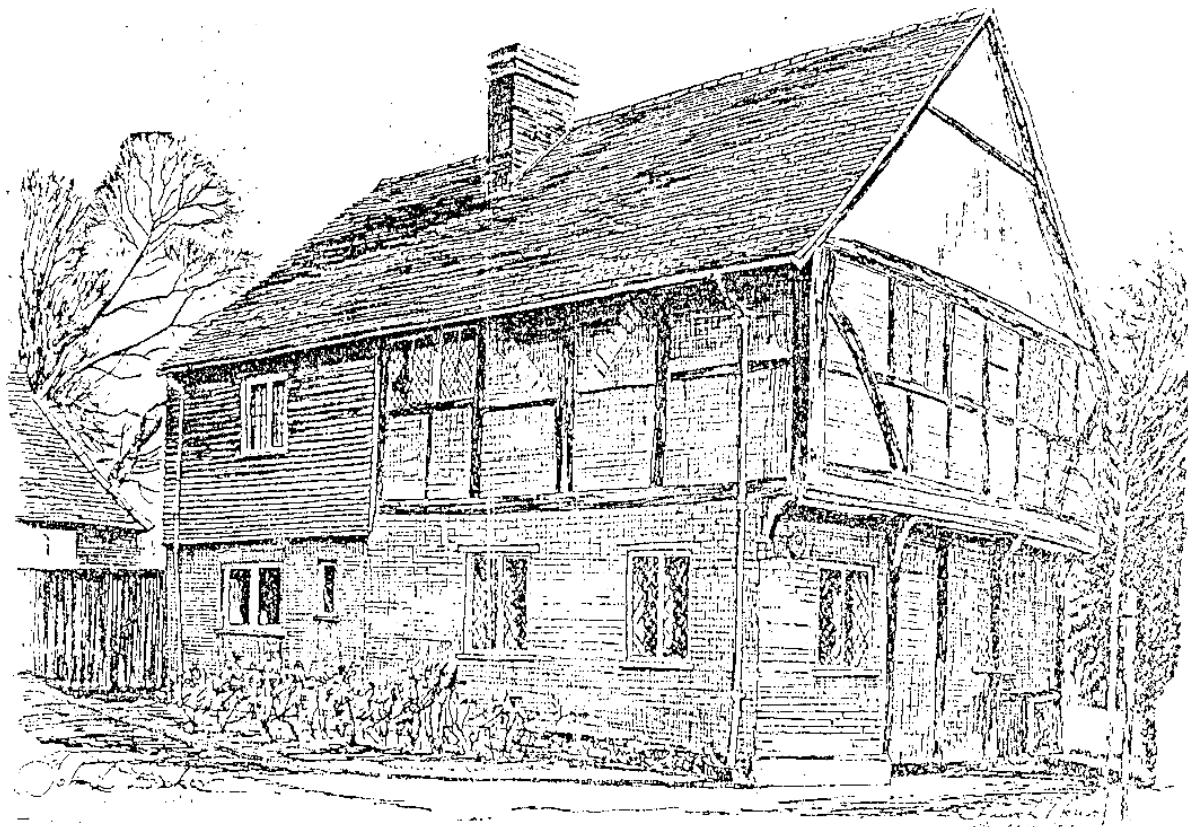


Fig 79 **Church House, West Horsley, 1434**, is Surrey's best 'church house'. The first floor had two meeting rooms, under a crown-post roof, and was jettied front and back. A trace mark of the crown post is just visible in the end gable. The ground floor had arcades and was used for 'church ales'. The rear part is more recent. Drawing by John L Baker, reproduced courtesy of the *Surrey Advertiser*.

most people stood in church, but later pews were introduced. These were much more comfortable, but there was no longer a space for meetings and communal gatherings. This led to the introduction of 'church houses' (Stanford 2008; Friar 1998) for parish meetings, particularly of the Vestry, and for social events such as 'church ales'. The Vestry was important, combining not only church functions but also secular parish duties. Church ales were essentially fundraising events centred on beer. The need declined after the Reformation as secular matters became more separate. Once common, they are now rare, although increasingly recognised. The Project identified the obligingly named Church House, West Horsley, 1434, as a church house (fig 79). They vary in layout (Watmore 2012) but often have a good-sized meeting room. Church House is a fine example (see Gazetteer). It is an important historical survival, visible from the A246, just past West Horsley church when going west.

A second Surrey possibility is the Royal Oak public house, Guildford, 1417. It was jettied towards Holy Trinity church and once consisted of one large room on each floor. That on the first floor is now

divided and ceiled, but originally would have been open to the impressive crown-posted roof, which is still intact. The crown posts are chamfered and sit on moulded bases. The roof is half-hipped, but was originally gabled.

A good example is just across the border into Sussex: Church Gate House, Rudgwick (Chatwin 1996). In Surrey, the Project identified another possibility, the front wing of Home Farmhouse, Effingham, 1551. It was originally an independent building facing the church, with just one room on the first floor (see Gazetteer).

Two of the bigger houses dated have 'grand chambers' on the first floor, The Old Vicarage, Farnham, 1418 and Chaldon Court, Chaldon, 1366. Both are next to churches and probably closely connected, but are not 'church houses' in the manner here described.

Detached kitchens and service wings

Cooking certainly took place over the fire in an open hall, or later in the hearth of a smoke bay or chimney inglenook. (A house in Peaslake visited in

the 1970s still had this as the only method of cooking). The service bay, usually divided into a buttery for wet goods, and a pantry for dry, supported food preparation. Arrangements could vary, particularly for larger or town houses, but these arrangements were the norm (Pearson 2012). It is also known that houses often had a detached kitchen, perhaps to leave the open hall or hearth room unfettered for communal use. These rarely survive, but the Project dated three very likely cases: Hazelhurst, Haslemere, 1495; Charman Cottage, Nutfield, 1559, and Brook Cottage north end, Charlwood, 1548. It is striking that these are quite late dates, so they may be replacements for quite fragile predecessors. All three were simple two-bay buildings, open on the ground floor, but with only one bay open to the roof. They are sometimes called ‘boot-shaped’. Only Charman Cottage remains separate, next to the main house, Leather Bottle Cottage, 1550. (Note that Hazelhurst is a recent dating and, while included in the Gazetteer, is not included in the analysis or graphics.)

Two other possibilities are less certain. Woolborough Farm, Nutfield, 1562, and Stowe Maries, Westcott, 1632, are less typical, and may have had other purposes. Farms had various outbuildings including such things as ‘seller’, cheese house and brew house (Pearson, *ibid*).

Perhaps more common were ‘attached service wings’, of which five were dated: Vintage Cottage, Ripley, 1391; Reel Hall, Wonerish, 1508; Brook Cottage (north end), Charlwood, 1548; Frosbury Farmhouse, Worplesdon, 1552, and Roppeleghs, Chiddingfold, 1593. These have a variety of configurations, but all have at least two bays as a single room on the ground floor, and at least a part of this room open to the roof. All were ‘open halls’, in the sense that they had ground floors open to the roof, but not in the medieval sense of a large communal room. The last two dates are much later than any main-build open hall (fig 31). They all had chimneys added in due course.

Other building types

The main emphasis of the Project was on vernacular dwellings, with some work on barns and churches. Some other buildings were included for various reasons, mostly because of exceptional local interest. At Farnham Castle, the great aisle post had been dated previously to 1200m (see Part 2) and the Project added the extraordinary Bishop’s Camera roof, 1381 (fig 4). The great gate tower at the Castle has been dated by documents to 1470–5, while the similar Waynflote’s Tower in Elmbridge

(Esher) has been dated (outside the Project) to 1467m, an interesting similarity.

Another building above the vernacular, Place Farm, Bletchingley, had its roof dated to 1547, confirming the close association with Anne of Cleves (see ‘Brick or stone buildings’, above, and the Gazetteer).

Four inns or public houses have been dated, three by the Project. One is in Farnham, the Lion & Lamb, 1499, once a coaching inn, now a jeweller’s shop (see ‘Arch-braced-collar roof’ in ‘Later or more unusual roof types’ above). The White Hart, Witley, failed to date, but the equally intriguing crown-posted east wing at the Queens Head, Nutfield, dated to the surprisingly late date of 1505. The former Red Lion, Bagshot (Windlesham parish) was another coaching inn, dated (outside the Project) at 1501m. It is curious how these dates are clustered around 1500, but it is probably coincidental. A much later public house is the Royal Oak, Wrecclesham, 1609, but this is thought to have been a farmhouse originally (Heather 2008) and has been included in the statistics as a dwelling.

Finally, in this category of ‘other building types’, there are two windmills. Only some replacement weatherboards dated (1934m) at Yewdells Windmill, Buckland. The Lowfield Heath Windmill (now at Charlwood) was dated by the Project to 1737, but this must relate to its reconstruction around that time, having been supposedly brought from near Horsham. No original timbers could be found for sampling.

Key turning points

Figures 31 and 68 show the date spans for the Project’s main key features and the various histograms give the detail. Sometimes it is useful to have an easy, small guide to the main turning points, to help dating during fieldwork. This is given in table 4, which shows some of these key dates. It should be used with care as there are regional variations.

Date	Range	Feature
1300	± 20	The last aisled halls
1300	± 10	Crown-post roofs replace common-rafter roofs over the next 100 years
1300	± 10	Jowled posts arrive and quickly become ubiquitous
1300	± 20	The last dragon ties
1300	± 20	The last duplicate bracing
1350	± 20	Braces change from heavy, straight and square section, to curved and bladelike
1350	± 20	Splay scarfs replaced by side-halved scarfs over the next 50 years
1370	± 10	The last spandrel struts
1440	± 10	Two-bay open halls replaced by one-bay open halls over the next 60 years
	± 10	Down braces arrive, staying in parity with arched braces until 1560 ± 10
1450	± 20	Close studding arrives
1500	± 20	Crown-post roof replaced by side purlin
	± 10	Wealdens stopped being built
	± 10	Overshot cross entries come into use in Wealden areas
1530	± 20	Hipped roof replaced by half-hipped roof
1540	± 10	Open halls replaced by smoke bays
	± 10	Flat-laid joists replaced by square or on-edge joists
	± 10	Flat step stops replaced by curved step stops
1550	± 10	Smoke bays replaced by masonry chimneys over the next 60 years
	± 10	Two-plus storeys come into use over the next 30 years
	± 10	Diminished haunch joints replace the simple tenon on floor joists
1560	± 10	Windbraces change from curved to straight
	± 10	Jowls disappear over the next 40 years
1570	± 10	Staggered butt purlins come into use, but not usual until 1650
	± 20	Large panels replaced by small square panels
1575	± 10	Decorative square-and-circle panels come and go
1580	± 20	Raking queen struts become common, but never in parity with the queen strut
	± 10	Diminished principal rafters replaced by simple notched principals
	± 20	Curved step stops replaced by lamb's tongue stops over the next 20 years
	± 10	Glazing starts at the richer vernacular level
1585	± 15	Oriel windows become more prevalent
1590	± 10	Half-hips mostly replaced by gables over the next 20 years
	± 10	Curved down braces replaced by straight down braces
	± 10	Ovolo mouldings comes into use
1600	± ?	Bay windows largely supersede oriels
1630	± 10	Brick or other masonry comes into use at the vernacular level
1650	± 20	Staggered butt purlins now common, in parity with the queen strut
1700	± 10	Timber framing ceases on residential buildings

Table 4 **Key turning points.** This is a simplified table. It applies to central Surrey, and perhaps more widely, but there will be a few exceptions to the east and rather more to the west.

Future work

The objectives of the Project, as described in Part 1, have been achieved and the analysis above gives the Project's technical conclusions but, by its very nature, the Project provides a basis for future work.

Further samplings

The Project has established precise dates and a taxonomy for 200 of Surrey's old buildings but work of this nature can always be continued. There is always a wish for more data, particularly dendrochronology data. While the 200 buildings cover most areas and periods, the Project had highlighted some needs. North-west Surrey and the Greater London fringes are not so well covered. The building survival rates are low, but it would be good to try to get more dating carried out in these areas.

Most centuries are quite well represented, but more of those elusive pre-1400 buildings would enhance the results. The same is true of the rather neglected 17th century buildings. Timber framing may have been dying out at that time, but the changes in carpentry are interesting. Combined with other studies of this period, such as the Hearth Tax Project, an understanding of the social and technological changes could be gained. More radically, the almost ignored 18th and even 19th centuries could be explored. The buildings are nearly all brick built, but many have oak roofs for sampling. Following on from the work of George Howard, BARD contains a comprehensive category especially for brick buildings, so work on them has a ready-made basis for recording.

Lastly, there are some specific features where more data are needed, particularly rarer features such as crown struts.

Further analysis of existing data

Even without more data, there is work that could be done. The dimensions of buildings could be explored, whether overall or in terms of individual timbers such as joists. This would need access to DBRG's reports, but these have recently been scanned with such a need in mind.

Then there is the question of regional variation, mentioned in the report objectives. The influences of Winchester and London need more examination, as does the apparent resistance to change of carpenters in the Wealden areas. Further afield, variations in the south-eastern counties are ready to be studied collectively. All these counties are

involved in the Building Archaeology Research Database (BARD) and there is much dendrochronology data.

That leaves the country as a whole. To restate the Project's fifth objective: 'To contribute to an emerging national picture of regional and national trends in building activity and methods', much more can be done. Again, BARD would be central, together with the VAG database.

Timber sourcing and dendrochronology

Perhaps more surprising, there are possible projects concerning the dendrochronology. Where there is no sapwood on a sample, the number of sapwood rings missing has to be estimated. This has been taken to be between nine and 41 (see 'Dates in the text' in Part 1). With all the dendrochronology data available to the Project, this range could be verified or recalculated, perhaps even reduced for more precision. The same study could examine the accompanying question of the 'modal' values.

Rather more difficult, but still possible, would be research into timber sourcing. The dendrochronology reports indicate that the timbers are nearly always locally sourced often, it would seem, from within the parish. This judgement is based on the matching of the individual site chronologies with reference chronologies nearby or elsewhere. Some of the distances implied are not so short. For example, houses north of the North Downs sometimes show a strong correlation with the timber used in the well-wooded Capel area, 12 miles south. The local timber was often elm, so good oak appears to have been brought north over the ridge – quite a distance and a steep gradient for hauling timber. There are other examples hinting at such timber transportation.

Simpler dendrochronology studies would be such things as how many different years' fellings were used for a building, and confirmation that winter fellings were favoured. This information is readily available from the dendrochronology reports, ready for analysis.

The intention is to carry the method and information of the Project through to more comprehensive studies of the 4000 buildings recorded by DBRG. The calibration afforded by the study, together with the BARD online database, will enable this to be done methodically and thoroughly.

PART 4 – GAZETTEER OF DATED BUILDINGS

The listings

The majority of the work was within the Surrey Dendrochronology Project and was funded by the Project directly or by the owners themselves. A more complete description of the Project, its founding, methods and funding, is given in the first part of this report. A number of other buildings around the county have been dated independently, by various laboratories, and are included, annotated accordingly. It is believed that the list is complete for Surrey up to 1 January 2018. Some results from neighbouring counties are incorporated – provided they are close by (roughly within 5 miles) and a useful amount of building data are available. These datings have not been included in the main histograms or analysis, but the Project was often involved and the results sometimes have relevance. In the case of very early buildings (those before 1400) it was necessary for these close-by datings to be included in the analysis to establish a pattern, there being too few data otherwise. Occasionally, a building can be dated securely by documentary sources or from a date stone or inscription. These have been included, shown as ‘documentary date’ or ‘dated by inscription’. These dates should still be treated with a degree of caution.

Buildings are listed by county, beginning with the long list for Surrey and followed by shorter lists for Greater London, Hampshire, Kent and Sussex in that order. Within each county, they are listed by civil parish in alphabetical order and then in alphabetical order within each parish. The listing is by modern civil parish so ignores village names such as Brook (Albury parish), Smallfield (Burstow) and Gomshall (Shere). Some of these village names are included alphabetically in the listings with a cross-reference, but by no means all.

Every entry begins with the parish, followed by the name of the building and then by the National Grid Reference. This is followed by some abbreviations (listed below). These include the name of the dendrochronological laboratory, and a reference to any publication in the journal *Vernacular Architecture*. The felling dates of the timbers follow, these giving a very good indication of the construction date (see Part 1, ‘Surrey’s old buildings and the potential for dendrochronology’ and ‘Dates in the text’). Unless otherwise stated, the first entry for a building is for the primary construction phase. Any secondary phases or alterations are listed beneath. The full dendrochronology reports for the Project-sponsored

cases are held in the libraries of the Surrey Archaeological Society, the Domestic Buildings Research Group (Surrey) and the Surrey History Centre (SHC). Copies of the Tree-Ring Services reports can be obtained directly (see below).

A brief description of the archaeology of the building follows. For more detail, the best source is the DBRG. Nearly all the buildings mentioned here (except for the churches) have been recorded by the Group. Brief details are on the website (www.dbrg.org.uk). Full reports are available in certain circumstances, though only with the permission of the house owner. The descriptions given here for Project-sponsored cases are by the dendrochronologist involved, sometimes with the assistance of Martin Higgins, George Howard or Rod Wild. For other cases, much use is made of the material in the *Vernacular Architecture* entries, usually written by the dendrochronologist involved. This is gratefully acknowledged. For interest, any previously estimated date is noted, with comments if appropriate.

Many technical terms are used. See Terminology in Part 1, as well as DBRG’s Glossary of terms (fig 12), and the more complete Glossary close to the end of the report.

ABBREVIATIONS

AML: Ancient Monuments Laboratory

LGU: London Guildhall University

MoL: Museum of London Dendrochronology Laboratory

NU: Nottingham University Tree-ring Dating Laboratory

ODL: Oxford Dendrochronology Laboratory (www.dendrochronology.com).

Information on the buildings dated is available on the website.

SU: Sheffield University Dendrochronology Laboratory

TRS: Tree-Ring Services (www.tree-ring.co.uk). Andy Moir of Tree-Ring Services was the selected contractor for the Charlwood Dendrochronology Project and for the Surrey Dendrochronology Project. Information on the buildings dated is available on the website, and detailed reports can be purchased.

UCL: University College London Institute of Archaeology

(See also the summaries available from *Vernacular Architecture* – see *VA* below).

* Indicates that the work was carried out under the auspices of the Surrey Dendrochronology Project or its related predecessors (The Charwood Dendrochronology Project or the earlier work by Surrey Archaeological Society or the Domestic Buildings Research Group).

Indicates that the work was funded by the owner.

VA followed by a number: in addition to the information available in this report and from the dendrochronologists' websites, details are published in *Vernacular Architecture*, which is the journal of the Vernacular Architecture Group (www.vag.org.uk). These summaries are particularly valuable for technical dendrochronological information and are held online at https://archaeologydataservice.ac.uk/archives/view/vag_dendro/ and in the Surrey Archaeological Society library (Abinger). Most of the results listed here are in VA34 (2003) to VA48 (2017). Any more results are expected to be included in later issues, but are simply noted in the tables as TBP (to be published).

Buildings in Surrey

ABINGER, **Black & White Cottage** (TQ 1303 3873). TRS*, VA35

- (a) Primary phase, felling date: **winter 1607/8**
- (b) Chimney bressumer, felling date: **winter 1690/91**

Black & White Cottage is an unspoilt central-smoke-bay cottage, in an attractive woodland setting. The old part is just 2½ bays. The sooted smoke-bay partitions remain. The hearth framing is still in place around an inserted brick inglenook. A central, rather than an end, smoke bay in such a small cottage is unusual in Surrey. The walls had down braces and the posts are without jowls. The central smoke-bay hearth was offset to form a baffle entry, with the front door and staircase to one side. The roof is gabled, with a clasped-purlin and queen-strut construction. There are no windbraces, clearly thought not to be necessary in such a small, gabled, cottage. Some of these features are quite late so, despite it being built without a brick chimney, a relatively late date, c 1600, was estimated previously.

Later a chimney was inserted in the smoke bay, and a bay added at one end. It is remarkable that the cottage did not have a proper brick chimney until 1691.

ABINGER, **Chapel Cottage**, (TQ 1287 3816). TRS*#, VA44

Felling date: **winter 1593/4**

Note: this is a recent dating and is not included in the report graphics or analysis.

Chapel Cottage is set in deeply-wooded Wealden country, close to the remote Okewood church. It is a 2½ bay central-smoke-bay house. The smoke bay is well preserved in the roof with heavy sooting all around. The original bressumer is in place. The roof is gabled with clasped purlins, queen struts and straight windbraces. The principal rafters do not diminish at purlin level. Many of the walls are now Georgian brick, but some timber-framed panels remain inside and out. The panelling is 'small square panels', approximately 1 x 1m, with straight down braces. The posts are without jowls. There are lamb's tongue chamfer stops and one example of a diminished haunch tenon was found on a spine beam.

This assemblage of features is a copybook collection of late Elizabethan/early Jacobean features and led to a previous dating estimate of c 1600. Later, a central chimney was inserted in the smoke bay and extensions made at both ends and to the rear.

ABINGER, **Snowhill Cottage** (TQ 1341 3746). TRS#, VA38

- (a) Primary phase, felling dates: **winter 1594/5, 1595, spring 1595, winter 1595/6**
- (b) Western bay, felling date: **spring 1617** (spot date)

Snowhill Cottage is in the centre of the wooded hamlet of Okewood Hill (plan, fig 38). It is an end-smoke-bay house of 2½ bays, with an intact smoke bay. There are later bays at either end. Notwithstanding the smoke bay, there are a number of features more usually associated with the 17th century. The posts are without jowls and there are lamb's tongue chamfer stops. The roof is gabled and of clasped-purlin construction with queen struts and straight windbraces. There are both straight and curved down braces, the straight ones being in the added bays. Curiously, only one principal rafter is diminished above the purlin, the others maintaining their thickness to the ridge. This could be a transitional style, or the rafter could be reused. The previously estimated date was c 1600.

ABINGER, **Volvens Farm** (TQ 1357 4054).
TRS*, VA37

Felling date: **winter 1622/3**

Volvens Farm is an impressive and complete central-chimney house with 3½ bays and 2½ storeys (fig 27). There were two contemporary rear face-wings, but only one survives. The frontage has a face gable and pentice roofs, all original. There are four oriel windows, two up and two down, with ovolo mouldings. Again, this is all original. The roof and the floors inside are of Horsham stone. The posts are without jowls. The roof is of clasped-purlin construction with dropped ties, but with butt purlins over the 'entrances' to the face gable and two rear wings. The previously estimated date was mid-17th century.

ALBURY, **Grange Cottage** (TQ 0608 4797).
TRS*, VA36

Felling dates: **spring 1543, winters 1541/2 and 1543/4**

Grange Cottage is situated overlooking the Tillingbourne in Albury Park. It is the only remaining house from the old village, which was moved about 1800. It is a well-made, end-smoke-bay house of 2½ bays. The walls have jowled posts and large arch braces. There is attractive infilling, with ironstone and galletting replacing wattle-and-daub. Some of the wall panelling appears to have been reframed. The roof is gabled at the smoke-bay end, half-hipped at the other. It is of clasped-purlin construction, with queen struts and fine curved windbraces. The previous dating estimate was third quarter, 16th century. Later a chimney was built in the smoke bay and a cross-wing added.

ALBURY, **Lockhurst Hatch Farmhouse**
(TQ 0665 4496)

Documentary date: **1584–1606**

Lockhurst Hatch Farmhouse is an end-smoke-bay house of 2½ bays. The gabled roof has an unusual structure in that the principal rafters have the same dimensions as the common rafters. It has butt purlins and butt rafters with a collar and two queen struts to each truss. The wall frames have small square panels and down braces. The stairs were originally beside the hearth. A modern brick extension has been added at the smoke-bay end, and a timber-framed bay has been added at the other end. The date range derives from two documents. One is a land lease dated 1584, the other dated 1606 for the same land 'with newly erected messuage built' (SHC: G120/24/3 & 4).

ALBURY (Brook), **Meadow Cottage**
(TQ 0607 4617). TRS*, VA36

Felling date: **winter 1514/15**

This is an open-hall house, confirmed to be of only two bays in total originally, which is quite rare, at least in Surrey. The hall end is gabled, presumably to give some space over the fire. The roof over the service bay is hipped. There was a wide internal jetty over the hall, perhaps more like an overshot cross entry. This also is unusual in the area, particularly in such a tiny cottage. This unfamiliar arrangement led to it being thought that the cottage might not have had a partition on the ground floor, making it a type of 'half-floored hall', with both bays open to each other on the ground floor, but only one being open to the roof. This was shown by the dendrochronology not to be the case, as the head rail of the partition behind the overhang was demonstrated to be coeval or nearly so.

The walls have jowled posts, large panels and fine arch braces. The roof structure has clasped purlins with queen struts and windbraces. The previously estimated date was early 16th century. Later a smoke hood was added and then a chimney within it. An early stone-walled outshot at the hall end was converted to an added bay.

ALBURY, **Old Rectory Barn** (TQ 0480 4784).
TRS*, VA36

Felling date: **winter 1468/9**

The Old Rectory Barn is a medieval tithe or glebe barn. It has five bays and is stoutly built. The prime archaeological feature is a set of long passing braces, rising from the posts, almost at ground level, halved across the girding beam and reaching right up to the eaves. Braces such as these are usually quite early, particularly the sagging variety (see 'Very early buildings' in Part 3, Analysis). The previous dating estimate was mid-15th century. The posts are heavily jowled. Curiously, there is some decoration in the form of a cross beam which is chamfered and stopped. The roof was replaced after a fire, but the evidence is for a hipped construction with queen struts. It is interesting to find evidence of queen struts in this area at such an early date. This may be due to a Hampshire influence as the controlling diocese is Winchester.

ARTINGTON, **Littleton Farmhouse**
(SU 9813 4739). TRS#, VA46

(a) Main range, felling date: **winter 1604/5, ?1608**

(b) Stair turret, felling date: **spring 1605** (spot date)

(c) North wing, felling date: **spring 1606**
(spot date)

Note: this is a recent dating and is not included in the report graphics or analysis.

Littleton Farmhouse lies in a hollow in the North Downs to the west of Guildford. The main range is a large central-chimney house of 3½ bays. The half-bay holds two inglenooks. One is particularly large, with a timber lintel, meant for cooking and serving the original 'farm kitchen' or 'service bay'. The other inglenook is smaller, brick arched, just to heat the communal 'hearth room'. This room is the more decorated. Not only the spine beam but also the minor joists are chamfered and stopped with a mixture of curved step and lamb's tongue stops. A further bay is to the east. It is curiously narrow (2.2m) but, judging from the facing of the internal frame, it is part of the original build. Its purpose is unknown.

There are two storeys and an integral attic. The roof is gabled and of clasped-purlin construction with raking queen struts, diminishing principal rafters and straight windbraces. The wall framing is in small square panels, but with down braces, some straight, but some sagging, again quite unusual. The principal posts are without jowls. The previously estimated date was early 17th century.

There are impressive additions, shown by the dendrochronology to be probably contemporary. A stair turret has a spiral staircase serving all three storeys, and with a full-height newel post. There is 'V' bracing in the gable. The two-bay north wing has similar framing to the main range, with small square panels, another sagging down brace, 2½ storeys, posts without jowls and a gabled, raking-queen-strut roof. It had its own end chimney. It had been thought to be a later, improved, kitchen wing but as it was built at the same time, it is now thought to have been a 'parlour wing', something not adequately supplied within the main range. The fireplace would support this theory, being rather small for cooking, but enough for heating.

There is an outshot to the west. This is new but the lack of weathering on the main wall timbering indicates that there was something there previously. This main wall has some fine carpenter's marks. There are also outshots to the north, either side of the stair turret, of uncertain age.

ASH, **Old Manor Cottage** (SU 9012 5042). TRS#, TBP

(a) Central Range, felling date: **c 1479**

(b) East Range, felling dates: **winter 1567/8,**
winter 1568/9

Note: this is a recent dating and is not included in the report graphics or analysis.

Old Manor Cottage and Ash Manor together comprise one build on a moated site between Ash and Ash Green, east of Aldershot. Old Manor Cottage is the more eastern portion. Two bays of a medieval open-hall house survive as the central range (and are divided between the two properties). It is not known what part of the medieval house these two bays formed, but they were floored, so would not have been the open hall itself. The east range is wholly within Old Manor Cottage. It would have been built to replace the original open hall and perhaps an end bay.

The central range roof is of clasped-purlin construction, with queen struts and diminishing principal rafters. The central tiebeam and collar are both cranked. With the exception of two posts, no wall framing remains. On the ground floor, a possible moulded dais beam survives together with possibly original joists (although these have been raised). The previously estimated date was 15th century, without being more specific. (The tree-ring date of c 1479 is very early for a clasped-purlin roof in Surrey, although less so for nearby Hampshire.)

The east range is a 2½ bay, end-smoke-bay build. (It is entirely within Old Manor Cottage.) The half-bay is heavily smoke blackened. The roof is of clasped-purlin construction with queen-struts, diminishing principal rafters and straight windbraces. Some surviving wall framing has large panels and straight down braces. The posts are jowled.

Further to the west, a 'parlour wing' was constructed, perhaps at the same time as the east range. It was not sampled for dendrochronology.

ASHTHEAD, **Parish Church of St Giles** (TQ 1929 5801). MoL, *V428*

Felling date: tower roof, **1497–1522**

The square tower is topped by a small, pyramidal, timber-framed roof. The dating is from three rafters but may not indicate the construction date of the roof. None of the main timbers could be dated, so reuse or repairs are possibilities.

BAGSHOT, see WINDLESHAM

BETCHWORTH, **Church of St Michael, church chest** (TQ 2105 4959). TRS*#, *V443*

Felling date: **1505–37**

The church chest at St Michael's, Betchworth, is a

massive oak chest, hewn in one piece from a single tree trunk. It measures 2.17m long, 0.80m wide x 0.65m high. The sides are approximately 15cm thick, the ends 25cm. There is a lid, equally heavily built, in two pieces. Apart from some deterioration underneath, the chest is in good condition. The chest has heavy iron hinges and is encased by seven great iron straps. It is secured by three locks, the keys of which are traditionally held by the vicar and churchwardens, so it can be opened only by three of them in concert. It was clearly intended as a secure place for church valuables. Previously, there was no idea as to its date. Pevsner said that it was 'undatable'.

BETCHWORTH, Manor Cottage (TQ 2109 5042). TRS*#, *V*A37
Felling date: **winter 1588/9**

Manor Cottage is a four-bay, 2½ storey, central-chimney house in the centre of the village of Betchworth. One of the central bays is occupied by the four-hearth chimney, the stairs and the front door (a lobby-entrance plan). All the storeys are well-timbered. The roof is half-hipped and of clasped-purlin construction with queen struts and straight windbraces. The principal rafters do not diminish above the purlin. The posts are without jowls. There are quite wide (30cm), slightly curved down braces in the framing. Spine beams are chamfered; lamb's tongue stops remain on one. All the joists have diminished haunch joints, except for those in the attic ceiling, where the extra strength was presumably considered unnecessary.

The previously estimated date was early 17th century. The house is a good example of features, previously thought to be 17th century, being found in the late 16th. Later, the front was 'Victorianised' with a bay window, porch and dormer.

BLACKBROOK, see **HOLMWOOD**

BLETCHINGLEY, Brewerstreet Farmhouse (TQ 3239 5193). TRS*#, *V*A41
Felling date: **spring 1491**

Brewerstreet Farmhouse is set in a rural situation south of the North Downs. It is an exceptional Wealden-style building and one of the finest timber-framed buildings in the county (figs 22, 23). A 'Wealden' house is an impressive form of medieval, open-hall house, with end bays jettied out forwards and a 'flying wall plate' joining the two, making the centre bay look recessed under a

rectangular, hipped roof. At Brewerstreet, this design was modified by turning the end bays into 'pseudo cross-wings'. These wings remain within the overall rectangular footprint but have their own roof lines at right angles and, in this case, forward-facing gables. This elaborate variation is the only example recognised in the county.

The frontage is spectacular, with full-height close studding, bay windows and barge boards to the wing gables. The wing at the north-east end is jettied on two sides, with a dragon post at the corner. The wing at the other end is jettied only forwards and there are various signs that, unlike the other end, the forward-facing gable is a later addition.

The roof is of Horsham stone supported by crown posts in the centre bays and north-eastern wing. The open-truss crown post is unusually ornamental, with an octagonal shaft, a base and capital. It is supported on a huge tiebeam, originally with wide arch braces almost meeting in the centre. The south-western bay roof was reroofed at some time, with clasped purlins and queen struts. The whole roof is without any sooting, extraordinary for an open-hall house. Perhaps there was an early chimney on the rear wall.

The high end of the hall has a dais beam and – a rare survival – a dais spere, which projected into the hall to shield the high table from drafts. The front door is in place, entering the service bay rather than the hall, which is unusual. On the hall side, there were spere screens originally, to reduce the drafts into the lower end of the hall. On the other side, there were three arched doorways (now reset). The larger one in the centre would have led through a passage to a detached kitchen, with the two flanking ones opening into service rooms. (The central doorway cannot have been for a staircase, as is sometimes the case, as there is a spine beam over. A fourth, plainer, doorway by the rear wall led to the staircase.)

The tree-ring date is rather later than the mid-15th century date previously estimated. It is an unusually late date for a Wealden house – none in the South East have yet been tree-ring dated to the 16th century. It helps to explain why the roof is unsooted: chimneys were starting to be built by then. It may also explain the design variant of forward-facing gables: a degree of experimentation as the fashion for Wealden houses came to an end.

Later, a large chimney was erected at the low end of the hall. Then, in recent years, a faithful

restoration rescued the building from near-dereliction.

BLETCHINGLEY, **37 High Street** (TQ 3264 5075). TRS*#, *VA37*

Felling date: primary phase, **spring 1495, winter 1495/6**

This is part of a five-bay building running back from the High Street. The rear three bays make up No 37. The front two bays were not examined, but were apparently floored, with the front bay now having a 'turned' roof, realigned to match the street frontage. Of the three rear bays of the five, it would seem that the third and fifth were floored, with just the fourth bay open to the roof – but the fourth and fifth were open to each other on the ground floor, an arrangement sometimes called a half-floored hall. The purpose of this arrangement is unclear, but some kind of rear service function, or kitchen, seems likely.

The building is heavily built, with jowled posts and substantial arch braces. The roof is of queen-strut and clasped-purlin construction, with a full set of twelve curved windbraces. The previously estimated date was early 16th century. Later an outshot was added and a central chimney inserted, with a fine bread oven.

BLETCHINGLEY, **Ivy Mill House** (TQ 3425 5125)

Documentary date: **1698**

Ivy Mill House was built below the dam of the mill pond, at right angles to the road. It is a two-unit, central-chimney house, originally with a rear outshot containing the stairs. It has a symmetrical, Georgian-style facade. A central porch leads into a small lobby entry. There are two storeys and an integral attic. The roof is half-hipped and has staggered butt purlins. Later, the outshot was extended outwards and built up into two hipped roofs with a valley between.

There is an original agreement of 1698 giving instructions for demolishing the 'old and ruinous and decayed messuage' (Lambert 1949) and rebuilding it to exact dimensions and specifications. This is the only example in DBRG's records of building requirements surviving.

BLETCHINGLEY, **Place Farm** (TQ 3266 5212). TRS*, *VA41*

Felling dates: **roof, winter 1545/6, winter 1546/7**

Place Farm is the only surviving part of Bletchingley Place, at one time home to Anne of Cleves after her divorce from Henry VIII. This

remaining part is thought to be the gatehouse. It is a large (15 x 8m) brick building, now a house. The highlight of the facade is a fine four-centred-arched entranceway, with five ribs of moulded bricks. This is now blocked up except for a Georgian-style doorcase. The rest of the frontage is a splendid patchwork of old bricks, pierced with windows in a similar Georgian style. An angular fragment of foundation, outside one of the end walls, hints that an earlier footprint may have had towers. The dating applies to the roof. The building as a whole may well have early foundations but Edward Stafford, Duke of Buckingham, is credited with reconstructing the building before his execution in 1521. The brickwork and arched entranceway are not surprising at this time for a very high-status house.

Internally, the main feature is the outstanding roof. This is gabled and of five bays. The quality is exceptional, with timbers of huge scantling, but square cut, with even long timbers showing little or no intrusion of sapwood. All is smoothly worked. Its basic structure is twin clasped purlins notched into principal rafters and held apart by collar pairs, higher and lower.

The collars are interrupted, in the first place by a central king post supported by the principal rafters which act as a simple arch. The king post is splayed out at the top providing extra wood facilitating mortices into which the principal rafters are tenoned (there being no ridge piece). This top-splayed style is known as a 'joggled king post'. The base of the king post is triple pegged into the tiebeam holding it up (metal straps were used in later roofs). Secondly, the lower collars are interrupted to allow a passageway, formed between the king posts and single queen posts in one side of the roof. There are four curved windbraces, sparsely spaced, with a pair in each of the end-but-one bays. (The bays at each end are simpler, perhaps replacing tower structures of some kind). Most intriguing is clear evidence for a diamond-set turret, set in the central bay. Purlins were interrupted by front- and rear-facing gables. There is shadow evidence for diagonally-set base plates, at the level of the tiebeams. The joists had diminished haunch tenons.

To building archaeologists, the roof is an enigma. King posts that are supported by the principal rafters were not introduced generally to England until the 17th century influenced by Italians such as Palladio (1570) (see 'King-post Roofs' in Part 3). Experts such as Pevsner and Harding put the roof as being 18th century or later, assessing it to be a rebuild over earlier foundations. It was checked,

and re-checked by David Yeomans (an expert in roofing development), and some historical research was carried out by Dennis Turner and Richard Greening (Turner & Greening 2010). This went a long way to explaining the early date.

Anne of Cleves was granted the building and the manor of Bletchingley for life in 1540 and Sir Thomas Cawarden was keeper of the manor from that date. In 1544 Cawarden was made Master of the Tents and Revels and keeper of Nonsuch Palace which started being built in 1538 by over 500 workmen from all over Europe. In December 1546, just before Henry VIII died, he was granted the reversion of the manor of Bletchingley after Anne's death (in 1557). Henry died in January 1547 and shortly afterwards Anne was being persuaded to lease the house to Cawarden which she was told was Henry's wish and that she would have Penshurst instead (Acts of the Privy Council, April 1547, f677).

Sir Thomas was a very senior member of the Court which would have increased his already wide contacts with Court craftsmen and contractors and given him cause to travel to France and possibly further afield. The dendro-dating shows that some of the trees were felled during Anne's occupation and that Cawarden lost no time in carrying out various repairs and enhancements. One of these would have been the gatehouse roof and diamond-set turret, as confirmed by a reference in the 16th century to a tower containing a bell 'to call folk to meals' (D Turner, pers comm).

This is an interesting example of the use of dendrochronology, not only for research into buildings and the influence of styles, but also in bringing to light the social and historical events of a turbulent year. As such it is an intriguing, highly significant and important dating.

BRAMLEY, Wintershall (TQ 0124 4130). UCL#, *V431*

- (a) Hall range, felling date: **1399–1431** (spot date)
- (b) West wing, felling date: **1543–75** (spot date)

Wintershall is a complicated house comprising at least five phases from the 14th to the 20th centuries. It includes a magnificent open hall that originally had three bays. Much of the bay at the service end has gone, but the remaining bays have moulded tiebeams (one of which provided the date), a moulded cornice and a moulded dais beam at the high end. The roof has octagonal crown posts with moulded capitals and bases. There are arch braces up to the collar purlin and to soulaces. There are clear signs of rebuilding at the high end. The dated crown post is in the rebuilt area that now

forms the west wing. This has decorative features consistent with the date of the crown post.

BROCKHAM, Betchworth Castle (TQ 1903 5006). TRS*#, *V444*

Felling dates: *ex situ* timbers, **1440–72, 1494–1526, 1555–87**

Betchworth Castle is a rare example of a fortified house. The house is situated on a sandstone spur that overlooks the western bank of the river Mole, 1 mile to the north-east of Dorking. The roughly rectangular house is aligned north north-east–south-south-west. Its north-eastern end, built of sandstone and brick, survives in a ruinous state to c 9m in height, while the south-western end survives mainly below ground.

The three samples were recovered during recent restoration works. The felling dates tentatively indicate three separate phases of construction. The earliest felling date range is consistent with a royal licence to crenellate granted in 1448 (Lyte 1927), and offers support to the thought that this fortified house was built in 1449 by Sir Thomas Browne. The two later felling dates suggest that the building underwent two subsequent phases of alteration and redevelopment during the 16th century.

BROOK, see **ALBURY**

BUCKLAND, Yewdells Windmill (TQ 2207 5071). ODL#, *V432*

Cap weatherboards, felling dates: **1921–41, 1924–49, after 1924**

Yewdells Windmill is the only surviving wind-powered sawmill in Britain. Only the weatherboards to the windmill cap dated, but these are not thought to be original as the millwright was active between 1860 and 1876.

BURSTOW, Burstow Manor (TQ 3147 4419). TRS*, *V439*

Felling date: **winter 1333/4**

Burstow Manor is a remarkably complete survival of an early medieval moated manor house of textbook plan. There was a two-bay open hall, a floored service bay and a two-bay parlour cross-wing. Everything is of the highest quality and of massive timbers. The open truss has a huge tiebeam (8.5m long x 56cm deep) supported by jowled posts (44cm square) and long, wide, arch braces. Above is a grand crown post with unusual, splayed foot-braces. The spandrels are interlaced with a network of struts (vertical, horizontal and angled). There are soulaces, and the braces, tiebeam and wall plates are moulded in the

decorated style. All the timbers are of square section, an early feature. There is evidence for a louvre.

The high end of the hall is just as impressive, with four pairs of arch braces rising to an end plate with a 25cm-wide moulding. No evidence of a dais beam remains. The low end of the hall has the substantial remains of three very heavy arched doorways. These would have been for entry to the scullery and buttery, with the central doorway leading through to a staircase or a detached kitchen. There are two pairs of arch braces rising to the tiebeam. A pair of saltire crosses rise from the tiebeam to the rafters and a collar – another feature previously not seen in Surrey. The service bay itself is less intact, but massive corner posts remain. This end of the building was hipped.

The parlour wing is scarcely less impressive. There is a crown-post roof. The centre crown post again has splayed foot-braces, almost solid to the foot of the crown post. The spandrel struts are only slightly simpler, vertical and horizontal struts meeting at the arch braces. Huge, square-section knee braces support the central, ground-floor, cross beam. The timbers are simply chamfered but are, once again, of square-section throughout. The roof of the wing remains hipped to the rear, but the front has been rebuilt and it is not possible to tell its original form. The wing is thought to be coeval with the main range, as there is a common wall, properly carpentered.

The previously estimated date was mid-14th century, which is confirmed by the dendrochronology. Later a central chimney was inserted and the front ‘Georgianised’ with brick and tiling. The open hall was partitioned, the roof was slated. Apart from the moat, which remains intact, there is little outside to reflect the remarkable remains inside. The house is surely the finest of its period in Surrey.

BURSTOW (Nutfield), **Doggetts** (TQ 3170 4849). TRS*, TRS#, TBP

(a) Front range, felling dates: **1549–75, 1554–86, 1560–92**, summer **1559**, summer **1562**, and winter **1564/5**

(b) Rear range, felling date summer **1604** (spot date)

Doggetts is part of a farmstead complex, in a rural situation close to the village of South Nutfield (although just into the parish of Burstow). Phase 1, the front range, comprises a gabled four-bay timber-framed house of two storeys with a rear wall chimney stack (rebuilt). The floor plan is entirely medieval in date with a divided service bay

incorporating a staircase, true cross passage, floored hall with a fine plank-and-muntin screen, and parlour end with another staircase. The hall was floored from the outset and the service staircase rises to integral attic rooms within double clasped-purlin roof.

Unusual features include the true cross passage (flanked by walls with rebated plank boarding); downstands to support the staircases; and the way the walls are framed in three vertical panels with the result that the floor has to be supported by additional internal timbers. These features are alien to Surrey vernacular perhaps indicating a visiting carpenter. Also unusual to Surrey is the use of double clasped purlins. Various construction details suggest it is truly transitional in conception.

In detail, this front range has a gabled roof, clad with Horsham stone. The roof framing has the twin clasped purlins mentioned. All the internal roof trusses have two uprights forming doorways to the upper collar. Two trusses have raking queen posts to the lower purlins and the other trusses have horizontal collars. There are curved windbraces. The wall framing is made up of large panels with jowled posts and arch braces. There are unusual soffit spurs to some of the joists. The previously estimated date was *c* 1550.

Phase 2, the rear range, turned the house into an H-shaped structure. In the link, are a staircase and back-to-back hearths. This new service range is 2½ storeys high with a smoke bay at one end. The roof is gabled, again with Horsham stone cladding. The framing has clasped purlins, raking queen struts and straight windbraces. The wall framing consists of small square panels, with some straight down braces. The posts are without jowls. The previously estimated date was late 16th century.

The ceiling heights, the large scantling of the timbers, the plank-and-muntin screen, and the use of Horsham stone for the roof, indicate a building of high status.

BURSTOW (Outwood), **Cogmans** (TQ 3249 4458). TRS*, *V437*

Felling date: parlour wing, **winter 1474/5, winter 1475/6**

Cogmans is a medieval building on a once-moated site. It is in two parts, both equally remarkable. The hall range is largely rebuilt but incorporates a massive base cruck (40 x 32cm) for a quasi-aisle (the base cruck bends over the aisle to eliminate the obstruction of an aisle post). This is the only example recognised so far in Surrey. The high end of the hall retains a moulded dais beam and

decorative fan braces. The roof has been replaced. It does not seem to have been a crown-post roof, but the original form cannot be determined. The range could not be tree-ring dated.

Extending from it is a two-bay parlour wing, not strictly a wing as it has the same roof axis and the same width as the hall range. Both ranges are morticed into the same truss. This truss undeniably belongs to the wing, yet includes the hall's dais beam. This, and other factors, indicates that the two ranges are coeval and that the tree-ring date can reasonably be applied to both.

The wing is of very high status. It is wide (7m) and has a 53cm external jetty in the end gable wall. Three posts in this end wall are moulded and incorporate 39cm-deep jetty braces cut from a solid piece of timber. The principal posts are jowled. There are long down braces in the framing, two on each floor, and a centre panel (123 x 61cm) wholly of wood, fully pegged in. The open truss is decorative, with a moulded, slightly cranked, tiebeam. The moulding continues around solid knee braces and down the principal posts, finishing in pyramid stops. The tiebeam supports a long octagonal crown post with a moulded base and cap. The other two crown posts are plain with down braces. The whole is covered with Horsham stone, which is also used for the main range.

Curiously, there is an integral first-floor doorway at the right-hand end of the jetty and another, only 64cm wide, immediately below it on the ground floor. It may well be that the upstairs room had a public function – certainly it is prestigious enough. Court Oak Lane runs nearby, so a court room is a possibility.

The previously estimated date was late 15th century, based on the moulded dais beam profile and other structural features. This is later than would be expected for a base-cruck construction but, even so, was thought to apply to both builds.

BURSTOW (Smallfield), Smallfield Place
(TQ 3269 4318). TRS*, VA38

Felling dates: rear wing, **winter 1612/13**; front range, **1615, winter 1616/17**

Smallfield Place is a large, complex collection of builds with manor-house status. The front range is stone built and has one of the best stone facades in Surrey. There are three two-storey bay windows with ovolo-moulded mullions and castellated tops. A handsome stone porch has carvings and finials. The roof is framed for six bays, although these do not exactly match the rooms beneath. The northern portion of this front range has three storeys, the

southern, just two. This may indicate a need for taller reception rooms. The whole range has an integral attic, and there are several lateral chimneys with diamond-set stacks.

Inside, an outstanding Renaissance-style timber wall runs alongside the cross entry, which is the best of its kind in the county. It has pillars, heavily-framed panels, and strap-work decoration at the head. There are fine stone fireplaces and a wealth of oak panelling. Flush, plain joists suggest that the ceilings were intended to be plastered. The roof has butt purlins in-line on the rear roof slope and staggered butt purlins on the front. In some buildings, this difference was to allow access into forward-facing gables, but here access would have been denied by original rafters. The face gables do not seem to be the reason for the staggered purlins in this case. The previously estimated date for this front range was mid-17th century.

From the rear, a two-bay wing intrudes into the centre of the front range. There is evidence that a third bay once reached forward to where the front wall now stands. This rear wing is timber framed and just as well built, with heavy timbering, three storeys and an integral attic. The walls have small square panels without braces, and the posts are not jowled. There are lamb's tongue stops and a T-shaped window with ovolo-moulded mullions.

The roof is of clasped-purlin, queen-strut construction, without windbraces. Like the front range, it was apparently gabled. The form of heating, if any, is not known, but there may have been a chimney to the side. The absence of weathering and existence of upper-storey doorways indicate that there were other buildings to the side and rear, as there are now. The previously estimated date for this rear wing was early 17th century.

BURSTOW (Outwood), Woolborough Farm
(TQ 3072 4578).

Felling dates: main range, winter 1561/2; east wing, 1543–75. TRS*#, VA43

(a) Main range, felling date: **winter 1561/2**
(b) East wing, felling date: **1543–75**

Woolborough Farm is in Wealden country just outside the settlement of Outwood in eastern Surrey. It is an interesting and perplexing house. The main range is a three-bay, timber-framed build, now clad in local stone. The bays are of similar size, although the centre one is slightly narrower. The central chimney it contains is thought to be a later insertion. The roof is gabled and of clasped-purlin construction with queen struts and curved windbraces. The timbers are

heavy, as are two remaining jowled posts. It is without ornamentation except for lamb's tongue chamfer stops on the spine beam and joists of the inserted floor. The dilemma is that the entire roof is smoke-blackened. It must have been an 'open hall' – and the hearth was found by excavation on a later visit – but the blackening would normally have been limited to the central bay. All the ground floor ceiling joists are light (10 x 10cm) and more recent. The indications are that, originally, the only partitioning was in the northern truss and only on the ground floor.

The puzzle continues with the second build (the east wing). This is of three bays, reaching back from the two southern bays of the main range. The first two bays of the wing are narrow. They are timber framed, without stone cladding. The roof is in the same style as the main range. It is smoke blackened and the ceiling joists are light, again indicating that these two bays were originally open to the roof. The posts are jowled. The wall panels are large and one curved down brace can still be seen. These two bays were thought to be coeval with the main range, or at least contemporary, and this is confirmed by the dendrochronology. The third bay is newer, perhaps 17th century, but there was an earlier build beginning here, as can be seen from the lack of staves in the intervening truss.

This plan does not seem to be domestic involving an open-hearth fire or fires on the ground floor. Although such use cannot be ruled out, it would seem more likely that this fine building was constructed for some kind of commercial use. Alternatively, it could have been an attached kitchen for a vanished house on the site of the third easterly bay and outwards. The previously estimated date was mid-16th century. Later the central chimney was inserted in the main range and a third bay added to the east wing, perhaps replacing some earlier structure, as suggested. This bay was heated by a new central chimney taking up much of the second bay. The added bay is timber framed, but using many reused timbers. Some are substantial, particularly the end tiebeam which is 45cm deep. It has peg holes for wide arch braces and for a crown post, so will be 15th century in date, if not earlier.

CAPEL, **Church of St John the Baptist** (TQ 1755 4075). TRS*, *V435*

- (a) Nave roof, felling dates: **1397–1429** (two spot dates)
- (b) Chancel roof, felling date: **1405–37** (spot date)
- (c) West porch, felling date: **1403–35**

The church of St John the Baptist is thought to date from the 13th century. The simple two-cell church

had a nave and chancel, both now roofed with similar common-rafter roofs. Augmenting the rafters are collars, soulaces and ashlar pieces, making a seven-canted roof structure. The tree-ring dates indicate that the two roofs are coeval, or nearly so, with a construction date in the early 15th century. Externally, the roof is of Horsham stone. There is a fine tower, surmounted by an attractive oak-shingled broach spire. There is a bell frame, but the timbers appear to be Victorian.

In addition to the main south porch, there is a small west porch. This has another common-rafter roof, this time with unusual carpentry. There are no timbers except the rafters. Although only 2.1m long, these are 46cm deep. They are heavily scalloped into the ridge, giving a striking trefoil pattern. The tree-ring dates indicate that the porch may well be coeval, or nearly so, with the nave and chancel roofs.

CAPEL, **Clock House** (TQ 1743 3868). TRS*#, *V434*

Felling date: **winter 1553/4**

Clock House is a house of considerable archaeological interest. Set by the Clock House Gill, it faces west to the Horsham Road. It is situated on heavy clay lands, much used for brickmaking, and there are clay pits for the nearby brick kilns. The house is apparently an early central-chimney house of around 1600 but, confusingly, it has features from both the 16th and 17th centuries. The first build consisted of four bays. The larger of the two centre bays contains the hall and the narrower bay contains a diamond-set, Jacobean-style chimney with a cross entry behind, facing into the service bay. The inglenook is exceptionally large. All this appears to be early 17th century, but the posts have jowls and the roof is of three-queen-strut construction. The timbers are heavy and there are large windbraces, which are sagging, which is unusual. These are all normally 16th century features. The spine beam in the hall is moulded, another early feature, and it has broach stops, which had not hitherto been dated. The previously estimated date was late 16th century.

The tree-ring date is exceptionally early for a chimney house and the possibility of an earlier smoke-bay phase cannot be entirely discounted. On the other hand, the Project is showing that chimneys did exist at the vernacular level well back into the 16th century. The diamond-set stacks, seemingly later, could be a rebuild.

There are signs that the service bay has been rebuilt, which may also have affected the bay next

to it, the one with the cross entry. Beyond the service bay is a brick wing, probably early 18th century, and this has a staggered-butt-purlin roof. There is also an added bay beyond the parlour bay, built probably not long after the first build. The rear has various additions. One is an interesting stair turret, which could be quite early. The roof is clad with finely graded Horsham stone. There are the remains of wall paintings in the early house.

CAPEL, **Ketleas** (TQ 1829 4254). TRS*, *V436*
Felling date: **c 1389**

Ketleas (originally Kettles) is an attractive, ancient cottage, apparently with only two bays, one of which was open to the roof. It is gabled, but was probably hipped originally. The roof is clad with Horsham stone and there is evidence that it was so clad from the beginning. It has a common-rafter roof structure. This rare early form has no longitudinal bracing – there is nothing to prevent the rafters falling over, other than the cladding. There are jowled posts and passing braces in the wall framing. These long braces rise almost from ground level up to the eaves and are of the sagging rather than arching type. The long braces to the centre tiebeam also rise in this way, from a point only 80cm from the floor. These tiny open-hall houses are rare in Surrey. The previous date estimate was early 15th century.

A floor was inserted into the open hall and an end chimney added, but judging from the brickwork, not until the 17th century. The porch and dormers were added later.

CAPEL, **The Old House** (TQ 1752 4094). TRS*, *V435*

Felling dates: **winter 1371/2, winter 1373/4**

The Old House is a remarkable and ancient open-hall house. It has four bays with, originally, a two-bay open hall. The timbers are heavy and there are a number of rare, archaic features. There is a durn door, the whole of the arched frame being made up of only two pieces; it is the only clue to the great age of the house from the outside. There are through-splayed and tabled scarfs, which have a zigzag outline when viewed from the side and are sometimes called ‘Trait de Jupiter’ scarfs. The open truss has long, arch braces, linked to the main posts by spandrel struts. The jowls on the posts have long, straight verticals (65cm) and straight tapers. The roof has tall undecorated crown posts. That over the open truss has longitudinal braces only. The other two are braced up to the collar purlin and down to the tiebeams. The previous date estimate was late 14th century.

CAPEL, **The Old Post Office** (TQ 1758 4055). TRS*, TBP

Primary phase, felling date: **after 1552** (spot date)

The Old Post Office (formerly Homeleigh) is a timber-framed house of two main builds. The first is a 2½ bay smoke-bay house, with a well-preserved end smoke bay. It has heavy jowls and unusual sagging wall braces up to the first-floor girding beams, rather than up to the wall plates. The roof is gabled with clasped purlins, queen struts and windbraces and is clad in Horsham stone. A chimney was later inserted into the smoke bay.

The second build is an apparently self-contained, 2½ bay, end-chimney house. This also is well timbered (including some fine timbers from a medieval house, notably a reused crown post). Again, the roof structure has clasped purlins with queen struts, but the posts are not jowled and the principal rafters do not diminish above the purlin, as they do in the first build. Both builds have lamb’s tongue stops, which was a surprise in the first build, as they are usually considered to be a later feature. The previous dating estimates were mid-16th century for the first build, mid-17th century for the second.

CAPEL, **Taylor’s** (TQ 1816 3868). TRS*, *V435*

- (a) West wing felling date, **winter 1344/5**
- (b) Hall range, felling date: **1454–80**
- (c) East wing, felling date: **1628–58** (two spot dates)

Taylor’s is an exceptional house of three builds, all under a Horsham stone roof (fig 29). The first build is a two-bay open hall, which could now be called the west wing. It is of generous dimensions and high quality. It never had floored ends, so was apparently just one very large, two-storey room. It has a common-rafter roof. This rare early form has no longitudinal bracing; there is nothing to prevent the rafters falling over other than the battening. The roof was originally hipped. The open truss has a huge cambered tiebeam and a chamfered crown strut. It has heavy knee braces instead of the more usual arch braces. The previous function of this early build is conjectural, but certainly it was of high status. An early 15th century date was estimated previously.

The main range or hall range is another two-bay open hall, which was built onto the earlier west wing. Instead of a service bay, whoever built this main range utilised the earlier, two-bay open hall. It has the finest high end in the area. There is a heavily-moulded dais beam, 30cm deep. Below is a fine plank-and-muntin screen, above are long fan

braces. The roof is of crown-post construction, with both up and down braces. The posts are heavily jowled and at least one bay had fan braces in the wall framing. There is a side-halved scarf, 63cm in length. The previously estimated date was mid-15th century. Later a central chimney was inserted, possibly with an intermediate smoke-bay phase. The inserted spine beam has 12cm-wide chamfers and curved step stops.

The hall range was built with a parlour bay to the east. This was later replaced with a large, three-bay, three-storey, jettied, cross-wing, which could now be called the east wing. The front two bays are conjoining on the first two floors and the third storey is open throughout. The principal trusses are of dropped-tie construction, to allow easy passage at this level. The walls are framed with small square panels and the posts are without jowls. The roof is of clasped purlin, queen-strut construction, without windbraces.

There is a fine stair turret, the stairs curling around a tight square of, originally, four newel posts. These are chamfered and have carved finials. There was a T-shaped, Jacobean-style window in the front wall, copied by a similar window inserted in the front of the west wing. This latter window remains. The previous date estimate for the wing and stair turret was early 17th century.

CAPEL, **Temple Elfande** (TQ 1920 3974). TRS*, VA35

Felling date: **winter 1571/2**

Temple Elfande is a large and tall house, one of the grandest in the area. It stands on a site once owned by the Knights Templar. One range, to the south, has the plan of a very large farm kitchen (9 x 6m) with a high ceiling (2.6m) and a huge inglenook on the rear wall. The other build, to the north, is a long parlour wing, with two lateral (rear) chimneys serving fine moulded-chalk fireplaces. There is a stair turret in the apex between the two builds. Both builds are jettied. Both roofs have butt purlins in-line. Narrower rooms are formed in the roof space; those in the parlour wing have impressive barrel vaulting. The two builds and the stair turret were thought to be coeval, and this was confirmed in the dating. The previous date estimate was early 17th century.

CHALDON, **Chaldon Court** (TQ 3082 5568). TRS*#, VA45

(a) Main range, felling date: **1356–89**

(b) East wing, felling date: *c* **1366**

Note: this is a recent dating and is not included in the report graphics or analysis.

Chaldon Court is by the church (with its important wall painting) in the parish of Chaldon, high on the Downs in northern Surrey. The 'main range' is of three bays with a 'grand chamber' on the first floor, originally open to the roof and occupying all three bays. Underneath is another large room, of two or possibly three bays. The roof was gabled and crown posted, with two remaining, the one in the open truss having four upward braces, heavy, square-section and slightly curved. Quadrant mouldings run up the crown posts, along the braces and then along the bottom edges of the collar purlin. The principal rafters are also moulded. They form part of a decorative open truss, with more quadrant moulding running up the bay posts and along the tiebeam, as well as along massive square-section arch braces, thus forming a double chamfer in the centre. The bay posts are jowled and have diagonal spandrel struts down to the braces. The mid-rail between the ground and first floors is also moulded, along with its knee braces. Little of the wall framing remains, but there are massive long almost-straight passing braces in an end wall.

A durn door, framed with just two timbers, leads from the main first-floor room into an integral 'east wing' of two small bays, in the position of an antechamber. This also is gabled and crown posted, all three still being in place. The centre tiebeam is heavily cranked, so there is just a stub crown post without braces. The end crown posts each have a simple upward brace to the collar purlin. There are jowled posts and one remaining long passing brace. On the gable end are the heavily weathered, very ornate, cusped barge boards. As they are likely to be original, they are a remarkable survival.

This east wing has itself a face wing, for the want of a better term called the 'end wing'. It is integral, leading north off the last bay of the east wing. It is a simpler build, but still coeval. The roof seems to have been of simple common-rafter construction. It has now, and may always have had, a hipped north end. The posts are jowled and there are almost-straight down braces which may have been long passing braces originally.

The original function of this remarkable building has been much debated. The previous consensus has been that it is the solar wing of a once larger house. If so, it must have been a very imposing solar in a very grand house indeed, but there is no evidence for an associated great hall. There is an interesting parallel with the Old Vicarage in Farnham, tree-ring dated to 1418, which has three parts, each one similar to Chaldon Court. Both are next to churches and probably had an ecclesiastical function of some kind. Both had a grand chamber

on the first floor, three bays under a spectacular roof. Both have a small cross-wing with an arched door connecting directly with the grand chamber at first floor level. There are two further similarities. First, both have ornate cusped barge boards, rare in Surrey. Secondly, both the grand chambers have clean roofs. They must have been unheated except perhaps by braziers for occasional temporary heating. It may also be worth noting that the main ranges of both buildings have gables. This is to be expected in cross-wings, but otherwise all the early examples have been church buildings, and the remaining medieval examples are Wealden hall houses.

Overall, it seems unlikely that Chaldon Court was primarily residential or that it was part of a larger building. The indications are that it was some type of ecclesiastical meeting place, with a grand meeting room, an antechamber, and a small wing that alone may have been residential.

The previously estimated date was late 14th century. Later a large kitchen wing was added, itself including interesting timbering, and there are other later additions.

CHALDON, Tollsworth Manor House (TQ 3062 5459). TRS*#, *V437*

- (a) Parlour wing, felling date: **1326–58**
- (b) Hall range felling dates: **c 1433, winter 1435/6**

Tollsworth Manor House occupies an ancient site. It is now stone fronted, seemingly 17th century, but the stonework conceals two fine medieval builds: a hall range and a parlour wing.

The hall range consists of three bays: a service bay and a two-bay open hall (plan, fig 34). There is a fine moulded crown post over the open truss. The timbers are heavy, and there are unusually wide down braces in the partition to the service bay. This partition had three doors – to the buttery, scullery and stair. A late 15th century date was previously estimated for this range. Later a smoke hood was inserted and, later still, central and end chimneys. The inglenook beneath the central chimney is inscribed '1607'.

The parlour wing comprises two bays, originally without partitions, making just one large room on each floor. The supporting braces for the central tiebeam, and the transverse beam underneath, are short, to allow unimpeded movement on both floors. The braces are almost square in section, which is thought to be an early feature. There is a continuous chamfer along the braces and tiebeam. The roof was gabled at the front, hipped at the

back, and had crown posts. The collars are morticed to the rafters, rather than being halved. The previously estimated date was early 15th century. The earlier date for the wing indicates 'alternate rebuilding'. An earlier hall range would have existed alongside the early parlour wing, but would have been replaced by the present hall range.

There is a late 16th century parallel range at the back, a 17th century extension to the parlour wing and a 19th century bakehouse.

CHARLWOOD, Brittleware Farm (TQ 2455 4327). TRS*, *V435*

Felling date: **spring/summer 1555**

Brittleware Farm house is a well-timbered, 2½ storey house with an exceptionally well-preserved smoke bay from the first build. There are four bays, although one of the central bays is split into two half-bays with a cross entry behind the smoke bay. This 'hearth passage' type of plan is unusual in Surrey. The roof has clasped purlins with queen struts and curved windbraces. There are smoke-bay period features, including curved step stops on many of the timbers. Only the posts of the end bay have jowls. The previously estimated date was late 16th century. The tree-ring date is earlier and is surprising for a 2½ storey building. Later a lateral chimney was added, along with a stair turret and an 18th century wing with a cellar.

CHARLWOOD, Brook Cottage (TQ 2363 4110). TRS*#, *V436*

Felling date: primary phase, **winter 1547/8**

The north end of Brook Cottage is believed to be the open-hearth service wing for a house that has now disappeared, having been replaced by a 17th century build. The service wing – not strictly a wing as it is in-line with the main build – has two bays. The first floor was partitioned into two units, one of which was open to the roof, as evidenced by the smoke-blackened rafters. It is not clear whether the ground floor was partitioned – giving a floored-over room together with a simple single-bay open hall – or whether the two bays were open to each other, giving what is sometimes called a half-floored hall.

It is simply built, in quite a late style for an open-hearth building, with slim timbers and a clasped-purlin, queen-strut roof with straight windbraces. It is gabled at the far, open-hearth end, with a gablet interestingly narrowed by means of an extra, sooted, nailed-on board. The near end was hipped, leading to the suggestion that it was originally detached (a so-called detached kitchen). There are

jowled posts and simple, straight down braces in the wall framing. The floored end had very low headroom, about 1.5m. The previously estimated date was early 16th century.

There is a possibility that the building was not a wing but a stand-alone open-hall house of just two bays, but this would be unusual, particularly at such a late date. Later a chimney was added to the north and there are extensions of various periods to the south and rear, some of which have good-quality timber framing.

CHARLWOOD, Chantersluer (TQ 2341 4390). TRS*, *V435*

- (a) Hall range, felling date: **1497–1523** (spot date)
- (b) Cross-wing, felling date: **winter 1507/8**
- (c) Chimney bressumer, felling date: **1541–73** (spot date)

Chantersluer Farm has a Victorian exterior that conceals two fine builds. The better preserved is a parlour cross-wing. It has three bays, two of which were conjoining on the first floor to make one large chamber. Crown posts remain; that over the open truss of the chamber is braced only to the collar purlin. The roof was hipped at the front, but apparently originally gabled at the back. The front was jettied. The quality is high, with very close joists. Many of the posts and wall plates are chamfered and stopped with straight step stops. A pair of ornamental brackets is later, replacing a removed tiebeam.

There is then an adjoining, but more fragmentary, two-bay open hall. This is not separately framed. At the junction of the two builds, the dais end has a moulded beam and a carved four-centred doorhead. There are traces of ornamental bracing above. Later a central chimney was inserted. This has an exceptional fireplace bressumer, 32cm deep and finely moulded. The previously estimated date was mid-15th century. From the building evidence, it seemed that the two parts were coeval, and this was supported by the dendrochronology.

CHARLWOOD, Charlwood Place Farm (TQ 2475 4094). TRS*#, *V436*
Felling date: **winter 1595/6**

Charlwood Place Farm is a central-chimney house with 2½ large bays, stoutly built for this post-medieval period. There is a hearth room, with a large inglenook, and a parlour, either side of a central lobby-entrance and chimney. The walls are in the 17th century style, with small square panels and large straight down braces that were set back, to be plastered over. In contrast, the posts are huge and heavily jowled in the 16th century style. There

is some unusual carpentry, with wall plates and tiebeams on a level, using the broad tops of the jowled posts simply for support. There is evidence for oriel windows on the first floor of the front and probably both end walls. A date, 1590, is inscribed on a jowled post.

There have been various additions, and a dairy and granary have been incorporated. Perhaps when this was done, much reroofing took place. There is evidence that the original build was of queen-strut construction and, unexpectedly, was probably hipped. However, the building is not fully understood and some timbers could be reused, although they do not appear to be so. Only minor wall timbers could be dated, so a hybrid build of some kind is a possibility, with earlier posts being incorporated into the chimney build. The previously estimated date was *c* 1600. The farmhouse is an early example of a pattern that was to become popular in the 17th century, with small square panels and almost Georgian-style symmetry.

CHARLWOOD, Church of St Nicholas (TQ 2404 4108). TRS*, *V435*

- (a) South aisle roof, felling date: **1461–93**
- (b) Chancel roof, felling date: **1509–41** (spot date)
- (c) Old chancel roof, felling date: **1480–1512** (spot date)

St Nicholas, Charlwood, is an ancient church (listed Grade 1) on an ancient site. It is best known for its outstanding medieval wall painting. The walls have Norman origins, but a complex construction. There are now what is termed a north aisle and a south aisle. If the term nave were to be used, it should properly be applied to the north aisle, although the south aisle usually fulfils that function these days.

The south aisle has a fine crown-post roof structure. The crown posts are chamfered with capitals and have four rising struts each. There are soulaces, ashlar pieces and deeply-moulded tiebeams. There is some historical evidence for a date of about 1480 for this roof. A date of late 15th century had seemed likely and was confirmed by the dendrochronology. This aisle extends into a chancel that has a similar crown-post roof structure. It had been debated whether the two parts are coeval, but the dendrochronology showed that the chancel is probably later.

The north aisle is similar except that the crown posts have different capitals and bases and the tiebeams are simply chamfered. This is the oldest part of the church (*c* 1100) but has certainly been reroofed. The roof could not be tree-ring dated. This aisle continues to a vestry, which was the

previous chancel. It has a very fine common-rafter roof, with collars, soulaces and ashlar pieces, all curved into a barrel roof. The carpentry is excellent and includes grooves for intermediate panels, no longer present. Dating estimates for this roof had ranged from the 14th to the 19th century. The dendrochronology shows that it joins the other datings in being *c* 1500 although, being based on a single rafter, it cannot be conclusive.

There is a Norman tower, but the only structural timbers it contains, except for a later cap, are thought to relate to a much later use for bell hanging.

CHARLWOOD, The Cottage, Norwood Hill (TQ 2424 4161). ODL*, *V432*
Felling dates: **summer 1433, spring 1434, summer 1435, summer 1436**

The Cottage has three bays, two of which formed the open hall – an unusual plan. As the floored end had a very low ground-floor ceiling (1.5m) it was probably used only for storage. There are jowled posts and arch braces in the framing. The roof is hipped with gablets and of crown-post construction. The crown posts are braced only to the collar purlin. The previously estimated date was early 15th century. Later, a smoke hood was inserted into the centre of the hall and was subsequently replaced by a chimney.

CHARLWOOD, The Cottage, The Street (TQ 2416 4111). ODL*, *V432*
(a) Main range, felling date: **winter 1439/40, winter 1440/41, summer 1441**
(b) Cross-wing, felling dates: **winter 1401/2, after 1415**
(c) Cross-wing inserted joists, felling date: **1516–44**

The main range of The Cottage is an unspoilt, small, timber-framed, open-hall house of three bays. Two bays formed the hall, open to the roof. The floored end is jettied and faces the church. There are jowled posts and arch braces in the framing. The roof is of crown-post construction. The crown posts are chamfered and, unusually, braced only up to the collar purlin.

At right angles is a three-bay cross-wing, also with a crown-post roof, and with an end jetty facing the road. There are archaic features, including splayed scarfs and long passing braces (these arch upwards from close to the ground, passing over the girding beam, and reaching the posts almost under the eaves). Again, the crown posts are chamfered, and braced only up to the collar purlin. The early date indicates that this was probably the cross-wing of a

hall that was replaced by the present main range, although it is possible that they were two distinct town houses, built against each other. The ‘after 1415’ date may apply to some repairs to the roof over the jetty.

Later, a smoke bay was inserted into the two-bay open hall of the main range, against the open truss, and the central bay of the hall was floored over. A chimney was later built in the smoke-bay space.

CHARLWOOD, Dormers (TQ 2417 4159). ODL*, *V432*
(a) Main build, felling date: **winter 1411/12**
(b) Repairs to roof, felling dates: **winter 1431/2, 1433–55**

Dormers is a timber-framed, medieval open-hall house of four bays, two of which were open. It had exceptionally low headroom (1.5m) in both floored bays, which implies storage on the ground floor. There are jowled posts and arch braces in the wall framing. The hipped roof is still thatched, and some smoke-blackened laths remain from the original roof thatch. The roof structure is crown post, with braces up to the collar purlin only. The previously estimated date was late 15th century. A smoke bay was added in the open hall and later the chimney was built within this space.

CHARLWOOD, Fulbrook Cottage (TQ 2403 4045). TRS*, *V435*
(a) Main build, felling date: **1503–35**
(b) Inserted floor, felling date: **1525–57** (spot date)

Fulbrook Cottage is outside the village of Charlwood, almost on the Sussex county boundary. It looks modern from the outside, but is in fact a crown-post open-hall house. Two bays remain from the original three, one of which was open. Evidence for a third bay (or possibly a wing) lies in the facing of the now end frame and chamfering for a doorway. The cottage is wide, 6.1m, well decorated with chamfers and straight step stops on the wall plates, tiebeams and collar purlin. These stops are quite short (50mm) so could be transitional to the later curved step stop type. There is evidence for a high-end bench. The posts are jowled and the crown posts are braced upwards and downwards. There are curved down braces in the wall framing. The intact end was gabled – which is very unusual in a rural situation – with its crown post remaining. The cottage had been estimated to be quite late for an open-hall house, perhaps *c* 1500.

A smoke hood was built in the open hall and the inserted transverse beam remains. The hood was to

one side, to give access to the third (service) bay. Later an end chimney was added.

CHARLWOOD, **Greenings** (TQ 2253 4165). TRS*#, VA36

(a) Main range, felling dates: **winter 1534/3, winter 1538/9**

(b) South wing, felling dates: **spring/summer 1726, winter 1727/8**

Greenings is a four-bay house, high, well-built and clearly of some importance. There is a partitioned and smoke-blackened half-bay in the roof. One of the partitions rests on a tiebeam unsupported by posts, so this is a smoke-hood, rather than a smoke-bay, house. In the full truss, there is a transverse beam with evidence of floor joists to the sides, which would have lapped around the original smoke hood. There are jowled posts, clasped purlins, queen struts and windbraces. No evidence for wall braces could be found. Part of the roof has staggered butt purlins, but this is thought to be later. The previously estimated date was late 16th century. The tree-ring date shows the house to be one of the first smoke-hood or smoke-bay houses, as the open-hall style went out of use around 1540.

The south wing is in-line and seemingly contemporary, with similar jowled posts. Of much interest, the tree-ring date showed it to be a Georgian extension, but built in a timber-framed, Tudor style – an early example of nostalgic architecture. However, the roof is of staggered-butt-purlin construction, which accords with the 18th century date.

CHARLWOOD, **Greenings Farm Barn** (TQ 2252 4168). TRS*#, VA36

(a) Primary phase, felling date: **winter 1538/9**

(b) West bay, **winter 1648/9**

Greenings Farm Barn is a high-quality threshing barn, originally of three bays. It has heavy jowls and pairs of curving down braces in each wall bay. The roof is of clasped-purlin construction with queen struts. There are windbraces in the centre bay only. The previous date estimate was late 16th century. It is interesting that the barn and house were built at the same time, which suggests that the barn was needed as much as the house.

To the west is an added bay without jowls. There are down braces in the end wall and sagging head braces in the side walls. The roof is half-hipped and, like the main build, has clasped purlins with queen struts and windbraces. The previously estimated date for the addition was early 17th century. To the east are wraparound outshots, forming catslide roofs, probably later in date. The

whole has been carefully restored, with some new timbers, particularly in the roof.

CHARLWOOD, **Highworth Farm** (TQ 2308 4263). TRS*, VA35

(a) Main range, felling date: **1510–31**

(b) Inserted floor, felling date: **1534–66** (spot date)

Highworth Farm is a well-preserved building of considerable quality and interest. The first build was of four bays, two of which were open. The hall is unevenly divided (2.1 and 3.4m). There is decorative bracing at the dais end and long braces to the open truss – unusually ornamental for the area. The roof is of clasped-purlin and queen-strut construction, not to be expected in an area where most of the open halls are of crown-post construction. There are long down braces in the walls and jowled posts. There is an overshot cross entry and a divided service end. The first floor has 40cm-wide floorboards running between the ground floor ceiling joists. The house was thought to be late for an open-hall house – early 16th century – because of the features mentioned. The narrower of the two hall bays was converted into a smoke bay and then a chimney inserted.

CHARLWOOD, **Hillands Farm** (TQ 2271 4005). TRS*, VA35

Felling date: **winter 1532/3**

Hillands is, in essence, a four-bay open-hall house with a two-bay open hall, but the parlour bay is structurally a two-bay cross-wing, all within the rectangular footprint. This is unique in the area. Both builds had crown posts, the three in the main build remaining and having no down braces. There are jowled posts and arch braces in the walls. As at Highworth Farm, the level of ornamentation is unusual for the area. There are chamfers to the wall plates. The high end has decorative bracing over a plank-and-muntin screen. There are mortices for a spere screen. The previously estimated date was late 15th century.

Later a smoke bay was added and then a chimney. Substantial changes were made to the roof at either end, leaving only the three crown posts of the main build in place.

CHARLWOOD, **Little Dolby** (TQ 2414 4077). TRS*, VA35

Felling date: **winter 1496/7**

Little Dolby has three bays, two of which formed an open hall, an unusual plan for the area. A striking feature is that the hall is still open to the roof. The one floored bay is a 'low end bay', or

undercroft, the ceiling being only 1.6m high. These could only have been used for storage and had been thought to be an early feature. However, there are down braces in the walls, rather than arch braces. Consequently, a rather earlier date, early 15th century, had been suggested. The posts are jowled. The hipped roof has two well-preserved crown posts. Each is braced four ways, two up, two down. There is now a central chimney, against which is an early staircase with wedge-shaped treads.

CHARLWOOD, Lowfield Heath Windmill
(TQ 2350 4073). TRS*#, *V443*

Felling date: **winter 1736/7** (spot date)

The Lowfield Heath Windmill is a post mill, an impressive type with almost the whole mill able to turn around a giant central post. Such mills, particularly in working order, are rare survivals. The mill is now situated just outside Charlwood Village but was originally at Lowfield Heath, close by the A23 and Gatwick Airport. It first appears on Rocque's map of Surrey published in 1762, when a James Constable owned it. The Constable family was recorded as running a mill on Horsham Common in 1615 and mention is made of a mill being brought from there to Lowfield Heath some years after 1737. This agrees closely with a date of 1741 inscribed on the timber wheel of the mill. It ceased operating in the late 1800s and by 1934 was in a dilapidated state. Some repairs were made around 1938 but no maintenance took place during the Second World War, and in 1957 the weakened structure was wrecked in a storm.

Various attempts were made to contain the deterioration, but by the 1980s it was becoming derelict once more. In 1984 a group was formed from representatives of both the Surrey and Sussex Archaeological Societies and the Charlwood Society. In 1986 this led to the formation of the Lowfield Heath Windmill Trust, the stated aim of which was to restore the mill to working order.

Over the next 12 years, a great deal of work was done, all under the leadership of the Trust. Funding came from various sources including the Heritage Lottery Fund. On 26 June 1998 cloth was fitted to the sails, the shutters closed, and the mill ran for the first time since 1880.

The dating lends credence to the record of the mill being brought from Horsham Common to Lowfield Heath in 1738. The reconstruction would have taken place with recently-felled timber. The paucity of good sampling material meant that it was not possible to confirm the date of some of the other timbers that might have been brought from Horsham.

CHARLWOOD, The Manor House (TQ 2410 4132). TRS*, *V435*

Main range, felling date: **1454–86**

The Manor House is a complex house with cross-wings at either side of the main build. All three parts have crown-post roofs and heavy timbering. The main build was a four-bay open-hall house, the bay structure of which is not entirely clear. The open truss has a short, chamfered crown post with broach stops and no braces, either to the tiebeam or the collar purlin. The lack of crown-post bracing had led to an early estimate for the date, *c* 1400, which the dendrochronology proved to be inaccurate.

There are two cross-wings. One has three bays with a sooted roof, apparently a kitchen wing. These crown posts are braced upwards and downwards. The front is gabled, the rear hipped. The other wing is a high-quality, two-bay parlour wing with close studding (without a mid-rail). Technically, it is a face wing, being built onto the front of the main range. Both the parlour and the solar bedroom above occupy both bays. Three crown posts are in place, two in the gable ends. These are braced only inwards. The central crown post has no braces. Neither of the two wings was sampled for dendrochronology at this time. There is a rather later porch, roofed with Horsham stone.

CHARLWOOD, Morgans (TQ 2420 4327). TRS*, *V436*

Felling date: **1583–1602** (two spot dates)

Morgans is a well-preserved, 2½ bay, end-smoke-bay house, with several interesting carpentry features. The smoke bay is particularly curious. Its posts are without jowls, unlike the other posts. Two of the queen struts are offset towards the centre, presumably to aid the building of a partition to contain the smoke away from the stairs, which may have continued up to the attic.

The walls have small square panels and down braces. The roof is gabled, with clasped purlins, straight windbraces and queen struts. The purlins have face-halved and bridled scarfs, previously thought not to be used until the late 17th century. There are down braces in the framing and curved step stops on the spine beams. The estimated date had been late 16th century. Later, chimneys were inserted into the smoke bay and additions made at both ends.

CHARLWOOD, **The Old Bakehouse** (TQ 2425 4083). TRS*, VA35

Felling date: **1437–69** (two spot dates).

The Old Bakehouse has two old bays in the centre, with a crown-post roof. The evidence is that it was part of a three-bay building, with a single-bay open hall. There are jowled posts and arch braces in the framing. The archaeological and aesthetic highlight is a huge, arching, long passing brace, rising almost from ground level up to the eaves. On the evidence of the passing brace alone, a date of *c* 1400 had been suspected, although the brace arches rather than sags (the latter being thought to be the earlier type). An extra bay was added to the west, incorporating similar, though lighter, passing braces. There is a further brick extension. An outshot was added to the east.

CHARLWOOD, **2 Old Rosemary Cottages** (TQ 2437 4119). ODL*#, VA32

Felling date: **winter 1641/2**

This small cottage has much of the timber framing still in place. It is situated on a footpath and cannot be reached by car, although a road is not far away. The structure is of two bays, with an additional half-bay that can be seen clearly from the outside. The half-bay contains a chimney, and there is a newer outshot built outside this. It had been thought that the half-bay was originally a smoke bay, although the evidence was not conclusive. Smoke-bay houses are normally mid–late 16th century, so it now seems more likely that the house always had an end chimney.

The roof is of clasped-purlin construction with queen struts and straight windbraces. The wall framing has upward braces, straight rather than arched. The posts are without jowls. At the western end, No 1 is an extension, although still quite old, probably late 17th century.

CHARLWOOD, **Pagewood Cottage** (TQ 2393 4124). TRS*, VA35

Felling date: **winter 1704/5**

Pagewood Cottage is a small but well-timbered 2½ bay house. The end half-bay is unusually wide (1.55m internal) and may possibly reflect the footprint from an earlier smoke-bay house. There is now a lateral chimney, with an inglenook, to the rear of the hall. There is an outshot at the back which could be original. The walls have small square panels and the posts are without jowls. The roof has raking queen struts and high collars to a second purlin, but may be a rebuild. The exterior has tile hanging below the half-hipped roof. The

fireplace bressumer has an unusual stop, of the lamb's tongue type, but with a triangle left raised on the chamfer (a so-called 'broach' stop). The previously estimated date was early 17th century. The tree-ring date is exceptionally late for a timber-framed house in Surrey, even in this quiet Wealden backwater.

CHARLWOOD, **Pagewood House** (TQ 2381 4130). TRS*, VA35

- (a) Primary phase, felling date: **winter 1451/2**
- (b) Inserted floor, felling date: **winter 1548/9** (spot date)

Pagewood House is a four-bay open-hall house with a two-bay open hall and a divided service end. The dais end of the hall has a moulded dais beam with ornamental braces springing from it. There is evidence for dais panelling underneath. This level of ornamentation is the best to be seen in the area.

The three crown posts remain. The outer have braces up and down; that in the centre is cruciform in section with four ogee up-braces. The timbers are large (35cm tiebeams). There are no jowls in the open truss, which has large braces. Stylistically the house appears to be a relatively late crown-post house, and its date was previously estimated to be *c* 1500. There is evidence for a smoke-bay phase before a central chimney was inserted.

CHARLWOOD, **Robins Farm** (TQ 2380 4098). TRS*, VA35

Felling date: **winter 1504/5**

Robins Farm is a three-bay open-hall house with a one-bay hall and both ends floored. It is unusual for a house in this area in having a clasped-purlin, queen-strut roof at this date – they are normally later. (Most open-hall houses in Charlwood are of crown-post construction.) It had been presumed to be quite late and the previously estimated date was early 16th century. There are mid-bay posts in the open-hall bay, but no open truss. This is perhaps a compromise between a two-bay and a one-bay hall. It makes the hall bay a spacious 4.9m long. There is evidence for an added smoke hood, and a central chimney was inserted later. The front of the house retains a Horsham stone roof.

CHARLWOOD, **Swan Cottage** (TQ 2458 4131). TRS*, VA35

- (a) Primary phase, felling date: **winter 1459/60**
- (b) Inserted floor, felling date: **1541–73** (spot date)

Swan Cottage is a remarkably complete, very small, medieval cottage with only two bays, one of which was open to the roof. This is a very unusual

type, rarely found in the south-east of the country outside the Charlwood area. It has a single crown post, braced both up and down, between hipped ends (one now gabled). The posts have jowls and there are arch braces in the wall framing. The previously estimated date was early 15th century. An end chimney was added, interestingly a little away from the end wall, and the open bay floored over.

CHERTSEY, Hardwick Court Barn (TQ 0275 6588). TRS*#, *V440*

Felling dates: **c 1443, winter 1444/5, spring 1445**

Hardwick Court Farm was a grange of Chertsey Abbey. It occupies a rural site in Lyne in the parish of Chertsey, about 1 mile west of the abbey and is quite close to Junction 11 of the M25. It includes Cockcrow Hill, which is visible from the motorway. Three great trees crown its summit and there are signs of a small earthwork. The farmstead lies just over the hill where the main buildings now are an impressive brick-built farmhouse and a magnificent barn, one of the finest in Surrey.

The barn is big: six bays, single aisled, 28 x 8.5m (fig 49). The principal posts and aisle posts are jowled and massive. There are arch braces in the walls and trusses, with some positioned below the mid-rail. The end walls of the aisle contain long passing braces. These rise from low down on the wall posts, passing across the aisle ties and rising to high on the aisle posts. An end bay is floored over. The walls are boarded, but there is evidence for them originally being infilled with wattle-and-daub. The side without an aisle now has a more modern full-length outshot.

The roof is half-hipped and of clasped-purlin construction with almost straight, raking queen struts. A particular feature is the complete set of 24 curved windbraces, four in each bay. The rafters are pegged to the purlins. Unusually, there are raking struts also in the end walls, making, with a collar and central post, a structure sometimes called a fan truss. The roof is now pantiled, but there is historical evidence for thatch. A single porch remains.

The previously estimated date was mid-late 16th century. The tree-ring date is a century earlier. It shows the barn to be the earliest example of a raking-queen-strut structure to be found in Surrey to date. It is known that the Court Leet of the Godley Hundred was held at Hardwick Court in 1446 (SHC: G85/12/2). This is good confirmation of the dendrochronology and gives a reason for such an imposing structure: to house the Court.

CHIDDINGFOLD, Combe Court Farm (SU 9416 3613). TRS*#, *V437*

Felling dates: **c1430, winter 1431/2**

Combe Court Farm is a four-bay, medieval, open-hall house with particularly stout timbering. The two-bay open hall has a central tiebeam, 60cm deep, with a hollow chamfer carried across it and down heavily jowled posts. The beam supports a tall, moulded, octagonal crown post with a raised central band, one of the finest crown posts in Surrey. It has four upwards braces, slightly curved. Two other crown posts are plain and braced up to the collar purlin and down to the tiebeams. Again, the braces are almost straight. The roof is steeply pitched and hipped with gablets.

The front and rear walls have long passing braces in the parlour bay only; otherwise there are straight arch braces. There is evidence for a pair of long fan braces at the high end of the hall and, perhaps less clearly, four-centred, arched doorheads into both floored ends. The service end was not divided. Mortices can be seen for a great hall window. The previously estimated date was early 15th century.

Later the hall was half-floored before a central chimney was inserted. Inserted spine and transverse beams have very ornamental chamfer stops. A fine hearth was built in the service bay. Much later, dormers were added and an additional supporting structure placed in the roof.

CHIDDINGFOLD, the Crown Inn, SU 9605 3539. TRS*#, *V441*

Felling dates: **winter 1438/9, winter 1439/40, spring 1440**

The Crown, standing on Chiddingfold Green, is arguably the finest timber-framed building in Surrey (fig 16). It is an open-hall house in the Wealden style. This is a spectacular, medieval fashion, with both ends jettied forward, but the roof plan kept rectangular by means of a flying wall plate over the front of a recessed centre. Very unusually, the Crown has six bays in total, with a two-bay open hall and floored ends of two bays each.

Externally, the timbering is impressive. In addition to the front jetties on either side, the north end is also jettied. A huge dragon post handles the junction of the jetties at the north-west corner. The jetty bressumers are moulded. The spandrel braces supporting the flying wall plate are carved with a trefoil decoration. The post in the middle of the recessed centre has a raised pilaster ending in pyramid stops. There are long, curved down braces in pairs in the end builds, in the Kentish manner.

The roof is gabled, which is unusual in a rural Wealden house. It is of crown-post construction, with seven crown posts in all. The end chambers were of two-bay size so, including the hall, there were three open trusses. The crown posts for these are octagonal with moulded capitals and bases and four-way upward bracing.

The open hall had an internal jetty and an overshot cross entry. There are mortices for spere screens. The moulded dais beam remains, with fan bracing in the wall above and, originally, also below. The hall window had hollow-chamfered mullions which were square set rather than diamond set. The parlour (at the south end) had an intermediate ceiling beam, with hollow-chamfered spandrel braces, supporting the solar above. The service end (to the north) had three arched doorways for the pantry, scullery and stairway, (but there have been some changes). There is a fine wall painting on the first floor, said to date to the 17th century.

Much of the timbering is remarkable. The jowl posts are huge. The central tiebeam is deeply cambered and 50cm deep. The supporting arch braces are as much as 70cm wide and moulded. All the dimensions are generous – the hall would have been approximately 8.5 x 6.7m, including the overshot cross entry. The previously estimated date was the first half of the 15th century.

Later a rear wing was added. This is timber framed, of some quality, and could also be medieval. There is a cellar, probably much later. A chimney was inserted in the hall, sometime in the 16th century. This has a generous inglenook with a moulded bressumer. Various other changes were made to the partitioning on both floors.

The dendrochronology was funded by the Domestic Buildings Research Group (Surrey) as part of their Buildings of Public Interest Project.

CHIDDINGFOLD, Gostrode Farm (SU 9580 3330). TRS*#, VA38

Felling dates: **c 1581, winter 1581/2, winter 1582/3**

Gostrode Farm lies just below the ridge of the Surrey/Sussex border, above a little valley with a series of ponds. It was owned by the Peytos, a family of glass masters. It is now a large complex building, but with a high-quality timber-framed building at its heart. This has just 3½ bays, the half-bay being for staircases to the first floor and to an integral attic. There are only two rooms on each floor, the more southern rooms encompassing two bays each. The attic was apparently just one large space. The house is unusually high (4.5m to the eaves).

The external framing has largely disappeared, but the partitions either side of the staircase have wide timbers in large panels. A pair of long, wide (30cm), curved, fan braces is set decoratively in the centre of each partition. The wall plates are chamfered with lamb's tongue stops, and there are similar stops in the main room downstairs. The posts are without jowls. There is a large, lateral chimney, with an inglenook, to the side of the main room, thought to be coeval with the build. There is evidence for an upper-storey door, either for a garderobe or to some other part of the house. Some of the stair treads to the attic are solid. The roof is of a similarly high quality, with twin butt purlins and large timbers. The purlins are housed, as well as tenoned, into the principal rafters, an unusual refinement. The front is gabled, as was the back originally.

It might be argued that it was a self-contained chimney house, but it is more likely that it was the prestigious wing of a house, which has now vanished. The previously estimated date was early 17th century.

CHIDDINGFOLD, Greenaway (SU 9634 3546). TRS*#, VA37

Felling dates: **spring 1544, winter 1544/5, spring 1545**

Greenaway faces south across the village green. Its origins are not entirely clear, but the eastern portion, the subject of the dating, may have been a small, self-contained, two-bay, lateral chimney house (where the chimney rises from within or outside an external side wall). Alternatively, it may be a surviving cross-wing from an earlier house with the chimney added later. The tree-ring date indicates the latter, as the date would be early for a chimney in this area.

The two bays are unequal. There is a large front bay, with a moulded spine beam and curved step stops. To the rear is a smaller bay, less ornamented. The walls have wide, curved down braces and long (1m) jowls, only on the corner posts. There are several diamond-set mullion windows, but also one ovolo-moulded window, which may not be original. The roof is of clasped-purlin construction with queen struts and windbraces. Both ends were gabled originally. The principal rafters in the central truss diminish; those in the gable end do not. The previously estimated date was the second half of the 16th century. Later a second build was added alongside to the west, and the frontage unified in an attractive 'Gothick' style.

Postscript: later research by DBRG and the owner has established that the eastern wall had posts but

no studs – showing that it was built against something. This confirms that it was a wing with the main build to the east. (The western wall had windows so could not have been against another build.)

CHIDDINGFOLD, **Roppeleghs** (SU 9360 3403). TRS*#, *VA40*

(a) Old build, felling date: **1488–1520** (two spot dates)

(b) New house, felling dates: **winter 1589/90, winter 1592/3**

(c) Kitchen wing, felling dates: **winter 1589/90, spring 1593**

Roppeleghs is in a small valley in the deep Weald to the west of the village of Chiddingfold, in the heart of the early iron workings. It is a complex house of three builds. The ‘old build’ has two storeys and two bays and is probably the wing of a now-vanished main build. It is wide (6m) and heavily timbered. The posts are jowled. The roof has clasped purlins with a queen-strut construction and straight windbraces, but is thought to be a rebuild. Some fine, broach chamfer stops are also probably later. The previously estimated date was late 16th century.

At right angles is the ‘new house’, the most intact portion, presumably in the position of the previous main build. It is of three bays with two storeys and an integral attic. The ground floor had just one partition, giving a two-bay hall (now opened up to three). The room has a lateral chimney on the rear wall, with a large inglenook. To the front, there are long rows of small windows with ovolo mouldings. These are on both floors, but are particularly impressive in the hall. Although old, they are not original (as shown by the presence of previous peg holes). The roof is of clasped-purlin construction with straight windbraces. One truss has queen struts, the other, over the hall, has raking queen struts. The posts are without jowls, and there are straight down braces in the framing. Interestingly, the first-floor rails are pegged into, or even nailed onto, the straight braces – seemingly an original feature. The previously estimated date for this ‘new house’ was about 1600.

Extending behind the lateral chimney is a ‘kitchen wing’. This is the third of the three ancient builds. The carpentry is similar to that of the ‘new house’, with clasped purlins, queen struts, straight windbraces and posts without jowls. It fits into the corner between the first two builds, to an extent squaring it off. It consists of 1½ bays and is puzzling because the roof is quite heavily sooted throughout, with evidence for a louvre. The half-

bay surrounds the lateral chimney, which projects behind the main build. A late open-hearth service wing seems to be the most likely explanation. Such a wing attached to a post-medieval build is not unknown in the county, but for it to be attached to a build bordering on the 17th century is a surprise. The previously estimated date for this build was for it to be coeval with the ‘new house’, about 1600.

The likely construction date of 1593 for the new parts, with timber felled in 1589–93, is soon after the death of the owner, John Rapley, in 1589. He specified that his wife be allowed to stay in the best chamber, so it is possible that the building work was to allow their son to take up suitable accommodation as the new master. A complete inventory attached to the will still exists (Herridge 2005, 264), quite unusual in Surrey.

CHIDDINGFOLD, **Rye Cottage** (SU 9703 3558). TRS*#, *VA38*

Felling dates: *c* **1590, winter 1590/1**

Rye Cottage is in the country north of Chiddingfold Green. It is a central-smoke-bay house, now with 3½ bays, but probably only 2½ bays originally. There is a well-preserved frontage; the smoke-bay framing is clearly visible, and there are fine down braces, decoratively placed in the centre. The posts are without jowls. There is evidence for unglazed windows with diamond-set mullions. The roof is half-hipped with straight windbraces. It is of clasped-purlin construction with three queen struts in each truss. An exception is one of the two trusses either side of the smoke bay, which has raking queen struts. The blackening of the service bay roof next to this truss hints at some sort of smoking-chamber use. The previously estimated date was *c* 1600.

Later a central chimney was added in the smoke bay. It is not clear whether the northern bay is an addition, but it seems probable. Unfortunately, no samples from the two northern bays were dated. It has a good collection of lamb’s tongue chamfer stops. These were previously thought to be a 17th century feature, but are now known to start being used in the late 16th century and this is an example.

CHIDDINGFOLD, **Skidders Land Farm** (SU 9683 3639). TRS*#, *VA39*

(a) Main range, felling date: **winter 1470/1** (spot date)

(b) Western bay, felling date: **1531–56**

Skidders Land Farm is in a rural situation on the outskirts of the village of Chiddingfold. It is a medieval open-hall house of three bays, with an overshot cross entry. The basic

structure follows the normal pattern. There are jowled posts and the roof is of clasped-purlin construction with queen struts and windbraces. Pegs remain for a high-end bench and there is evidence for spere screens.

It is well built, but there are anomalies. The 'high' (western) end is hipped, as normal, but the service end was originally half-hipped, which is unusual in an open-hall house in Surrey. The wall braces are down braces except for a single arch brace. There are inconsistencies in the carpenter's marks. The dendrochronologist reported differences in the timber characteristics of the two ends of the building. Perhaps most significantly, there is an indication that the western bay was an addition, making a two-bay building into three bays. (The evidence for this is that the western end of the hall bay is faced outwards, as if for an external wall, rather than faced inwards towards the hall, which would be normal. However, in a possible contradiction, the northern wall plate looks to be continuous across the two parts). This is the timber dated to winter 1470/71, so the building interpretation is unclear.

It is a simple, unornamented house, without chamfers (except on an inserted ceiling). Archaeological highlights include a carefully preserved open hearth under a trap door, and a Tudor-style chimney (once far taller). The previously estimated date was early 16th century, although Diana Chatwin from nearby Sussex thought late 15th century to be more likely. Later, the chimney was inserted in the cross entry and a bay added to the east end.

CHIPSTEAD, Hazelwood Farm (TQ 2770 5743).
NU# (not published)

- (a) Hall, felling date: **spring/summer 1481**
- (b) Parlour wing, felling date: **1614–47**

Three bays remain of a medieval open-hall house: a two-bay hall and a service bay, the parlour bay having been lost. There are jowled posts and arch braces in the framing. Unusually, the roof is gabled, and the crown posts have no side braces. The open truss crown post is chamfered. Later, a parlour wing was added at the back of the hall, which was ceiled over. At the same time, a chimney was built between the two builds serving back-to-back hearths of Merstham stone. The original parlour was lost and the roof line was adapted. The previously estimated dates were *c* 1450 for the hall and early 17th century for the new parlour wing.

CHOBHAM, Old Pound Cottage (SU 9754 6212). ODL*, *V431*

Felling dates: **winter 1543/4, winter 1547/8** (spot dates)

Old Pound Cottage is a very unusual three-bay building, originally combining an open hall with a coeval smoke hood. This puts it in a rare category, 'open halls with smoke control'. The central bay looks to have been an open hall with an original smoke hood at one end. Later a second smoke hood was inserted backing onto the first one and at some point the hall was floored over. The sooted roof is half-hipped and of clasped-purlin construction with queen struts and straight windbraces. The wall framing has straight down braces. The posts are without jowls. There is an original outshot at the back. The previously estimated date was late 16th or early 17th century.

CRANLEIGH, Barhatch Farmhouse (TQ 0687 4071). TRS*, *V440*

Felling date: **winter 1428/9**

Barhatch Farmhouse is set in the low wooded Wealden hills just to the north of Cranleigh. It is on the north-south axis that connects the manor of Shere with its medieval hunting park. The name Barhatch indicates a gate to the park. Originally, it was a medieval open-hall house of four bays. Probably in the 17th century, the service bay was replaced with a new wing, but the other three bays remain. These are particularly well built, quite complete, and show a number of early features.

The roof is clad with Horsham stone. It is hipped and of crown-post construction. The open truss is remarkable, with a huge 45cm-deep tiebeam and long arch braces of a similar size. The crown post is chamfered and set on a cushion base. All three crown posts are braced only lengthwise to the collar purlin. This is unusual and thought to be an early feature, although the Project has shown it is not a reliable guide. There is evidence for a louvre. The external walls are now largely bricked up, but massive principal posts remain. These do not widen into jowls in the way expected for the period. Such 'pre-jowl' posts are another sign of an early date. There is evidence for long arch braces in the walls.

In the hall, the high end has an internal jetty with an elaborately-moulded jetty bressumer. The doorway through into the parlour is arched, with double hollow chamfers, further evidence of wealth. The previously estimated date was *c* 1400, based on the early features, although a date in the 14th century would not have caused surprise. At some time in the 16th century, the hall was floored over and a smoke bay constructed to confine the

smoke. Traces of this can be seen in the roof apex. Later a chimney was inserted into the smoke bay. The hearth bressumer is moulded with a lamb's tongue stop with an additional tongue at the end. It appears to be a cut-down version of the original smoke bay bressumer. A well-preserved, leather, hobnailed shoe was found in the chimney space. This is a typical place for 'anti-witchcraft' deposits of this type, intended as they were to prevent evil spirits entering the house.

In the 18th century, a further parallel wing was added to the south, forming a double pile with the earlier wing.

CRANLEIGH, Bay Tree Cottage (TQ 0615 3905). TRS*, *V440*

Felling dates: **1552, winter 1553/4**

Bay Tree Cottage is on the edge of the old part of the village of Cranleigh, by the side of an ancient causeway leading to the church. It is a two-bay house with an end smoke hood within one bay. Of much interest, it is an example of an 'alteration from inception', an open-hall house having been adapted as the house was being built. A smoke hood was inserted to conform to the emerging fashion for some form of smoke control.

The original design appears to have been a small open-hall house of only two bays in total, one being open. It was to be hipped at both ends. The standard of carpentry was generally high, but an extra tiebeam was dropped into the wall plates, using just one-sided dovetails. This carried the framing for the smoke hood and an associated bacon loft. The hall, at first intended to be open, was ceiled with lesser timbers but properly integrated into the smoke-hood framing. The purlins at this end were added to, quite crudely, to take the roof out to a gable.

It is possible that the house was designed to have a smoke hood from the beginning but, in view of the differing standards of carpentry and construction methods, this is considered unlikely. It had been assumed previously that the smoke hood was added later, but the dendrochronology exercise has shown it to be coeval. The main-frame members were felled in the winter of 1553/4, the house being constructed most probably the following summer, and the changes incorporated with timbers from the same winter-felled batch. Open-hall houses fell out of favour after about 1540, so a change of mind on the part of the owner is no surprise. Similarly, alterations from inception, though unusual, are by no means unknown (even in modern times).

The walls have jowled posts and arch braces in the framing. There were half-bay posts in the hall bay, one of which remains. (These posts would not have been expected or necessary if there had been a properly planned, framed-in smoke bay). The roof is of clasped-purlin construction with queen struts and curved windbraces. The timbers at the smoke-hood end are sooted. There is some very slight sooting over the rest of the bay, which could have been caused by leakage (the partitioning appears to be incomplete). The previously estimated date was early 16th century, with a later date for the smoke hood.

Later, a brick inglenook and chimney were inserted into the smoke hood, and then a lateral (rear) chimney to heat the other (western) bay. The ceiling of the west bay was raised. The front and west side of the house were clad with Georgian brickwork in a Flemish bond with blue headers. One of the bricks was inscribed 1826 (before being fired). In the 1970s, a small rear wing was added to become the kitchen area.

CRANLEIGH, Coldharbour Farmhouse (TQ 0582 3844). TRS*, *V440*

Felling dates: **c 1681, winter 1681/2, springs 1680, 1681, 1683**

Coldharbour Farm is a complex of buildings situated in a secluded location to the south of Cranleigh. The house was built as 3½ bays with a substantial central chimney (figs 53, 54). The walls consist of small square panels with straight down braces and no jowls on the posts. The roof has staggered butt purlins and butt rafters. There are rafter struts rising vertically from the tiebeams direct to the principal rafters, rather than to collars, a very unusual feature. There are forward-facing gables (see below).

The original entrance was into a small lobby in front of the chimney. Mortices for bench supports remain in the partition facing the main hearth. Scribing lines for original windows on the front and south elevations remain. These indicate original glazing mullions and tie bars and suggest that the windows were originally glazed.

The tree-ring date is substantially later than the early 17th century date estimated previously and is a remarkable date for a timber-framed building of this quality. (The glazed windows and forward-facing gables were indicators of a later date and could have been taken into account in the dating). A wall plate in the northern bay dated to c 1582 and may well be a reused timber. It is the only timber dated from this bay. Therefore, the dendrochronology does not establish whether the

bay is coeval with the rest of the building, although it may well be so.

The farmhouse now has tile-hung elevations under a Horsham stone roof. On the front elevation, two triangular supports were noted during recent roofing work. These had been thought to be windbraces, but were confirmed to be supports for forward-facing gables that have now been reinstated.

A later outshot with a catslide roof runs the length of the rear. The roof is supported on substantial ancient timbers, but these are reused. A well exists close to the rear access door from the outshot. These were normally dug about 10ft (3m) from the building, which is further support for the outshot being a later addition. A Victorian wing was added on the south side and a modern extension to the north.

CRANLEIGH, Cranleigh Village Hospital
(TQ 0598 3903). TRS*, VA40

Felling date: **winter 1445/6**

The original Cranleigh Village Hospital was given by the rector Archdeacon J H Sapte to Mr Albert Napper in 1859 for use as a hospital. Several additions have been made over the years, but the original medieval building remains largely intact (fig 51). It is a three-bay open-hall house commanding an imposing position on the south side of the present High Street, facing north towards the parish church. Two bays were open, the eastern bay being floored to give a room with a chamber over. This bay was partitioned off from the hall on both floors. Scribing lines for a hall window can be seen in the centre bay.

The posts are jowled. There are substantial (45cm) arch braces visible in the internal trusses. The building is undecorated, without chamfers, although the structure is impressive itself. The eastern wall appears to be rebuilt, as evidenced by the tiebeam and wall plate joining at the same level, which would otherwise be highly unusual. The steeply-sloping roof is hipped at each end with gablets. There are fine crown posts with braces up to the collar purlin only, without down braces to the tiebeam. The previously estimated date was early 15th century.

Later the hall was floored and new stairs added. The present entrance is through a modern hallway with an entrance door into a double room with two brick-built fireplaces. (The brick dimensions are 225 x 110 x 55mm indicating a date before 1650.) The facade is tile hung on the first floor, with exposed timbers and brick infill on the ground

floor. A wide porch now covers the original front entrance and three dormer windows have been inserted in the roof. A small lean-to on the eastern end is a later addition.

CRANLEIGH, Oliver House (TQ 0576 3920).
TRS*#, VA40

Felling date: **winter 1559/60**

Oliver House occupies a prominent position on the north side of the present High Street. Before the 19th century, its aspect would have commanded splendid views over the Weald and western hills. The original floor plan was of 3½ bays with a central smoke bay. The house was built of substantial scantling timbers. There are jowled posts and curved down braces, one of which remains. The entrance into the smoke bay remains today and the rafters in the central bay are chamfered with curved step stops. At the front, the stops finish some 40cm short of the later brick wall, indicating that the front was originally jettied, probably along the whole front. Mortices remain for a bench seat facing the hearth. The upper rooms carry most of the remaining timbers, some of them having unusual carpenter's marks.

The roof is of clasped-purlin construction with queen struts. The tiled roof is half-hipped at the western end and fully hipped at the eastern end, although the original forms are unclear. Only the rafters in the smoke bay are sooted, together with the internal faces of the partitions, confirming the house was built with a smoke bay. The previously estimated date was mid-16th century.

Later a chimney and an inglenook fireplace were added with hearths in the upper rooms. Other additions include a rear range running the full length of the house. At some time later, the brick facade was added, and dormers that cut through the wall plate. The house was divided into two with separate porches and fine front doors. In order to preserve the symmetry of the facade, the right-hand door enters a small lobby and turns to the right into the original service bay.

CRANLEIGH, Whitmeads (TQ 0566 3715).
TRS*VA40

Felling dates: **spring 1540, winter 1540/1**

Whitmeads is substantial black-and-white house, 1 mile to the south of Cranleigh. It is an open-hall house of four bays with substantial arch braces visible on the exterior framing. Substantial jowled posts are visible inside and the tiebeams are braced. There are carpenter's marks on the queen struts. These are distinctive with large half-circles. The plan is of a central hall with the solar bedroom

jettied into the hall. The ends of the jetty joists are rounded and support the jetty bressumer (as distinct from being morticed into it). The entrance is in its original position and opens into a wide overshoot cross entry allowing for a small but useable bay above. There is evidence of a spere just to the left of the entrance door.

The roof is hipped and of clasped-purlin construction with two queen struts. There are no windbraces which is unusual for a house of this period. Within the roof, the added truss with split oak wattles can be seen; it is sooted on the side of the smoke bay only. The previously estimated date was *c* 1500. The medieval open-hall style is thought to have fallen out of use after about 1540 and Whitmeads was one of the very last to be built.

Sometime after the original build, framing for a smoke bay was added, later replaced by a substantial brick fireplace and chimney. The present stair was added into the smoke bay to give access to the new bedroom above the open hall.

DOCKENFIELD, Little Oakley, (SU 8204 4169).
TRS#, *VA45*

Felling dates: ***c* 1613, *c* 1616, winter 1618/19**

Note: this is a recent dating and is not included in the report graphics or analysis.

Little Oakley is an end-chimney house of 2½ bays, located on Boundary Road between Surrey and Hampshire. It is now largely surrounded by later additions. The roof is gabled at the chimney end and half-hipped at the other. It is of three-queen-strut construction, with clasped purlins and straight windbraces. The principal rafters do not diminish above the purlins. The wall framing consists of small square panels, with straight down braces. The posts are without jowls.

DORKING (Stonebridge), Inholms Farm, Hay Barn (TQ 1791 4753). TRS#, *VA38*

Felling date: **winter 1677/8**

Apart from one bay, this barn collapsed during the 1987 storm. However, many timbers were labelled and stored, enabling the dendrochronology. The timbers have not yet undergone building analysis.

DORKING, 38 South Street (TQ 4709 6720).
TRS#, *VA46*

Felling date: **1563–95** (spot date)

Note: this is a recent dating and is not included in the report graphics or analysis.

38 South Street is now a shop. It is of two bays, with a narrow side passage. The roof is gabled and has clasped purlins with two queen struts on the outer trusses and raking queen struts on the centre truss. The windbraces are curved. The passageway may be a later addition. There are later dormers.

DORKING, 40 South Street (TQ 4709 6720).
TRS#, *VA46*

Felling date: winter **1600/1** (spot date)

Note: this is a recent dating and is not included in the report graphics or analysis.

40 South Street abuts the south-west end of 38 South Street, with only a 20cm gap between the trusses. The build is of two bays. The roof is gabled at each end and is of two-queen-strut construction with straight windbraces. A rear wing projects to the north-west, but with only fragmentary evidence of timber framing. There are later dormers.

DORKING, 58–61 West Street (TQ 1642 4937).
TRS*#, *VA44*

Felling date: **winter 1589/90**

Note: this is a recent dating and is not included in the report graphics or analysis.

This grade II listed terrace stands on the north side of West Street in the centre of the market town. Its listing description describes it as ‘The finest range of buildings in West Street’. The building is the only known surviving home of a Pilgrim Father, its blue plaque stating: ‘This house was the home of William Mullins a Pilgrim Father who sailed on the Mayflower to America on the 16th Sept 1620’. The terrace consists of four identical chimney houses with three floors plus integral attic accommodation. The building has six bays, with bays two and five being narrow to take the chimneys and staircases (only no 58 retains its staircase). The two central houses have cellars. The roof is gabled, with clasped purlins and straight wind braces. Four face gables run the full length of the building.

The wall framing is generally rather crudely executed. The horizontal rails in the partitions are unpegged, some only having a diagonal lap and nail to hold them in place. The posts are not jowled. The rear wall has a pair of arch braces, but there are straight down braces at second floor level. The front wall was originally jettied towards the road, one short length of the original jetty plate still being visible. An outshot extends to the rear, but it is unclear if it was part of the original construction. The ceiling joists and spine beams to ground and

first floor have chamfers with lamb's tongue stops. A well-executed black-on-white background wall painting of a riderless, but saddled, horse survives on the first floor.

The previously estimated date from stylistic evidence was the first quarter of the 17th century, with the brick front later in the 17th century. The dating is important in confirming that the house was in existence at the time of William Mullins. Later the terrace was extended in timber framing to the east (also with a jetty), and subsequently given a brick front over all seven bays.

DORMANSLAND, Moor Hall (TQ 4055 3987). TRS#, VA37

Felling date: **1518–50**

Moor Hall is located at the south-east tip of Surrey, just north-east of East Grinstead. The building appears to be two remaining bays from an open-hall house. There are two crown posts and a collar purlin under a presumed later side-purlin roof. This later roof is half-hipped at one end, gabled at the other, and has raking queen struts, diminishing principal rafters and curved windbraces. Little of the wall framing was observed; however, the posts are jowled. This building has yet to undergo full building analysis.

DUNSFOLD, Chennells (TQ 0084 3711). TRS*#, VA40

Felling date: **winter 1575/6** (spot date)

Chennells is on the edge of Dunsfold village, abutting a build believed to be earlier. Chennells itself is a 2½ bay central-chimney house, the 2m-wide central bay housing back-to-back hearths. Curiously, the two outer bays have radically different ceilings. The presumed parlour bay (to the north) has a finely finished ceiling with a transitional type of curved step stop on the spine beam and minor joists. The presumed hearth bay has a spine beam with lamb's tongue stops. These stops are additionally augmented by raised triangles below the ogee curve. The minor joists in this bay are plain. The joists in both bays have diminished haunch tenons, but the tenons in the parlour bay have the additional refinement of shoulders (giving tenons narrower than the joists themselves). There is a fine display of apotropaic (spiritual protection) marks and carpenter's marks.

The posts are without jowls. There are straight down braces in the wall framing. An edge-halved scarf is unusually short (20cm). The roof is half-hipped and of clasped-purlin construction with queen struts and straight windbraces. There are signs throughout the house of differing qualities of

timbering and certainly some reused timbers. There may have been some rebuilding or cannibalisation. The previously estimated date was *c* 1600.

Tree-Ring Services took eleven dendrochronological samples on 25 July 2005, but they could not be dated as they were nearly all 'fast-grown', with less than 50 rings. Only a spine beam and a fireplace bressumer had a reasonable number of rings, but none of the samples cross-matched. Then, in 2008, the increased amount of dendrochronological data in the area enabled the spine beam in the supposed parlour bay to be dated.

DUNSFOLD, Church of St Mary and All Saints (SU 9983 3635). TRS*, VA36

(a) Tower timbers, felling date: *c* **1503**

(b) Pews, felling date: **1409–41**

The church of St Mary and All Saints, Dunsfold, is one of Surrey's finest churches. According to Pevsner (1990, 201), 'A complete village church of *c* 1270, quite a rarity in any county'. He adds, 'The advowson was then held by the Crown, and all the visual evidence points to it having been built by royal masons'. Bott (2005) gives much more detail.

The timber tower is built within the walls at the west end of the nave (fig 75). It is shingled, as is the squat broach spire that surmounts it. The base frame consists of four great posts (averaging 45 x 45cm) supporting four girders with huge arch braces. Two of the girders act as inner wall plates for this end of the nave roof. Supported by the base frame, four more posts encase the sound chamber and bell stage, with its peal of six bells. There is simple cross bracing and a few arch braces. Above, the spire is built around a mast and cross-tree. There is little stylistic dating evidence in any of this, but a date of 15th century for the base frame, sound chamber and bell stage had been estimated previously. The first bell was said to have been hung in 1583. About 1879, there were extensive renovations. The presence of newer timbers shows that the tower was reconstructed, but it does appear that many of the old timbers were reused in their original locations. The main roofs of the church do not have sufficient timbers suitable for dating by dendrochronology, so are not described here.

The pews are very early, and a great rarity, previously thought to be late 13th century. According to Jenkins (2000, 675): 'Benches contemporary with the time of its building, which means they must be as old as any in England. The bench-ends are particularly graceful, deep cusps ending in knobs with holes for carrying lighted tapers.'

DUNSFOLD, **Forge Cottage** (TQ 0056 3611). TRS*, *V437*

Felling date: **c 1254** (two spot dates)

Forge Cottage is one of Surrey's most important early buildings (figs 20, 70). It consists of three bays, the central open bay being particularly long (9m), but with two intermediate tiebeams. It was originally aisled; one aisle and an arcade post remain. The post has a simple capital and is chamfered with a type of curved step stop. There is evidence for dragon ties. These had short struts linking horizontally across to the wall plates, not seen before in the county and possibly unique. Arch braces in the walls are quite straight and square in section. The posts are without jowls: this is another very early feature (although much later buildings do not have them either).

The roof is scissor braced, and there is evidence for parallel braces further outwards from the scissor braces, rising just to the tiebeams, which they join with notched lap joints. All these features are thought to be very early. The previously estimated date was early 14th century. Later a central chimney was inserted.

EASHING, see SHACKLEFORD

EAST CLANDON, **Boscawen Cottage** (TQ 0585 5215). TRS*, *V436*

Felling date: **winter 1580/1**

Boscawen Cottage is a small cottage of just two bays, with an end smoke hood (a type of timber-framed chimney) in the larger bay. Smoke hoods are quite unusual in Surrey, particularly so in such a small cottage. The cottage is well timbered, but has several late features. There are no jowls and the principal rafters do not diminish above the purlins. There are small square panels in the framing and wide, straight down braces, centrally placed for decorative effect. The roof is gabled and has a queen strut and clasped-purlin construction without windbraces. There are curved step stops in the hall, but the timbers involved could be part of a reflooring. The previously estimated date was late 16th century.

EAST CLANDON, **Lamp Cottage** (TQ 0605 5173). TRS*, *V436*

Felling dates: **winter 1580/1, winter 1581/2**

This is a high-quality, well-preserved, three-bay, smoke-hood house. Unusually, the smoke hood (a type of timber-framed chimney) is placed in the service bay but faces out into the central bay. This gives more room in the hall than the more usual

plan of building forward into it. The smoke hood occupies a type of half-bay, but it is not a fully-framed smoke bay since the posts of the rear truss rise only from the girding beam. The exterior walls are a feature, with large-scantling timbers, in small panels, and with ogee down braces. Originally, the posts were jowled. The roof is half-hipped with a queen-strut, clasped-purlin construction, with straight windbraces. The previously estimated date was late 16th century.

EAST CLANDON, **Tunmore Cottage** (TQ 0598 5187). TRS*, *V436*

Felling date: **winter 1572/3**

Tunmore Cottage is a three-bay, smoke-hood house of considerable quality (fig 25). The walls have precise square panelling in four rows, with well-matched ogee down braces in the third row, twelve in all, around the house. The posts are jowled and even the sills are still in place. There are curved step stops on the joists, but of a transitional type, with a sloping shoulder. The roof is half-hipped with a queen-strut, clasped-purlin construction, with straight windbraces. It contains the well-preserved, central smoke hood (the hearth timbering also remains). Curiously, the service bay roof is also blackened, at least above collar level, although the smoke-hood partitions are complete and well sooted up to the ridge. The previously estimated date was late 16th century. Later a central chimney was inserted. Otherwise there has been little alteration, just the addition of an outshot to the rear at some time.

EFFINGHAM, **Home Farmhouse** (TQ 1171 5366). TRS*#, *V442*

- (a) Main range, felling date: **winter 1557/8**
- (b) Front wing, felling dates: **winter 1548/9, winter 1550/1**
- (c) Rear wing reused timbers, felling date: **winter 1396/7**

Home Farmhouse is an important and complicated house in the centre of the village of Effingham, close to the church. It is of four builds, the interpretation of which is hampered by a degree of rebuilding and reuse. There is a main range: a 2½ bay, central-chimney house facing the road. There has been some rebuilding at the north end, but the roof is coherent and can be seen to have once continued to the south. This would have made it a 3½-bay building, the standard plan for a central-chimney house. The roof is half-hipped at the intact end and is not sooted. It has clasped purlins and a three-queen-strut construction with straight windbraces. The walls have jowled posts and arch braces. The chimney has a substantial inglenook,

facing into the hall only. The previously estimated date was mid-16th century.

To the west is a two-bay rear wing. This has smoke-blackened rafters and was part of a medieval open hall. There is evidence that the original build was the standard four-bay plan, a two-bay open hall with floored end bays. Samples were taken, most of which did not date. Those that did, gave an early date and were shown on re-examination to be reused. The roof is now gabled and of clasped-purlin construction with queen struts and curved windbraces. It contains a number of rafters with the trenches from an earlier crown-post roof. At some time, a central chimney was inserted.

To the east is a front wing. This is a two-bay build of some quality and considerable interest. It faces across the road to the church. A fragment of close studding remains in the north wall and there would probably have been more on the other faces. The wall framing and roof structure are similar to those of the main range. It would seem that the building was not originally heated. The first-floor joists are chamfered and stopped, which is quite unusual. The whole is strongly built. The previously estimated date was sometime in the 16th century. The function of this prestigious little building is unclear, but some sort of church function is a possibility, perhaps as a 'church house'. (For a description of this type of building see, for example, Friar 1998.) They were built by the parish for fundraising 'church ales', and to provide a room for the vestry and other meetings. Such facilities became more necessary when fixed pews were introduced into churches. It is quite small for such a function, but the rear wall is faced inwards, so the build either continued or was built against something.

In the corner between the main range and the front wing is a two-bay build here called, for the want of a better name, the 'linking build'. It could indeed have been a link, constructed when the front wing ceased to have an independent function and was incorporated into the main house.

ELMBRIDGE (West Molesey), **Church of St Peter** (TQ 1337 6838). NU, *V438*

- (a) Tower roof, felling date: **1518**
- (b) Bell tower floor, felling date: **1504–22**

The parish church of West Molesey was rebuilt in 1843 but incorporates an earlier three-stage battlemented tower. The stone and flint tower is Perpendicular in style and was believed to have been erected in about 1420. The tower roof has three trusses, each consisting of a king post and

principal rafters, with a ridge beam and a single purlin on each side. The bell tower floor consists of eight heavy joists running east–west and three supporting beams running north–south.

ELMBRIDGE (Oxshott) **Danes Hill Farmhouse** (TQ 1471 6015). TRS#, TBP
Felling dates: **?winter 1486, winter 1486/7**

Note: this is a recent dating and is not included in the report graphics or analysis.

Three bays remain of a medieval open-hall house, of which two are thought to have formed the open hall. The roof is hipped at one end, gabled at the other. It is of clasped-purlin construction, with crown struts and no evident windbraces. The walls have large square panels and down braces. Only two of the principal posts are jowled.

ELMBRIDGE (Esher), **Waynflete's Tower** (TQ 1308 6510). ODL, *V437*
Felling date: **1462–72**

The medieval bishops of Winchester owned a series of residences at Bishop's Sutton, Farnham Castle and Esher, each a day's ride apart on the road to London. Both Farnham and Esher had great late-medieval brick towers, with that at Esher consisting of four storeys with a decorative diaper brick pattern on its front and rear faces. The tower at Farnham has been shown from the bishopric pipe rolls to have been built by Bishop William Waynflete during the period 1470–75. Historical research by Edward Roberts (Wessex Archaeology Report 2006) has narrowed the date range for the Esher tower down to the period between Michaelmas 1464 and Michaelmas 1467 and confirms that the tower at Esher just pre-dates that at Farnham. The dating was commissioned by Diverse Productions for a *Time Team* programme.

ELSTEAD, **Apple Tree Cottage** (SU 9055 4360). SU#, *V431*

Felling dates: **1589, 1591**

Apple Tree Cottage is in the centre of the village. It is a four-bay, timber-framed house of two storeys with an integral attic. Most unusually, there is original framing for two backing hearths in the large central smoke bay. The framing is in small square panels, with jowled posts and arch braces. The roof is half-hipped and mostly of three-queen-strut construction with clasped purlins, but there are butt-purlin, butt-rafter sections into the smoke bay. There are straight windbraces, which are nailed, but are probably original, the nailing having been made necessary by the butt purlins. The estimated date was late 16th century.

At the back, there is an added room over a half-cellar built in the 17th century, and a parallel range that might be a built-up outshot. The chimney was added within the smoke bay. Recent improvements include the removal of the partition between the hall and the end room. The joists in the end, unheated, room have been replaced and now lie in the other direction (empty mortices remain for the old joists).

ELSTEAD, **Domford Cottage** (SU 9013 4287).
TRS*#, TBP

Felling dates: **winter 1552/3, winter 1553/4**

Note: this is a recent dating and is not included in the report graphics or analysis.

Domford is situated on the outskirts of the village of Elstead, in rural surroundings, by the side of the small river Dom. It is a 3½ bay smoke-bay house, but there are indications that the hearth room may have been open to the roof. This would make it 'an open hall with smoke control', a very unusual transitional arrangement. The service bay was certainly open to the roof, which is smoke blackened in this bay. It could be termed a kitchen bay, as it would have been the farm kitchen, using an open-hearth for cooking.

The roof is hipped, which is not expected in this general period. It is of clasped-purlin construction with curved windbraces. The rafters are pegged to the purlins. The principal posts are jowled. The wall framing is made up of small square panels, but these consist of larger panels which have been later divided, possibly when windows were added. There are slightly curved down braces at the ends and in the centre bay. The previously estimated date was mid-16th century.

Later, a chimney was built into the smoke bay, and a rear face wing added about 1900. There are also two later outshots and a small porch.

ELSTEAD, **1 The Gables** (SU 9036 4335).
TRS*#, VA40

Felling dates: **winter 1428/9, c 1430, winter 1431/2**

No 1, The Gables is set on the south side of Elstead church, which it faces. It is a finely-timbered, medieval, open-hall house of four bays. The roof is of crown-post construction. Both ends of the roof have been rebuilt, but there are intimations that it was gabled, rather than hipped in the style that would be expected in this non-urban situation. The open-truss crown post is octagonal and has no braces – a very unusual feature. (It is still in place, but has been truncated and possibly inverted). The

other crown posts are braced two-up, two-down, in the usual way. The wall plates, collar purlin and braces up it, are all chamfered – an unusual display of wealth for the area.

The hall has two bays, unequal in size, the narrower being towards the presumed service bay. There are heavy jowled posts and long arch braces in the framing. A magnificent door remains into the service bay – arched and decoratively moulded – another sign of prosperous origins. (A second door alongside it would be expected, but the site has been modified). The previously estimated date was mid-15th century. Another house in the village, the Old Farmhouse, has a similar octagonal crown post without braces and has been dendro-dated (see below) to the mid-1440s. Later a large lateral chimney was inserted in the hall and a house added behind, losing some of the framing.

ELSTEAD, **The Old Farmhouse** (SU 9062 4380).
TRS*, VA39

Felling dates: **winter 1443/4, spring 1444, spring 1446**

The Old Farmhouse stands high on the bank over the river Wey by the old bridge in Elstead. It is a medieval open-hall house of four bays. The roof is hipped and of crown-post construction. The open-truss crown post is chamfered and has no braces – a very unusual feature. The other crown posts are braced two-up, two-down, in the usual way. The open truss carries hollow chamfers on the tiebeam, posts and braces – another sign of prosperous origins. The hall was of two bays and had an internal jetty. The posts are jowled and there are arch braces. A pair of such braces remains in a 'V' in the centre of a ground-floor end wall, an unusual survival at this low level. The previously estimated date was mid-15th century.

Later a central chimney was inserted. The ground floor was dug out and the ground floor ceilings lowered to give better headroom on both floors. An adjacent build was incorporated. This is estimated to be late 16th century work, but includes a fragment from an earlier build, boasting at one end a cruck with a Type V apex for a half-hip – rare indeed in the county. There is also a well-built barn with passing braces in the framing.

ESHER, see ELMBRIDGE

EWHRURST, **Wyndrums** (TQ 0897 4081). TRS*#, VA37

(a) Main range, felling dates: **winter 1569/70, winter 1570/1**

(b) Face wing, felling dates: **winter 1569/70, winter 1571/2**

Wyndrums is an intriguing, much-discussed house, facing a small green in the village of Ewhurst. The old part has four bays, with strong indications that the centre two were open, even though the roof has no smoke blackening. There is an external, lateral chimney, not thought to be original, so it is supposed that some kind of ephemeral smoke hood existed, probably in the same location, before the chimney was built. An alternative interpretation is that, although framed on the ground as an open-hall house, the form was changed to be fully floored during construction.

Of much interest is evidence for a gallery, running along the length of the hall. Such a feature has been recognised in only one other Surrey location (Oat Barns, Lingfield). The walls have jowled posts, except for the centre truss and where doors entered the gallery. The first floor has sagging braces, rising only to girding beams to give space for windows. The roof is hipped at one end, gabled at the other, and contains integral attics in both end bays. It has clasped purlins and queen struts, which are raking in the central truss. There is a complete set of twelve hefty, but straight, windbraces, with eight of them ornamentally set over the hall. The previously estimated date was *c* 1550.

There is a 1½ bay face-wing projecting forwards that appears to be a later addition but is in fact contemporary with the hall range. It is jettied to the side, instead of at the gable end facing the green, as might be expected. A non-domestic purpose is assumed; the jettied side was possibly a shop front. Both the roof and walls are of similar construction to the hall range. The roof is of clasped-purlin construction, with windbraces and a pair of raking queen struts in the centre truss. The walls have jowls and there are sagging braces rising to first-floor girding beams. The previously estimated date was late 16th century.

FARNHAM (Weybourne), **Barlings** (SU 8567 4898). TRS*#, *V*440

- (a) Old range, felling date: **winter 1536/7**
- (b) Parlour wing, felling date: **winter 1546/7**

Barlings is just outside the village of Weybourne in Farnham parish, in a previously rural situation. There are two builds, a parlour wing being set against an older range. The old range is end-on to the road, which is not expected. It has two bays remaining but there is evidence for at least a further sooted bay or half-bay. The supposition is that this was a smoke bay. It is a simple build. The posts are jowled and there are arch braces in the framing. The roof was half-hipped originally. It is of clasped-purlin construction with queen struts and

curved windbraces. The dendro-date is substantially earlier than the predicted late 16th century date. It brings the construction back to the cusp between open halls and smoke bays (*c* 1540). Either the old range was part of a very late open hall or, perhaps more likely, it is the remains of a very early smoke-bay house. It could have been a central or end smoke bay, depending on how much has been lost.

The parlour wing is more strongly timbered. It is undecorated, the beams being unchamfered, but a side wall and an end wall were close studded (with much remaining). This is unusual in rural buildings in Surrey. There is a striking chimney stack at the end of the build, including much early brick work. The stack is probably a part of the original build, although this cannot be firmly established. The posts are jowled and there are arch braces in the framing, but the wall panels are smaller and square shaped. The roof is of clasped-purlin construction with queen struts, but now the windbraces are straight. The ceilings were plastered. There seems to have been an arched door head between the two builds. The previously estimated date was around 1600, so the tree-ring date is surprisingly early. A possible explanation is the influence of the Diocese of Winchester, which had strong connections with Farnham and was quite advanced in building techniques and styles.

After the dendrochronology, previous work by Pat Heather came to light. This showed that William Amaunt owned the farm (as it then was) by about 1530, so would have been the builder of the old range in 1537. His wife was called Agnes. His will in 1546 gave the farm to his son-in-law, John Lanaway, on condition that he built for Agnes a 'chamber on the same ground' (Heather 2005). The parlour wing was duly built in 1547. This is a good confirmation of the dendrochronology and gives a reason for the parlour wing. John executed his father-in-law's wishes promptly and in some style.

Well-preserved, handmade, leather shoes (including a child's pair) have been found between the two builds.

FARNHAM, **40 The Borough** (SU 8398 4683). TRS*, *V*439

Felling dates: rear range, **spring/summer 1452**

This prominent Farnham building (now 'Bowleys', previously 'The Spinning Wheel') has a remarkable frontage close to the foot of Castle Street. It has the square-and-circle, close-timbered, highly-decorative fashion of the Elizabethan period, together with jetties and oriel windows. It was the subject of a major reconstruction by

Falkner in 1910, following, at least in part, the lines of the previous work. Dendrochronology on this part of the building would not have been appropriate, but other examples of the fashion in Surrey have been dated by the Project to the period 1570–85.

Behind the facade, the building runs to the surprising total of eight bays in-line back from the street. It can be divided into two builds of four bays each: a main range and a rear range. In the main range, the front bay is altered but the other three bays are intact. Although medieval, it was always floored and the roof is clean – there was no open hall. Any cooking must have been done elsewhere. The roof is hipped to the rear, but was probably gabled originally at the front, as it is now. It is of clasped-purlin construction with windbraces, but has central crown struts rather than the more usual queen struts. This is an earlier, transitional type, evolving from the crown-post style, and is more associated with Hampshire. The struts have no down braces. The windbraces are pegged to the purlins, another Hampshire feature. The walls have jowled posts and particularly long, curved arch braces. The previously estimated date was mid-15th century. The dendrochronology was not successful for this range but, as it is clear that it pre-dates the rear range, it must be quite early in the 15th century.

The rear range was in-line and also of four bays. Again, it was floored throughout. The two central bays are intact and of high quality. There are stout timbers. The tiebeams and the collars above them are cranked (bent rather than straight), an unusual feature requiring timbers not easy to source. Arch braces in the external walls are unusually long and set in pairs. The posts are jowled and a central truss has short, wide, arch braces to the tiebeam, almost spandrel braces (ie covering upwards almost into the corner). The roof is of clasped-purlin construction with queen struts. The windbraces are curved and, again, pegged in the Hampshire style. The previously estimated date was late 15th century. The tree-ring date of 1452 is surprisingly early for a queen-strut structure, even for neighbouring Hampshire where they were introduced earlier than in Surrey.

Later the two builds were bridged together, with substantial modifications to the adjoining bays. The ornate facade would have been added in the late 16th century. The rearmost bay was largely rebuilt at some time and then, finally, came the reconstruction of the facade by Falkner in 1910.

FARNHAM, **11 Bridge Square** (SU 8409 4646). TRS*, *V*A39

Felling dates: **winter 1474/5, spring 1475, winter 1475/6**

11 Bridge Square (fig 46) is situated immediately to the south of an important river crossing just to the south of the town. It was a three-bay Wealden house. This is an impressive form of medieval, open-hall house, with end bays jettied out forwards and a flying wall plate joining the two, making the centre bay look recessed under a rectangular roof. In this case, only one jettied wing can now be identified. The hall consisted of two bays but was half-floored, with an extra chamber over one bay of the hall. The hall was built against a now lost earlier building, which seems to have been retained for parlour accommodation, rather than build the usual jettied parlour wing.

It is unusually heavily timbered. Several of the features are unusual in a Wealden house. It is gabled, which would not be expected in an out-of-town Wealden. The roof is of clasped-purlin construction with queen struts and windbraces, whereas a crown post would be more usual. This is a Hampshire influence. The walls have upward braces with a sinuous ogee curve – another unexpected feature in this style of house. The posts have massive jowls and the wall plates are chamfered. There was an overshot cross entry, now filled with a chimney. The previously estimated date was late 15th century.

At various times, the jetties were under-built and the recessed centre bridged across, disguising some of the Wealden style. A forward-facing gable was added, with a remarkably carved oriel window, now very much a feature of the house

FARNHAM, **Castle, Bishop's camera roof** (SU 8374 4727). TRS*#, *V*A38

Felling date: **c 1380**

The Bishop's camera is part of the palace of the Bishops of Winchester at Farnham, in the heart of the castle buildings. It lies a little distance behind the Great Hall and almost parallel with it. It is a massive stone-built rectangle, with walls 1m thick. There have been many changes, and it is almost surrounded by other buildings. Apart from the remains of a gothic window in a side wall, little is visible outside, but inside the roof is complete, or almost so. It is one of the most remarkable pieces of carpentry in Surrey. The length is 14.8m and the width 8.3m.

It is of common-rafter construction, an archaic form, without longitudinal braces of any kind. Only

the battening prevents the rafters from racking (falling over). There are 38 virtually identical rafter trusses. Each is seven-canted: ashlar, rafter, soulace, collar, soulace, rafter and ashlar. They are so close together that a person finds it very difficult to squeeze through (fig 4). Consequently, it appears to be a simple barrel roof (and it has been so plastered in the past). But, in fact, the soulaces are halved over the collars and continue upwards to form scissor braces near the apex. This roof structure is more often seen in churches, although not so closely packed. Otherwise, one of the more notable examples is the exceptional Abbey Barn at Boxley in Kent. This is thought to have been the *hospitium* to a Cistercian monastery and is similar in date at 1383. Another in this style is the south range roof at the Blackfriars, Gloucester, and much earlier at 1250m.

The roof is gabled and divided into six bays by five tiebeams (with a further two against the end walls). The third and fifth of these beams are particularly large (33 x 36cm). Rather than being dovetailed to the plates, they are held by an unusual joint with opposing teeth. All the tiebeams are hollow chamfered (although this is difficult to see as there is now a ceiling immediately underneath). The wide walls have outer wall plates, as is usual, but, on the inner edges, the ashlar are supported by double-banked, staggered cornice plates, both being hollow chamfered. This is an extraordinary refinement and must have been a constructional challenge. (The southern set is still in place, but the northern set has been replaced with simpler timbers.)

This type of soulace scissor-bracing is unusual, even in churches, but occurs over quite a wide range of dates. In this case, the previously estimated date was 14th century, based as much on the surviving gothic window as anything else. The dendrochronology shows that it was built by the renowned William of Wykeham, Bishop of Winchester from 1367 to 1404, and his carpenter would seem to have had some influence on the great barn at Boxley.

FARNHAM, **Castle, Great Hall** (SU 8374 4727). LGU, *V427*

Felling date: After **1180** (spot date)

The sole surviving accessible arcade post, once forming part of the aisled hall of the Bishop's Palace, has been dated as part of a previous investigation. It is huge and has a fine carved capital. There was no sapwood on the dendrochronology sample, so the felling date range deduced was very wide. There are traces of

sapwood on the carved part of the post, leading the dendrochronologist to speculate that a felling date of *c* 1200 would be likely.

FARNHAM, **Christmas Cottage, 68 West Street** (SU 8349 4661). TRS*, *V439*

Felling date: **winter 1451/2**

Christmas Cottage lies just outside Farnham town centre on an important crossing thoroughfare. Three bays remain of a medieval open-hall house, representing two bays of a hall and a floored parlour end. The roof is an archaeological high point, with a fan truss, combining not only a crown strut but also raking queen struts. This attractive style is rare in Surrey, but occurs more often in Hampshire. There are curved windbraces, and these are pegged, another Hampshire influence. The hall is divided into two by an intermediate truss which is not now visible below wall plate level. The roof was gabled, which would be unusual at this time in a rural area, but is less unexpected in town.

The building is wide (6m) compared with its length, which is quite squeezed onto its street frontage. The walls have jowled posts and arch braces. Another archaeological high point is a fine internal jetty. The detail of the open hall is not entirely clear, but a reused timber for a cross entry with spere screens may have come from the missing lower end. The previously estimated date was mid-15th century. Later, a chimney was inserted, and the front bricked up in a symmetrical Georgian style, with oriel windows and dormers.

FARNHAM, **Lion and Lamb Inn** (SU 8384 4684). TRS*, *V439*

Felling dates: **winter 1450/1, 1457–89, 1483–1515, winter 1498/9**

The 'Lion and Lamb' is the site of an ancient coaching inn on the important east–west thoroughfare through Farnham. The courtyard is attractively restored, but little remains of the original buildings except for the south-east corner, currently the home of Goldsmiths, the jewellers. This comprises two fine builds, a front 'reception' range and a galleried rear wing.

The front range has two well-preserved bays to the east, facing the street, with further remaining fabric across the archway. The two bays are open to each other on both floors, forming a splendid room in each case. The ground floor room has deeply-moulded, crossing girding beams of a quality rare in the county. Access was by means of a four-centred arch doorway, with moulded spandrels, from the carriage entrance way. The first floor has a continuous jetty across the front. There is full-

height close studding. This is not original but may well be a replication of it. Inside is a large chamber, 6.5m square that has as a high arch-braced-collar-roof, with decorative hollow chamfering. The purlins are tenoned into the centre truss, but clasped with collars and queen struts in the end trusses. There is a full set of eight sinuous windbraces and additional 'V' braces above the collars. The posts are heavily jowled. The range seems once to have been integral with a wing, with a gable facing the street, covering the carriage entrance – the present restored form.

The rear range is of four bays and still possesses the original gallery overlooking the courtyard. This is accommodated in the structure by offsetting the arch braces in the intermediate trusses. The ground floor seems to have included another large room for communal purposes. This occupies three of the four bays. The first of the four bays is now used for an inserted staircase. The first-floor rooms would have been accessed from the gallery. This is a rare survival and would originally have continued further, quite probably right along the courtyard. The construction of this range is similar to that of the front, with jowled posts, clasped purlins, queen struts, a full set of ogee windbraces and 'V' braces above the collars.

There is an odd junction between the two builds, occupied by a fine chimney that is probably original. The wall plate from the rear wing continues across and the two builds are thought to be coeval. Their styles are similar, and both parts would be needed for the inn to function.

There has been a great deal of restoration, notably by the Kinghams in 1921 (Borelli Collection, Museum of Farnham). This has been well executed and, as far as can be judged, appears to have been faithful to the original, although it does complicate both the archaeology and the dendrochronology. The previously estimated date was 16th century, but which part of the century was not clear. A date inscribed in bricks of 1537 was found, but the bricks are unlikely to be original.

The four timbers dated provide scant evidence to interpret the phases of construction of this large building. Two samples from the staircase area indicate construction of the rear range either occurred in the period 1457–89, or that these samples identify a fragment of an earlier build that was incorporated into the rear range. A timber dated from the roof of the rear range suggests its construction occurred in 1499 or soon after, which is probably also when the front range was constructed. Additional samples were taken in an attempt to resolve matters, but these failed to date.

Stylistically, the building is considered more likely to have been constructed in 1499, incorporating a mid-15th century fragment in the staircase area. Whatever view is taken, it would seem the plaque that records the 1537 date does not reflect the true age of the building.

The courtyard has been restored and is now a popular café and shopping precinct from which the gallery can be seen.

FARNHAM, **The Old Vicarage** (SU 838 466).
TRS*#, **V438**

- (a) Main range, felling dates: **1417, spring 1418**
- (b) Rear wing, felling date: **1417**

The Old Vicarage stands next to St Andrews church in the centre of Farnham. When built, it was the property of the archdeacon of Surrey, who held the rectory of Farnham. It now has six bays, with a single-bay, two-storey, rear wing facing the church. (The rear of the house was probably originally the front.) This wing is sometimes called the porch wing, but there is no sign of a doorway. Only the four eastern bays of the six in the main range are first-build. Together with the rear wing, which is coeval, they are medieval and would have made an L-shape. The wing seems to have oversailed the ground floor of the main range, making a 'pseudo cross-wing' (see eg Ridgeway Farm, Thursley).

The main range had a 'grand chamber' on the first floor, occupying the three easternmost bays. Underneath is another large room, of two or possibly three bays. It appears that only the small pseudo cross-wing had normal-sized rooms. The building would not have been primarily residential. It is likely to have been used by the archdeacon for meetings and gatherings of various kinds. The first floor of the wing is sometimes called the priest's room, and may have been for the vicar himself. It looks across to the 'priest's door' in the 14th century south aisle of Farnham church.

There is an arched doorhead, with hollow chamfers and carved spandrels, leading from the large first-floor room into the wing. Next to it, and facing outwards into the re-entrant corner, there is evidence for a similar, but larger, doorway. This would have been an impressive entrance to the grand chamber from the outside and implies an external staircase or a lost stair turret. The downstairs entrance seems to have been directly underneath, where the present hall and staircase lie.

The grand chamber is now divided and ceiled but retains signs of its previous opulence. The roof has butt purlins in-line. The two open trusses had cambered tiebeams with long, supporting arch

braces and additional arch braces to high collars. The easternmost truss is particularly fine, the lower braces being large and six-pegged and the upper braces 'solid' or 'spandrel'. This would have been the 'best end'. Nearly every timber is chamfered, those of the 'best end' truss having hollow chamfers. There is a full set of curved windbraces, twelve in the three bays, between gable ends. There are principal posts with thinned-down jowls, matching raised fillets further down the posts. This is an extraordinary decorative feature, not previously known, at least not in Surrey.

The western truss of the grand chamber and the rear wing both have a simpler type of roof structure: clasped purlins and crown struts. This is a Hampshire style, although found in western Surrey. There are arch braces in pairs in the walls. The wing has fine carved bargeboards, thought to be original, and a rare medieval survival. There is evidence for similar bargeboards outside the eastern end of the grand chamber. It is uncertain how the building was heated. Certainly there was no open hall. There may have been an early chimney to the side of the grand chamber, where there is now a Georgian brick chimney.

The previously estimated date was late 15th century for both the main range and the wing. That they are coeval is borne out by the dating, although the date is much earlier than expected. It is a very early date for any kind of side-purlin roof, in Surrey or Hampshire, whether of clasped-purlin or butt-purlin construction, both of which are present here. The high status, together with the ecclesiastical connection, may be an explanation.

FARNHAM, **Tanyard House** (SU 8411 4651).
TRS*, VA39

Felling date: **winter 1484/5**

Tanyard House is the front three bays of an impressive town house close to the river Wey and the industrial site of the Maltings. The front two bays contain a large first-floor chamber, with curved windbraces and a fine, hollow-chamfered, arch-braced-collar, open truss. The room under seems to have been commercial, because the joists, although massive, are plain and have no refinements. Indeed, it is more likely that the first floor was used as a parlour, away from commercial activities or, quite possibly, it had a more public function. It is bigger than the ground-floor room, overshooting a cross entry. Under separate ownership, there are three further bays, in-line to the rear, with an imposing, smoke-blackened roof of similar vintage, and it is thought that these bays contained an associated open hall (this range was

not sampled for dendrochronology).

To the east side of the front range is a single-bay stair wing, with small ancillary rooms and framed for a staircase. The wing is believed to be coeval with the main range, one reason being that the rafters under the interface do not protrude.

The facade facing Bridge Square is striking and has been painted and photographed many times. It is the end gable of the range. It is close-studded and jettied, the jetty extending across the front of the stair wing, forming a kind of continuous jetty. The walls have arch braces in the framing and heavy jowled posts. Side-by-side doorways were originally arched and have been restored accordingly. One opened directly into the downstairs room; the other accessed the cross entry and thence across to the stair wing. Apart from the arch-braced-collar open truss, the roof is of clasped-purlin construction with queen struts and a full set of windbraces. The previously estimated date was late 15th century.

FARNHAM, **80/81 West Street** (SU 8358 4669).
TRS*, VA39

Felling date: **winter 1466/7**

This house (currently 'Guitar Village') lies on the edge of Farnham town centre on an important east-west thoroughfare. It was a Wealden house. This is an impressive form of medieval open-hall house, with end bays jettied out forwards and a flying wall plate joining the two, making the centre bay look recessed under a rectangular roof. The building is not understood at the east end, where the timbering on the two floors is confusing and misaligned. It seems most likely that it was a full Wealden house of three bays and that the service bay and an overshot cross entry have been lost. Two bays remain: those for the parlour and a one-bay hall.

The principal timbers are particularly large, with massive jowled posts, arch braces and tiebeams. An arch brace in the central truss is peculiarly long. The roof is of fan-truss construction, combining not only a crown strut but also raking queen struts. This attractive style is rare in Surrey, but occurs more often in Hampshire. There are fine, paired, chamfered windbraces, and these are pegged, which is another Hampshire fashion. The roof was gabled, unusual in a Wealden house but less surprising in town. (It is now hipped, but the end principal rafters can be seen repositioned in the roof.) Features include the remains of no less than three doorways with four-centred arches, one with hollow chamfering around the arch and down the posts. The previously estimated date was mid-15th century.

There is a rear wing, also of high quality, and thought to be broadly contemporary. Later a central chimney was inserted. Two town houses in place of the surmised service bay are also timber framed, but later in date.

FRENESHAM, **Old Cottage** (SU 8503 4187).
TRS*#, *VA39*

Felling date: **winter 1471/2**

The Old Cottage stands by the river Wey as it turns from Frensham towards Tilford. It is a medieval open-hall house with an imposing frontage of heavy timbers and arch braces. The hall is of one bay, originally supplemented by an overshot cross entry at the service end and an internal jetty at the parlour end. The jetty bressumer carries the joists by mortice and tenons, rather than by simply supporting them. Confusingly, the jetty plate was set back at some time to give more room, probably when the chimney was inserted. Later still, the partition below the plate was removed and the room opened back. The plate shows mortices for a wide central post (36cm) and a pair of long, arched 'V-braces' that would have been impressive behind the high table.

The roof was hipped with gablets (now gabled at one end). It is of clasped-purlin construction with queen struts and windbraces. The posts are jowled and there are wide (7cm) chamfers and stops. There is evidence of spere screens. The previously estimated date was late 15th century. Later, a smoke hood was inserted and then a central chimney. A bay was added at one end and an outshot at the other. Some fine panelling was brought in, believed to be from Old Pierrepont, which is nearby.

FRENESHAM, **Walnut Tree Cottage** (SU 8269 4215). TRS*#, *VA39*

Felling dates: **winter 1427/8, winter 1429/30**

Walnut Tree Cottage (formerly Dormers Cottage) is the only true cruck house known in Surrey. It is close to the border with Hampshire, where there are more, but it is a style that seems to stop at the border. It had three bays, with floored ends either side of an open hall. One of the internal cruck trusses, with the full-length true crucks, remains, as well as a cruck with a Type V apex for an end half-hip.

The house is simple and unornamented, although the cruck blades are impressive. They were held together at the top by a short saddle that carried the ridge beam (cruck apex type C in the national classification by Alcock 1981). The cruck blades are straight for about 2m before curving inwards,

giving a higher ratio of wall to roof than is usual (1:1 compared with the more normal 0.75:1). The joists for the unchanged floored end are 20cm wide and only 25cm apart. There is one remaining arch brace in the walls. The previously estimated date, guided in part from work in Hampshire by Edward Roberts, was early 15th century. Later a central chimney was inserted and bays added at both ends, giving a long, low building. Most of the walls are now of Georgian brick, and there is nothing to suggest the archaeological wealth inside.

GODALMING, **1 Church Street** (SU 9684 4382).
TRS*, *VA37*

Felling date: **winter 1570/1**

This is the most striking building in Godalming town square, standing opposite the Market Hall. It has three bays, with a third storey in the roof, and is slightly skewed to fit the site. The frontage is exceptionally decorative, with a continuous moulded jetty surmounted by a facade of square-and-circle timber-framed panels. In the centre is an ornate oriel window, strongly projecting, with a gable and barge boards. Originally there were oriel windows either side. The posts are not jowled. The roof is gabled with twin butt purlins in-line, queen struts and additional collars. The previously estimated date was early to mid-17th century

GODALMING, **3 Church Street** (SU 9684 4383).
TRS*, *VA37*

Felling date: **winter 1556/7**

This is a fine town house in the town square. It has three storeys and three bays, running back from the street. The frontage is narrow but decorative with two jetties and matching pairs of ogee braces to the first and second floors. It is skewed to fit the site. There is a tall lateral (side) chimney. The roof is of clasped-purlin construction with raking queen struts and windbraces, and was originally gabled. The principal rafters diminish above the purlins. The main posts are without jowls. There are diminished haunch joints for the joists. The previously estimated date was *c* 1600. The tree-ring date is much earlier and shows the house to be among the first chimney houses in the county at the vernacular level. This is partly explained by its town setting (Roberts 2010, 148–9) and partly by its generally high quality.

GODALMING, **Fry's Yard, 37/38 Bridge Street** (SU 9725 4396). TRS*#, *VA38*

Felling date: **1496–1510**

The house at Fry's Yard fronts the main street through Godalming. It is timber framed and

originally had two bays, later extended by one bay to the north. There is a fine inglenook chimney to the rear, which is thought to be the original form of heating. There are strong mid-bay posts in both the original bays, unusual in a smaller building. The framing has small square panels, apparently without bracing. The posts have jowls, in that they overlap the wall plates, but the extra width reaches to the ground, so the characteristic top bulge is missing. The ground-floor ceilings may have been rebuilt. The south end is double-framed, the outer frame being a relic of an earlier building that stood at right angles to the road. The far north wall is also the remnant of a range that stood at right angles to the road, indicating that there was once a building in the location of the current vehicular access.

The roof is gabled and of clasped-purlin construction with queen struts and curved windbraces. The previously estimated date was *c* 1600, so the tree-ring date a century earlier was unexpected. Queen-strut roofs do not usually occur in Surrey until the second quarter of the 16th century, although there are many early in the century in neighbouring Hampshire. The small, square panels are usually 17th century in date and harder to explain. There is clear evidence of some rebuilding and it may be that the frontage has been repanelled. Around this time, domestic buildings in Surrey usually had open halls, but in this case the rafters are not sooted, so it may have had a chimney, even if not the present one. A chimney house of this date would be extraordinarily early, but would not be out of place in Hampshire or Kent. Roberts has shown that town houses in Hampshire were well in advance of rural dwellings, and Fry's Yard seems to confirm this. Another explanation is that the building was not a dwelling house, but a building with some sort of commercial purpose, and probably largely unheated.

GODALMING, 57/59 High Street (SU 9701 4383). TRS*, *VA37*

Felling dates: **winter 1469/70, winter 1470/1**

Hidden behind a pair of continuous jetty houses on the High Street is this remarkable medieval open-hall house. It consists of four bays, of which just one was open, there being two floored bays to one side of the hall and a floored service bay, including a cross entry, at the other. There are heavily jowled posts, arch braces and one remaining long passing brace in an end wall. The braces in the front and rear walls are the more normal, shorter kind. The roof is an early form of a clasped-purlin roof, with single crown struts. This form is quite rare in Surrey, and limited to the Hampshire side. All the rafters are the same scantling so there are no

principal rafters as such. The rafters are pegged to the purlins, another unusual feature thought to be early. There are no windbraces. Two high-set top collars remain for a smoke louvre, a rare survival. The previously estimated date was early 15th century, although some authorities thought it rather later.

GODALMING, Museum, 109 High Street (SU 9686 4380). TRS*, *VA37*

Felling date: **spring/summer 1445, spring 1446**

Godalming Museum (109 High Street) consists of two builds, a two-bay, crown-posted cross-wing and a three-bay Wealden house. Wealden houses are quite rare in Surrey, at least in the western half of the county. It is a spectacular, medieval style of open-hall house, with cross-wings jettied to the front and a flying wall plate joining the two, making the centre bay look recessed. This example is unexpectedly gabled rather than hipped, perhaps because of its town setting. It has been extensively remodelled for shops, behind a brick facade. This has largely disguised the original Wealden building, but a fine crown-post roof remains, and this is exposed inside for the interest of visitors. The previously estimated date was *c* 1500. The equally remarkable cross-wing did not have suitable material for tree-ring dating, but is believed to be earlier.

GOMSHALL, see SHERE

GUILDFORD, Castle Arch (SU 9971 9424). TRS*#, *VA38*

Felling date: roof of centre range, ***c* 1553, winter 1553/4**

Castle Arch is owned by Guildford Borough Council, and houses Guildford Museum. It is a picturesque building abutting the 13th century arch of the castle's northern gateway and running up Castle Hill (fig 39). It is in three parts – a centre portion and two cross-wings – all attractive in brick and stone and tile hanging. The three parts go from three storeys to two as the building climbs the hill. At least the east wing is thought to be broadly contemporary with the centre range, although this cannot be established with any certainty. A stair turret to the rear could also be contemporary. There have been many alterations over the centuries and few timbers remain. The two wings do not have sufficient timbers for tree-ring dating.

The centre range is the presumed first build. The roof is well preserved, with four short bays and the eastern one containing a chimney. The northern side of the structure has in-line butt purlins with

butt rafters, changing to clasped purlins with queen struts for the chimney bay. The southern side is a mixture of the two styles. One of the front purlins is set higher and chamfered, perhaps to allow for a dormer or, more probably, a front-facing gable. On the ground floor, a transverse beam spans the centre, with an equally fine spine beam running west. Both are chamfered with pyramid stops and lamb's tongue stops. A doorway to the stair turret is arched and ornately carved. A doorway alongside is equally impressive. This could all be later work.

It was thought that a certain John Carter may have built the house, possibly around 1630 according to some documents (*VCH* 1911a), and that date is in accord with the few stylistic dating features remaining, including the brickwork. However, the tree-ring date shows that it was built about 75 years earlier than that. It is a very early date for a brick house in Surrey and leads to the conclusion that the central range was originally timber framed and later bricked over. It seems likely that Carter was responsible only for the conversion. The date remains surprising for a chimney house and it is one of the earliest dated in the county. Later a rear wing was added, dated by inscription to 1672.

GUILDFORD, 49/50 Quarry Street (SU 9967 4929). NU#, unpublished
Felling date: **1583**

49/50 Quarry Street is a timber-framed building of three storeys. It has been refronted in brick in the Georgian style, probably in the 18th century. It has parapets with a modillioned eaves cornice, string courses, casement windows and a door frame. No 50 is set back slightly and is now a shop. The building has yet to be fully recorded.

GUILDFORD, The Royal Oak, 15 Trinity Churchyard (SU 9991 4945). TRS*, TBP
Felling dates: **c1416, winter 1416/17**

Note: this is a recent dating and is not included in the report graphics or analysis.

Nos 13, 14 and 15 Trinity Churchyard are a contiguous row at the end of the churchyard behind Trinity church, which is near the top of Guildford's High Street. Nos 13 and 14 remain from a medieval open-hall house, that used to be the rectory. No 14 was originally a two-bay open hall and can now be called the central range. No 13 is at the service end of the hall. It is now a small cross-wing, and can be called the east wing. To the west, No 15 is a much larger cross-wing, which is now the Royal Oak public house.

The Royal Oak is the dominant feature of the row. There are three bays and two storeys. It had one large room below and one large room over (now sub-divided). It may have been a 'church house'. (For a description of this type of building see, for example, Friar 1998.) They were built by the parish for fund-raising 'church ales', and to provide a room for the vestry and other meetings. (Such facilities became more necessary when fixed pews were introduced into churches.) Certainly the whole of the first floor appears to have been a 'grand chamber'. It would have been open to the spectacular crown-posted roof, which is still intact.

The roof is half-hipped, but was originally gabled. The crown posts are chamfered and sit on moulded bases. Like the east wing, the build was jettied towards the church, though it is now disguised by two arches supported on pillars. Much is now covered, but at first-floor level one principal post survives, complete with double hollow chamfers, the inner ones carried down from the braces – a very fine decorative feature. There is a stone-lined cellar. The previously estimated date for the building was *c* 1500.

To the west is a small one-bay, two-storey, lateral wing, apparently contemporary. It has a single crown post, standing on the wall plate of the main build. It was hipped but converted to a gable. It could have contained the staircase, or smaller rooms for parish events. It did not have timbers suitable for tree-ring dating.

HAMBLEDON, Great House Barn (TQ 9675 3955). TRS*, *V437*
Felling date: **winter 1750/1**

Great House Barn is a quite late barn, but well-built and remarkably long. There are eight bays of the original build, divided into a threshing barn of five bays and a stable block of three bays, totalling 28m. In addition, there are four more bays of a newer build, making a total length of 42m. It is almost all under a uniform catslide roof, a dramatic sight in front of Great House. The walls rest on high stone plinths and have staggered girding beams with some straight down braces. The posts are without jowls. One side has a later outshot running almost the entire length of the building, producing the catslide roof. An original porch remains fossilised under the later outshot. The roof has staggered butt purlins, with straight raking struts. The two intermediate trusses of the stable block have collars and vertical queen struts. There is a ridge board and a very few straight windbraces. There are face-halved scarfs. The previously estimated date was mid-18th century.

HAMBLEDON, **Maytree Cottage** (SU 9672 3844). ODL*, *VA31*

Felling dates: **winter 1558/9** and **winter 1559/60**

Maytree Cottage is a 2½ bay house with an end smoke bay. The floor in the hall seems to have been inserted, leading to the suggestion that it might have been built as an open hall with a smoke bay at one end and a floored bay at the other. This is an extremely unusual transitional arrangement, termed an 'open hall with smoke control' (see also Old Pound Cottage, Chobham). Another possibility is that it was an 'alteration from inception', with an open-hall frame modified at the beginning. The half-hipped roof has clasped purlins with queen struts and curved windbraces but the central truss has raking queen struts. The posts are without jowls and the walls are framed with curved down braces and half-bay posts in the hall.

HAMBLEDON, **Vann** (SU 9827 3755). ODL#, *VA31*

- (a) Primary phase, felling dates: **summer 1541, summer 1542, winter 1542/3**
- (b) Inserted smoke hood, felling date: **winter 1593/4**

Vann is a three-bay medieval timber-framed house with one central bay open to the roof and floored end bays. There are arch braces in the wall framing, jowled posts, and a clasped-purlin windbrace roof with three queen struts between tie and collar. Subsequently, the open hall was part-floored over and the hearth was confined to a smoke bay. Later, during the early 17th century, a brick chimney was built within the smoke bay. The estimated dates, *c* 1500 and for the inserted smoke hood *c* 1550, were both about 50 years too early. The tree-ring date for the house shows it to be very late for an open-hall house, one of the latest in the county.

In the last decade before 1700, a fine brick parlour house with its own stair was added on the south end. This building has two storeys, a cellar, attics and an external chimney. The house was enlarged by W D Caroe who came there in 1901. The garden was inspired by Gertrude Jekyll, who lived in the area.

HAMBLEDON, **Vann Barn** (SU 9827 3755). ODL#, *VA31*

Felling date: **1547–53** (spot date)

This five-bay boarded barn has been adapted as a reception room. Originally it had been a three-bay barn with a clasped-purlin roof, at the end of which had been added a two-bay stable with a staggered-butt-purlin roof structure. The imaginative

adaptation added a gallery over an enlarged entrance porch, lined the whole building with wide boards, and added a bay window on the south end. The estimated date (probably early 18th century) was unusually inaccurate, probably because of the alterations. On the other hand, the tree-ring date is from a single timber so cannot be relied upon.

HASCOMBE (Loxhill), **Markwick Farm** (SU 9945 3820). ODL#, *VA31*

- (a) Primary phase, felling dates: **summer 1407, winter 1407/8, summer 1408**
- (b) Inserted floor, **1581–1613** (spot date)

Markwick Farm, Loxhill, is a medieval open-hall house with a crown-post roof. It originally had four bays, but the easternmost bay has been replaced with a cross-wing containing a quality 17th century staircase. The hall is of two unequal bays with an arch-braced tiebeam truss with a plain square crown post over. No further details are available.

HASCOMBE, **Markwick Farm Barn** (SU 9945 3820). ODL#, *VA31*

Felling date: **spring 1623** (spot date)

A large timber-framed barn stands to the southwest of the house, retaining much of its original wall framing. No further details are available.

HASLEMERE, **East Garden** (SU 9065 3260). TRS*, *VA38*

Felling dates: **spring 1594, winter 1594/5**

East Garden, named after its fine historic garden, is at the foot of Museum Hill in Haslemere. In appearance, it is attractive Victoriana, with an Arts & Crafts appearance. There are face gables, abundant tile-hanging and a stone and timber veranda to the front. It is now a large house, but encases a timber-framed building of 4½ bays. This is made up of a 2½ bay, central-chimney house, with apparently later bays added at each end. The original timber framing is incomplete, but of high quality. Raking-queen-post trusses remain either side of the central half-bay. The posts are without jowls. There are well-cut spine beams on the ground floor, with chamfers and lamb's tongue stops. The chimney includes some early brickwork, and there are signs of smoke-blackening on some of the rafters, so the archaeology is not entirely clear. The previously estimated date was *c* 1600.

HASLEMERE, **Hazelhurst** (SU 9017 3433).
TRS*#, VA44

- (a) Hall range, felling date: **winter 1412/13**
- (b) Kitchen, felling dates: **winter 1494/5**

Note: this is a recent dating and is not included in the report graphics or analysis.

Hazelhurst is set in the wooded hills outside Haslemere. It is now a large and complex house, united under tile-hanging. The oldest part consists of three bays that remain from a four-bay medieval open-hall house, the parlour bay having been lost. The roof is hipped and of clasped-purlin construction with two crown struts remaining. That over the open truss is octagonal with no braces. The other is square section with down braces. There are great sagging windbraces, of which five remain, pegged top-and-bottom (more of a Hampshire style, the border being only 3 miles away). The principal rafters have tenons rising up into the purlins. This might be a local fashion and possibly connected with it being an early side-purlin roof. The posts are jowled and some massive arch braces remain, decoratively placed in pairs. The open truss is extraordinary. A huge tiebeam, 62cm deep, is supported by arch braces 51cm wide. There are hollow chamfers along both the arch braces and the tiebeam, coming together to form a double chamfer in the centre. Equally surprising, there is a durn door on the rear wall, formed of just two massive timbers. This is a rare feature, usually considered to be 14th century in date.

There is evidence from the carpenter's marking out that the open-hall window was tight to the upper bay post. This is indicative of an internal jetty at the high end of the open hall, as without the parlour wall being recessed, the hall window would have been too close to the top-end bench. Some small square panelling is visible outside, but this is added and simply conceals the larger panels inside. Later a striking chimney with back-to-back hearths was built, nearly filling the smaller of the two open bays. The previously estimated date for the building was early 15th century.

Leading back through the durn door, through a gap now bridged over, is a two-bay build believed to have been a detached kitchen. It was probably a 'half-floored hall', two bays but with only one bay open to the roof. This is sometimes called a 'boot-shaped' hall. Both of the two bays are smoke blackened, which would not be expected, so some kind of leakage or rebuilding may have taken place. The roof was hipped with clasped purlins and queen struts. There are substantial jowled posts and arch braces. The previously estimated date was

late 15th century. Later a central chimney was inserted with an inglenook hearth and bread oven.

HASLEMERE (Shottermill), **Rose Cottage**
(SU 8828 3253). TRS*#, VA37

- (a) Primary phase, felling date: **c 1453–84** (spot date)
- (b) Parlour bay, felling dates: **spring/summer 1584, winter 1585/6**

Rose Cottage is a solidly built, three-bay open-hall house, now attractively tile hung. It is situated by the side of the infant river Wey, which at this point is the border with Sussex, and also close to Hampshire. The roof is hipped and of clasped-purlin construction with fan trusses (crown struts to collars, augmented by curved raking queen struts). This beautiful structure is rare in Surrey, but occurs more often in neighbouring Hampshire. The posts are heavily jowled and the walls have broad, arch braces. There are chamfers and flat step stops to the wall plates. The one-bay hall had an internal jetty at one end and an overshot cross entry, with evidence of spere screens, at the other. The previously estimated date was late 15th century.

An equally well-timbered parlour bay with an end jetty was added at the north end. Inside, there are heavy, cruciform (ie axial and transverse) main joists, ornamented with lamb's tongue stops, and the posts again are jowled. The roof is of clasped-purlin construction, with raking queen struts in the inner truss and a three-queen-strut structure in the gable end. In the gable, the principal rafters diminish, but not in the other truss. The previously estimated date for this bay was c 1600. After a smoke-bay phase, a cruciform chimney was inserted. Later still, a three-bay building was added to the west, reputedly for the skinning or tanning trade which took place here.

HASLEMERE, **The Yeoman's House** (SU 9006 3419). TRS*#, TBP

Felling date: **1435**

Note: this is a recent dating and is not included in the report graphics or analysis.

The Yeoman's House stands next to the more modern Inval House, on a hill above the town of Haslemere. It was a three-bay, open-hall house, with the central bay open. It had an overshot cross passage and an internal jetty. The roof is hipped with crown posts, the posts being braced two-up and two-down. There are jowled posts and arch braces in the framing. One of the tiebeams is massive, some 40cm deep at its centre. Originally there was some close studding in the walls, and a

part has been restored. There is an ornamental V-brace at the high end of the hall, behind the site of the high table. The walls are now bricked, with some rendering and tile hanging. The previously estimated date was *c*1470.

Later, the hall was ceiled over and a large central chimney inserted. The house has suffered seriously from neglect, but has now been restored carefully and in style.

HOLMWOOD, Betchetts Green (TQ 1684 4469)
Documentary date: **1593**

Betchetts Green is a typical 2½ bay, end-smoke-bay house. The walls have small square panels and down braces in the framing. The posts have jowls. The roof is gabled at the smoke-bay end and probably also at the other end, although this cannot now be verified. It has clasped purlins and queen struts. The presence of windbraces could not be ascertained. Research by the owner, Frances Mountford, shows that a John Symonds, of Dorking, was granted a rood of land at Betchett Green in 1592 and a further rood in 1594, at which time the court of 20 May 1594 stated that he held a cottage there. It is presumed that he built the cottage shortly after obtaining the land between 1592 and 1594.

Later a chimney was inserted into the smoke bay and an extra bay added beyond the smoke bay. An outshot was added at the back.

HOLMWOOD (Blackbrook), Waterlands Farm
(TQ 1843 4583). TRS*#, *VA37*

Felling date: **winter 1589/90**

Waterlands Farm is an interesting transitional building in the countryside between Dorking and Newdigate. It has 2½ bays and two storeys with an integral attic. It appears to be a typical, timber-framed, central-smoke-bay house, with a framed half-bay, and a half-hipped roof with gablets, but there are some variations. There are jowls, but only on the corner posts. These are normally 16th century features. Then there are features more normally found in the 17th century, including original pentice roofs and boxed oriel windows with ovolo mouldings, glazed from the start. There are sagging ornamental braces under a first-floor girding beam. The chamfer stops are a later type: lamb's tongue stops. The roof is of clasped-purlin construction with three queen struts in each truss and straight windbraces. The smoke bay was bypassed in the roof space to allow access between the attic rooms. The previously estimated date was early 17th century. Later, a chimney was built in

the smoke bay, and a small rear wing added soon after.

HOOKEWOOD, see **SALFORDS & SIDLOW**

LEATHERHEAD, Rowhurst (TQ 1582 5860).
TRS*#, *VA37*

- (a) Rear wing, felling date: **winter 1345/6**
- (b) Front range, felling date: **spring 1631, winter 1631/2**

Rowhurst is in the countryside just outside Leatherhead. It has two main phases. An older timber-framed wing nestles behind an impressive brick house, which has 2½ storeys and a full-footprint cellar. The English-bond brickwork has brick-mullioned windows, a string course and curved brick window heads lighting the cellar. It has a huge lateral chimney ornamented by a diaper pattern formed with flints. The building is exceptionally wide (7.2m) and only two bays long, so is almost square. The roof is well built, with butt purlins in-line and butt rafters, but no windbraces. A wall plate carries a face-halved scarf. A transverse beam is chamfered with an ornamental chamfer stop: a lamb's tongue stop with an added ridge and a raised triangle. The ground floor joists have diminished haunch joints, but those to the first floor have plain tenons. The previously estimated date for this build was early 17th century.

The older, timber-framed, rear wing has two bays and has clearly been raised and rebuilt. It may be from elsewhere but is more likely to be a remainder from an earlier build. Perhaps it was a parlour wing, added to an even earlier house, but retained to act as a service wing to the new brick build (a practice sometimes called 'alternate rebuild'). It would have been raised to match the ground floor of the new brick build, which was particularly high, perhaps because of the large cellar. The roof of this rear wing is now gabled with clasped purlins, queen struts and no windbraces, but the effects of the rebuilding are uncertain. The end walls have arch braces in the framing, but the side walls have down braces. The posts are not jowled. The joists in one ground floor bay are plain, but in the other they are hollow chamfered with a hollow curved step stop, which is rare in Surrey.

The previously estimated date for the rear wing was late 16th century. The tree-ring date is two centuries earlier and was a considerable surprise, although there is no reason to suppose that it is not valid. The date comes from five of the main structural timbers: two wall plates, a post, a tiebeam and a girding beam. It would seem that it was rebuilt at the same time as the front range was

built, the main timbers being reused, but the roof replaced in a much newer style. Some of the wall framing also seems to be later. It is interesting that the posts are without jowls, which can be a very early feature as well as a much later one.

LEIGH, **Old Swains Farm** (TQ 2322 4628). TRS*#, *VA41*

Felling date: **winter 1469/70**

Old Swains Farm is in Wealden country south of the North Downs. It was a medieval open-hall house of four bays with the remains of some fine ornamental features. The two-bay open hall has a pair of fan braces at the high end (27cm wide) behind the site of the high table. The doorway to the parlour had a four-centred-arch doorway with carved spandrels, a portion of which remains. The open truss had hollow chamfers along the tiebeam and down huge, five-pegged arch braces, solid almost into the apex. At the service end, there was a central passageway between the usual two service doors, presumably leading to an outside kitchen. The walls have heavy jowled posts and evidence for arch braces. The roof has been rebuilt with raking queen struts but was originally of crown-post construction, apparently without down braces, which is unusual. A part of the collar purlin has been reused as a side purlin. There are indications of a louvre and a large, intact bacon loft. The previously estimated date was late 15th century.

Later, a parallel wing in a 17th century style was abutted. Perhaps at about the same time, a chimney was built on the rear wall and a striking, fretted partition was added to form a cross passage.

LEIGH, **Parkhouse Farm** (TQ 2171 4434). TRS*, *VA36*

Felling date: **1364–96** (two spot dates)

Park House Farm is an exceptional open-hall house of four bays, two of which were open. The roof is of crown-post construction. The quality is high. The high end had an internal jetty with decorative bracing below and above. The original open truss has very long arch braces, tied to the heavily-jowled posts with spandrel struts, an archaic feature. The crown post has four upward braces and is chamfered and stopped, with a cushion base and a bowled and angled capital. Such a level of ornamentation is rare in this area. Throughout, the timbers are exceptionally heavy (the joists in the parlour are for the most part 30cm wide). The previous dating estimate was late 14th century.

There is an equally fine, slightly later, face wing,

also with a crown-post roof, carefully integrated into the structure. There was a smoke-bay phase and then a chimney was added. At this time, the hall was floored over and the service end rebuilt. (Some evidence remains that there may have been an overshot cross entry.) A porch was also added, using some old timber.

LIMPSFIELD, **Tenchleys Manor** (TQ 4213 5097). TRS*, *VA38*

(a) Parlour wing central bay, felling dates: **winter 1598/9, c 1599**

(b) Parlour wing western bay, felling dates: **winter 1599/1600, spring 1600**

Tenchleys Manor stands on an ancient once-moated site in a rural situation south of Limpsfield. The original plan is thought to have been H-shaped, with a hall range separating parlour and service wings. This footprint is the basis of what stands today. The service wing is now modern. The hall range and parlour wing were almost entirely rebuilt, either in the late 16th or early 17th century, to a remarkably high standard, and were the subject of the dating exercise. Only the parlour wing was sampled, but there is evidence (similar styling and a shared post) that the two ranges are coeval. The parlour wing is of three bays running approximately west–east. There are 2½ storeys in total, as well as a cellar. The easternmost bay is lower and quite modern, but mouldings, for a door cut into the last surviving principal post, identify it to be a replacement of an earlier bay or bays. The central and western bays together present a most appealing southern aspect. This is the aesthetic highlight of the house, a very tall frontage with heavy timbers and a chequerboard of small panels without bracing. There are four large windows, two of which are T-shaped. Originally, they were all set forward as part of two full-height bay windows. All four windows were T-shaped, the smaller, upper parts being set back into the main wall. This was a fine example of ‘frieze fenestration’, in which the glazing, on both storeys, was almost continuous across the facade. There are double wall plates separated by short studs, which are an essential part of the ‘dropped-tie’ method of building construction.

The walls rest on a stone plinth. The posts are jowled. The roof is gabled, of dropped-tie construction, with butt purlins in-line and no windbraces. The wing was heated by two chimneys, one an end chimney, the other a central chimney. Both carry high, ornamental, diagonal stacks. There is much internal decoration, with carved stone fireplaces and decorative panelling.

Windows and joists are ovolo moulded. The previously estimated date was early 17th century.

There is evidence that, although they are very similar in styling, the two parlour bays are of slightly different dates. The wall plates are not continuous and the rails are at slightly different levels. There is at least one blocked window in the partition between the bays. The carpenter's marks are also revealing: studs under the top plates of the central bay are numbered one to three running west–east, whereas those of the western bay, also running west–east, are numbered upwards from twelve.

The dendrochronology confirmed the difference in the dates, but showed it to be very slight. Some timbers were converted from trees felled in the spring of 1600, a little after the rest, but these were only found in the western bay, and there is a lack of cross-matching between these timbers and the others dated. It is thought that some of the timbers used in the western bay were from a different source. The bay does not appear to have been part of the original plan. It is suggested that the addition of the bay was a change of mind during construction in 1599 and that there was not enough timber ready for the extra bay and more had to be obtained from a different source. A slight delay ensued and the additional bay was finished in 1600.

LINGFIELD, **The Guest House** (TQ 3887 4383). TRS*, *V438*

Felling dates: *c* 1472, winter 1473/4

The Guest House (fig 28) is said to have been built by, or for, Lingfield College, a monastic college, which had been founded by Lord Cobham in 1431. It is an exceptional and well-preserved example of a medieval Wealden building. This is an impressive style of open-hall house, with the end bays jettied forwards and a flying wall plate joining the two, making the centre bay appear recessed under a rectangular roof. The building now has four bays, of which two were open and are open once more, following careful restoration. There is clear evidence that the building continued for at least one more bay. This gives some credence to the local belief that it was a guest house for visitors to the College. In style, it is noticeably foreign to Surrey, with echoes of Hampshire. The connection could well be ecclesiastical, to the diocese of Winchester.

The roof is gabled rather than hipped, as would be normal in a Wealden house. Nor has it a crown-post roof; it has clasped purlins, the open truss having a crown strut, and the other two trusses having queen struts. The windbraces are pegged rather than nailed at the top where they meet the

purlins, another feature that is rare in Surrey except in the west. The open truss is spectacular, with a hefty crown strut sprouting two curved braces to the collar. Hollow chamfers run across the tiebeam, along curved arch braces, and down the principal posts. The chamfers finish in curved step stops, also 'hollow', another feature rare in Surrey. There are carved corbels supporting the braces. The open hall had an overshot cross entry and spere screens.

The walls are close studded. The frontage has raised half-rounds on the principal posts and crenellated mouldings under the eaves (a motif repeated on the dais beam at the high end of the hall). The southern bay is the high or parlour end and faces the church (which is full of in monuments to the Cobhams). Like the northern bay, it is jettied forward but, in addition, the jetty turns the corner and runs along the end wall. This is achieved by means of a dragon beam and post arrangement, impressive both inside and out. The building is now in the care of Surrey County Council and is in use as a local library. One of Surrey's finest buildings, it can be enjoyed freely. The previously estimated date was late 15th century, rather later than most Wealden houses. At some stage, the house was divided into three cottages, and some minor partitions and chimneys from various periods remain. There are further extensions to the rear and to the north end.

LINGFIELD, **Oat Barns** (TQ 3768 4339). TRS#, *V441*

Felling date: winter 1476/7

Oat Barns (originally Mitchells Farm) stands outside Lingfield village in Wealden country. It was an open-hall house of three bays, with a fourth bay, apparently coeval but with no interlinking doorway. Although of just one bay, the hall would have been impressive. It had an overshot cross entry to give more space and may have had an internal jetty, although this is not clear. Two cross saltires in heavy timber adorned the wall over the high table site. This is a rare feature and one of them remains intact. Equally unusually, there is evidence for a gallery across the hall, linking the two floored bays. This has been recognised in only one other Surrey location (Wyndrums, Ewhurst).

The walls had arch braces in the framing and substantial jowled posts remain. The roof has been rebuilt but was originally hipped and of crown-post construction. The fourth bay seems to be contemporary rather than added. Certainly it had a crown post in the dividing wall, which would not have been the case on a hipped end. The dividing wall is ornamental, with long, curved fan braces.

These, with the arch braces springing from the posts, would have made a fine pattern of four in the upper room. The lack of an interlinking doorway is perplexing. The bay could have been a kitchen or service room of some kind, but is more likely to have been a widow's quarters. The decoration lends credence to this possibility. The dating of the tiebeam in the north-east end truss (felling date range of 1475–1507) supports the view that the fourth bay is coeval with the other bays, although it is still possible the bay was built slightly later.

The previously estimated date was late 15th century. Later, chimneys were added at both ends and various extensions made to the rear.

LINGFIELD, **1–3, Rose Cottages** (TQ 3855 4359). TRS*#, *V438*

Felling dates: **winter 1496/7, winter 1498/9**

1–3 Rose Cottages together comprise a medieval, three-bay house in the Wealden style. This is a spectacular form of an open-hall house, with end bays jettied forwards and a flying wall plate joining the two, making the centre bay appear recessed under the rectangular roof. At Rose Cottages, the feature is no longer visible, as the whole of the front wall has been brought forward, and the first floor tile hung and weatherboarded. The function of the bays is uncertain. The eastern end of the hall has a fine, moulded dais beam, which would normally be at the parlour, or high, end. The western bay has evidence for an overshot cross entry, to give more space in the hall, and this would be within the service bay, or low end. But there are elaborately chamfered joists in the western bay and plain joists in the eastern bay, the reverse of what would be expected. One possible explanation is that the carpenter made a mistake. There are other indications that the carpenter was not familiar with this type of house. This is by no means unknown and is hardly surprising, given the complexity of a medieval building.

The house is very well-timbered; one of the jowled posts is 40 x 33cm at its head. The building was close studded to the front. The other walls have long, curved down braces. The partition under the dais beam was of timber, and the door through it had an arched doorhead. The roof is of crown-post construction and was originally hipped at the east end and gabled at the other. This again is puzzling and unexplained. There is now an additional bay to the west, beyond the original gable. A rare feature is some combed decoration on two of the roof partitions. There are signs of a smoke louvre over the open hall. The dendrochronological date of this building is very late for a Wealden house in the south-east. Only Little Harts Heath in Staplehurst,

Kent, is later at 1507. The previously estimated date for Rose Cottages was mid-15th century.

LOXHILL, see HASCOMBE

MERSTHAM, **Home Farm** (TQ 289 533). ODL, TBP

Felling date: west wing, **1580–97**

The earliest existing build, including a crown-post roof, was not suitable for tree-ring dating. The wing is a plain two-bay build, with a lateral chimney in the junction with the old build. The roof is gabled and of clasped-purlin construction with queen struts and straight windbraces. The principal rafters do not diminish above the purlins, being simply notched. The posts are without jowls. One dendrochronology sample indicated a date close to the beginning of the range, in the first few years of the 1580s.

MILFORD, see WITLEY

NEWDIGATE, **Blanks Farm** (TQ 2156 4333). TRS*, *V435*

Felling dates: **spring/summer 1581, spring 1582**

Blanks Farm is a high-quality, four-bay, chimney-bay house of two storeys with an integral attic. The chimney bay contains the chimney with, unusually, the stairs and front door to the same side. The roof is gabled, with queen struts pegged to the principal rafters. The collars are placed high, to improve the attic space. There are decoratively placed, heavy, down braces in the external walls. Some are curved, some ogee. Internally, there are sagging, rather than arch, braces to a tiebeam. There is an interesting row of windows under the eaves and above a high rail. These may have been intended to light a workshop of some kind. The previous date estimate was late 16th century.

NEWDIGATE, **Church of St Peter** (TQ 1975 4206). TRS*, *V435*

- (a) Tower, felling date: **c 1525**
- (b) Nave, felling date: **1305–37** (spot date)
- (c) Nave roof, felling date: **c 1522–54** (spot date and sample provenance uncertain)

St Peter's, Newdigate, is a fine, though rather restored, medieval church noted for its magnificent wooden tower and spire. The tower has four huge corner posts (40 x 40cm) with beautifully curved, double-scissor bracing. There are outer posts to hold braces to buttress the main posts. There are two further floors, for a sound chamber and a bell chamber. The whole is topped by an oak-shingled, broach spire. The tower had usually been ascribed to the 15th century.

The nave has a common-rafter roof structure, with collars, soulaces and ashlar pieces, so forming seven-canted arches. One of the tiebeams has a crown strut, but this is not shown on an 1828 painting by Hassell. Much of the church, probably including the nave roof, was restored in 1876/7. The roof could be a rebuild but there were instructions to use as much of the old timber as possible. Hewett (1980) indicates that such roofs, if without crown posts, could be as early as 13th to mid-14th century and this has been confirmed by the Project. However, this type of roof structure appears to have been used frequently during 19th century restorations, perhaps copying earlier structures. The tree-ring date for the nave roof is not good evidence. It is from a single rafter that could be a repair carried out when the tower was built. Alternatively, it could be a reused timber in a later rebuild.

There is evidence for tiebeams at a slightly lower level; the stub of one remains. A sample was taken from this cut tiebeam and produced a felling date range of 1305–37. The stub is in the centre of the south arcade, just below the present cornice plate, and is from an earlier roof. The arcade has been dated on stylistic grounds by Harding and Banks, and by Pevsner, to the 14th century. It is reasonable to assume that the stub is from the roof erected at this time, so its dating supports and refines the 14th century estimate.

NEWDIGATE, **Gaterounds** (TQ 1988 4277).
ODL#, *V433*

Felling date: primary phase, **1579/80**

Gaterounds consists of two phases that together form a T-shaped plan. The leg of the T is the oldest part, since its wall plate supports a wall plate of the cross-wing. The older phase consists of two full bays and a narrow bay, the latter being adjacent to the newer building. There are no blackened rafters but the rafters in the small bay are short, indicating that it once accommodated a chimney. The gabled roof has clasped purlins with windbraces. The frame has jowled posts and down braces. It seems to have been built as a face wing to an older building which has been replaced by the present cross-wing. The previously estimated date was around 1600.

The cross-wing has three bays with a narrower bay in the centre containing the chimney. The wall frame is similar to that in the older phase, but has no jowls. The clasped-purlin roof has dropped ties and is gabled at one end and hipped at the other. Only the older phase was dated and its date is consistent with it being a chimney house.

NEWDIGATE, **Gaterounds Barn** (TQ 1988 4277). ODL#, *V433*

Felling date: **1686/7** (spot date)

A four-bay, boarded threshing barn with raking queen struts and one added bay. The date was taken from a piece of oak cladding, which was thought to be original.

NEWDIGATE, **Greens Farm** (TQ 1939 4119).
TRS*, *V436*

Felling dates: winter **1308/9**, spring **1309**

Greens Farm (fig 21) is one of the finest medieval houses in Surrey – an open-hall house with many extra refinements and the finish of a manor house. It retains many important archaic features. The original floored service bay remains, as does most of the two-bay open hall, although 1m or so was lost when the parlour bay was replaced, probably in the 17th century. The walls have huge jowled posts and upward braces that are straight and of square section – a very early feature. Other very early features include dragon ties bracing the corners and a splayed scarf (technically a ‘simple splayed scarf with counter tongue-and-grooved splay, with four edge pegs’).

The roof is wide and steeply pitched, with long crown posts. That over the open truss has four large, straight, square upward braces. It rests on a cambered tiebeam with massive braces and spandrel struts to the posts. The braces rise from low down (1.5m) and carry a roll moulding that is continuous up to and along the tiebeam. The previously estimated date was late 14th century. There is now a pentice roof across the front of this primary build. The three-bay parlour wing was not tree-ring dated but is thought to be 17th century.

NEWDIGATE, **Home Farm** (TQ 2065 4073).
UCL, *V430*

- (a) Primary phase, felling date: **1351**
- (b) Phase II (lower end of hall rebuild), felling date: **1488–1507**
- (c) Phase III (east wall frame and front door), felling date: **1574–1603**
- (d) Phase IV (rear range), felling date; **1639** (spot date)

Home Farm, formerly called Newdigate Old Place, was the home of the de Newdegate family until 1636. It was a moated house, built round a courtyard. In the closing years of the 18th century the greater part of this quadrangular court was pulled down by John Smith Budgen, a descendant of John Budgen who purchased the estate from the de Newdegates in 1636 (*VCH* 1911b). Only one side was left and that was converted into a

farmhouse and occupied by the bailiff. The remaining part of the old house comprises a two-bay open hall with added timber from other parts of the house. The open truss has heavy jowled posts, arch braces, an arched tiebeam and hollow chamfers. There are spandrel struts, always an early feature. One possibility is that the hall was originally aisled with a base-cruck construction.

The roof is of crown-post construction. The crown post over the open truss is chamfered and of an early type: four upward, straight, square-section braces. There was a rear kitchen wing, accessed by an arched door with hollow chamfers. There have been many changes. The solar was partly rebuilt and extends over an added cross entry. An added truss is fixed into the hall with close studding to make a partition wall to divide the cross entry from the remaining part of the hall. A further wing was added parallel to the kitchen wing, completing the present square block shape.

NEWDIGATE, **Home Farm, East Barn** (TQ 2065 4073). UCL, *VA30*

Felling date: **1484–91**

Three bays remain of this crown-post barn. It stands parallel to the house and almost in-line with its end. There is a small entrance facing the house in the truncated end. There is no framed entrance in the three remaining bays, so it was possibly a seven-bay barn. The posts are jowled. There are mid-bay posts and a full set of twelve down braces in the wall framing. The roof was originally hipped. The crown posts are braced up to the collar purlin and down to the tiebeams in the normal manner. There is strong dendrochronological evidence that the timbers were part of the same batch as those used for phase two of the house. This would reduce the probable felling date range of the barn timbers to 1488–91.

NEWDIGATE, **Home Farm, South Barn** (TQ 2065 4073). UCL, *VA30*

- (a) Primary build, felling dates: **1411–22**
- (b) Eastern bays, felling dates: **winter 1608/9**

The South (Hay) Barn is an eight-bay barn of two builds. The older five-bay barn had a central entrance. Three bays have been added with another entrance. The old barn has sharply jowled posts and several long passing braces remain in the outer walls, some of the sagging variety, some arched. These long braces are an early feature and rise almost from ground level right up to the eaves, passing across the girding beam. A wall plate has a splayed scarf, also thought to be an early feature. The roof is hipped with gablet and originally had

crown posts, but now has raking queen struts. The three added bays are in keeping, but the windbraces are of lesser scantling and straight. The wall framing has no passing braces. The roof of the extension is of clasped-purlin construction with raking queen struts and windbraces.

NEWDIGATE, **Ivy House Barn** (TQ 2194 3938). TRS*, *VA35*

Felling date: **winter 1516/17**

Ivy House Barn is a remarkably complete, crown-post barn, one of only about eighteen known in Surrey. Originally of three bays, it is heavily timbered, with jowled posts and all twelve long arch wall braces are in place. The crown posts on either side of the threshing bay have no side braces, being braced only to the collar purlin. Presumably this was so that there would be no hindrance to stacking from the top of the hay wain. One end was hipped, but the other was apparently gabled for some reason. The crown post in this end frame does have side braces. The previous dating estimate was early 16th century. Two further bays were added at some time. It is interesting that the barn was built at the same time as the house (see below). It would seem to be important to get it built, rather than leave it until later.

NEWDIGATE, **Ivy House Farm** (TQ 2187 3940). TRS*, *VA35*

- (a) Primary phase, felling dates: **winter 1516/17, winter 1517/18**
- (b) Smoke bay cross beam, felling date: **1548–80** (spot date)

Ivy House Farm is an unusually complete, three-bay, open-hall house. There are jowled posts and arch braces in the framing. The roof is hipped with crown posts, both posts being braced up to the collar purlin and down to the tiebeams. Both trusses were closed. The quality is good, with a plank-and-muntin screen and chamfered wall plates. There is evidence for a garderobe, hall windows and a tripartite service bay. There are indications of a smoke-bay phase before a central chimney was inserted. The previous dating estimate was late 15th century.

NEWDIGATE, **Nyes Place** (TQ 2018 4001). TRS*, *VA35*

Felling date: **spring/summer 1607, winter 1607/8**

Nyes Place is a central-chimney house, originally of 3½ bays. It has two storeys, but with an integral attic. It is of dropped-tie construction, with jowled posts, some of the jowls being very long, so as to bridge the gap above the dropped tie. There are

long curved down braces, placed in a central decorative position in the end walls. The roof is half-hipped and covered in Horsham stone. The half-hip gables had fine windows, 1.7m wide, one of which remains. There were additional quite large but unglazed windows in the attic. There is a full-height octagonal newel post for the staircase in the chimney bay. The previous date estimate for this fine building was late 16th century.

There is an unusual second chimney, orientated lengthwise, forming an L-shape with the main chimney. The dating of a bressumer and an associated spine beam from the second chimney indicates that it is original and coeval with the primary build. This, and the many windows, has led to speculation that the building may have had some industrial use such as weaving. A further bay was added, probably later in the 17th century.

NEWDIGATE, **Old Beam Brook** (TQ 2150 4230). TRS*, *VA35*

Felling date: **winter 1540/1**

Old Beam Brook is a remarkably complete, 3½ bay, central-smoke-bay house with a hearth-passage plan, unusual in Surrey. The cross entry runs behind the smoke bay and is a part of the end bay. Another unusual feature is that the expected divided service bay is at the other end, beyond the hall. The roof is of clasped-purlin construction with queen struts and windbraces. The principal posts are jowled. The end walls have down braces, although there is no evidence of such bracing in the side walls. The previous dating estimate was mid-late 16th century. Later a chimney was built in the smoke bay. More recently, a porch was added to the front and a barn at the back was incorporated.

NEWDIGATE, **Reffolds** (TQ 2003 4320). TRS*#, *VA37*

(a) Main range, felling dates: **spring 1606, winter 1606/7, winter 1607/8**

(b) Parlour wing, felling date: **winter 1610/11**

Reffolds is a high-quality house of some distinction. The earliest surviving part (the main range) is of just two bays: a large hall with an end chimney and a service bay (plan, fig 40). There are two storeys and an integral attic. There is a continuous front jetty, very unusual in a Surrey rural building. The roof is of clasped-purlin construction with raking queen struts. There are straight windbraces, but only at the four corners. It is gabled, the end away from the chimney having a well-preserved, diamond-mullioned window in the gable to light the attic. Originally, there was a central, front-facing window, either a dormer or,

more likely, a forward-facing gable. (At this point, the roof has a butt-purlin structure, which could have accommodated either.)

The walls have small square panels with curved down braces. The jetty bressumer is finely moulded and is supported by shaped brackets. The posts are without jowls. An old window in the front wall has ovolo-moulded mullions, and had glass from the outset. The rear wall window had unglazed diamond-set mullions. Minor ground-floor ceiling joists are much deeper than they are wide (16 x 7cm) – a feature not usually found until a later date. The previously estimated date was early 17th century. This agrees with documentary evidence confirming that in 1608 the site came into the possession of a saddle-tree maker (an indenture retained with the house). The parlour wing, A–B, was added in 1611. This has a slightly different type of chimney, a lateral chimney on the side wall of the new build, in the gap between the two builds, B–C. There is a later stair wing to the rear not shown.

A parlour wing, with its own lateral chimney, was added to the west. This wing has a large front room with a smaller room behind. The roof is gabled and of clasped-purlin construction with raking queen struts and no windbraces. The walls are now largely bricked, and a Victorian bay window has been added. The ceilings were always plastered and the joists are deeper than they are wide (11 x 6cm). There is a fine collection of lamb's tongue chamfer stops, some with corner shoulders cut into the steps ('shouldered step stops'). There were fireplaces on both floors, a fine moulded clunch fireplace remaining upstairs. The tree-ring dating shows the wing to be an example of building in a quite rapid sequence, contrary to prior expectations. The previously estimated date was mid-17th century. To the rear was another wing, a service wing of some kind. Little stylistic dating evidence remains, but the estimated date was late 17th century.

NEWDIGATE, **Rolls Farm** (TQ 2206 4154). TRS*, *VA43*

Felling date: **1568–84**

Rolls Farmhouse was one of the first end-smoke-bay houses to be recognised in Surrey and it is a good example, with sooting in the roof space. There are 2½ bays in total and it is notably heavily timbered. The roof structure is gabled, with clasped purlins, queen struts and straight windbraces. The posts are jowled and there are almost-straight down braces in the wall framing. The previous date estimate was late 16th century. Later an end chimney was added. Unusually, this was built

beyond, rather than within, the smoke bay, enabling the smoke bay to be incorporated into the hall, where its timbers can be seen.

NORMANDY, Halsey Cottage (SU 9276 5143).
TRS*#, VA37

Felling date: **winter 1510/11**

Halsey Cottage is an unspoilt, three-bay, medieval, open-hall house. The one-bay open hall was quite long (5m) and extended by an overshot cross entry. The roof is of clasped-purlin construction with queen struts and straight windbraces. The principal rafters diminish above the purlins. Although hipped-with-gablet as expected at the high end, it is half-hipped at the service end. This is a rare feature for a Surrey open-hall house, but is demonstrably original. It is useful in giving extra space to an upstairs chamber, but is usually found only later in smoke-bay or chimney houses. The walls have heavily-jowled posts and curving down braces. Surprisingly, in view of the other refinements, the joists have simple tenons, rather than the diminished haunch type expected. The previously estimated date was early 16th century. Later a central chimney was inserted (with a splendidly carved hearth beam that was presumably reused from elsewhere).

NUTFIELD, Charman Cottage (TQ 3033 5152).
TRS*#, VA41

Felling dates: **c 1558, winter 1558/9**

Charman Cottage is set in the meadows of Nutfield Marshes, 1 mile north of Nutfield village. Its structure has been much debated, but it is now thought to have been an open-hall house of only two bays. The ground floor was one single room, open to the roof in one of the bays (a 'half-floored hall'). This is a rare structure, more often found in a detached service building than in an edge-of-common cottage such as this. In contrast to its small size, it is stoutly built. The walls are now largely of Merstham stone and tile hung, but it was once timber framed on all floors. Two of the tiebeams are cranked, quite unusual in Surrey. The principal posts have notably large and long jowls. Many of the timbers are chamfered, although this may not be original work. Three joists have been replaced in the originally floored bay (which has slightly heavier joists). This may indicate the location of the original staircase. The stair is now in the originally open bay, with the shorter joists that trimmed the original staircase reused in the new position.

The roof is of Horsham stone, half-hipped and sooted internally. It is of clasped-purlin

construction with queen struts and curved windbraces. The previously estimated date was mid-16th century. Later, an end chimney was inserted and bays added to the opposite end and to the rear.

It is noteworthy that the next-door Leather Bottle Cottage has been dated to 1550 (see below) so it is possible that Charman Cottage was built to act as its detached kitchen (more properly called a 'detached service building'). It is constructed like that type of building. Further confirmation is part of a will of John Clement of Leather Bottle with a related arbitration award (SHC: 3089/7/1 and 3). Robert and Richard are believed to be two of John's sons. Richard shall have 'all such thinges as lyeth there prepared for the newe house'. The award is dated 29 October 1560. Surely this must refer to the timbers felled in and around the winter of 1558/9 and not yet used in construction, perhaps because of the arbitration. It would seem that John was preparing the building when he died, but his death brought about a splitting of the property.

NUTFIELD, 40–44 High Street (TQ 3076 5055).
TRS*, VA41

Felling date: **c 1551**

40–44 High Street is on the A25, still an important east–west route across the county. It is a three-bay house with a central chimney, this probably being the original form of heating (roof access problems prevented final confirmation). The house is now faced with Georgian or Victorian stone and brickwork, so it is surprising to find timber framing inside and, in particular, evidence for a continuous jetty along the front. The wall framing originally included curved down braces. Whether the posts were jowled could not be ascertained. The roof is of clasped-purlin construction with queen struts and curved windbraces. It is gabled, but was once half-hipped. Some of the ground floor joists have central tenons with soffit spurs – a very unusual feature in Surrey. The previously estimated date was c 1600. Later, two bays were added to the east. Then a bakehouse was added to the rear in the 19th century. A substantial cast-iron oven mouth and door remains.

The dendrochronology date applies to the three western bays, the primary build. It casts some doubt on the classification of the house as having originally had a chimney rather than a smoke bay.

Chimneys are rare at the vernacular level in Surrey until some years after 1550. It leaves open the possibility that it was a smoke-bay or smoke-hood house, this being much more likely at this date. However, the nearby Leather Bottle Cottage has

been dated to 1550 (see below) and is undeniably a chimney house, so the local builder at this time could have been a trendsetter.

NUTFIELD, Kings Mill House (TQ 2980 4913). TRS*, *V441*

Felling date: **spring 1609**

Kings Mill House stands at a crossroads outside the small village of South Nutfield. It is a copybook central-chimney house of 3½ bays and is very well timbered for its period. It has a cellar and an integral attic. The half-bay contains back-to-back hearths and a baffle entrance. There is a stair turret rising from cellar to attic, and is thought to be coeval. The frontage is impressive with a large porch and full-height bay windows either side. This is 19th century work but the bay windows, at least, replace originals. Furthermore, the previous bay windows had additional smaller windows, flanking the bays but set back into the main build, forming a T-shaped outline in each case. Such an ostentatious display of glazing is rare in the county (cf Tenchleys Manor, Limpsfield and Waleys, Ockley, dated by the Project to 1600 and 1656 respectively).

The roof is gabled and of clasped-purlin construction with queen struts and straight windbraces. The walls have small square panels without angle braces. The posts are without jowls. The previously estimated date was mid-17th century. There is an interesting rear wing, originally single storey, raised to two storeys not long after the main build. The wing is now of stone and brick. It has a strong roof with staggered butt purlins.

NUTFIELD, Leather Bottle Cottage (TQ 3027 5160). TRS*, *V441*

Felling dates: **c 1548, winter 1549/50**

Leather Bottle Cottage is a surprising house set in the flat meadows of Nutfield Marshes. It is a four-bay, central-chimney house with a 'hearth passage plan', very unusual in the county. The cross-passage is behind the chimney, and in this case the two together occupy one of the central bays. The other central bay was for an unusually small hall, and was originally separated from the parlour by a fine plank-and-muntin screen, the muntins being hollow chamfered. The hearth was 3m wide, built of local white stone and set to one side of the room.

The first floor has a single chamber behind the chimney, small knee braces allowing easy access between the two bays. This chamber has a circular opening over the cross passage. This may have been a 'hop pocket', for holding a hopsack, into

which hops were packed by treading until full. In front of the chimney are two chambers. The nearer has a fireplace, again of stone, although smaller. There is an integral attic, stretching the length of the cottage and originally lit by windows in the end walls. These windows had diamond-section mullions, so were unglazed. The floors have wide oak boards (40cm). The roof is of Horsham stone. It is half-hipped and of clasped-purlin construction with queen struts and curved windbraces. The walls have jowled posts and curved down braces, now covered externally with bricks and tile hanging. The previously estimated date was late 16th century. Later a single-storey bakehouse was added to the rear.

There is an interesting link to the next-door Charman Cottage, dated 1559 or soon after (see above). The will of John Clements of Leather Bottle has a related arbitration award dated 29 October 1560 concerning his sons Richard and Robert. Richard shall have 'all such things as lyeth there prepared for the newe house'. It would seem that John was preparing the new building when he died, perhaps to serve as a detached service building.

NUTFIELD, The Queens Head, east wing (TQ 3073 5060). TRS*, *V441*

Felling date: **c 1505**

The Queens Head is on Nutfield High Street, which is on the A25, long an important east-west route across the county. The pub, its age disguised by an applied facade, stands behind a miniature green. The main build is probably 17th century, but a wing at the east end is much older and is a relic from an earlier building. The dimensions are curious. The whole wing is 9m long, but the old part occupies only the front 5m: just two bays. Yet it is 8m tall above the ground sill, giving it almost sentry-box proportions. The ground floor has been raised to accommodate a cellar, but both storeys still have generous headroom for a medieval building.

The roof was originally hipped with a crown post roof, the single crown post in the centre having two curved braces up the collar purlin and two down to the tiebeam. (The roof space is not accessible at present). The six principal posts are massive (40cm square.) The jowls have been trimmed back. The ground-floor ceiling cross beam replaces an original. That there was an original beam here confirms that this part of the old building was not an open hall. There are mortices for wide arch braces that would have supported this earlier beam. There is no visible evidence that there was a front

jetty. The previously estimated date was *c* 1400, although there was little evidence, apart from the size of the posts, on which to base an estimate. Later, a lateral chimney was added at the side and a central chimney in the main build. The roof was brought forward to a gable, porches were added and the various ‘mock Tudor’ changes made, giving a harmonious result.

NUTFIELD, South Hale Farm (TQ 3054 4715). TRS*, *V441*

Felling dates: **winter 1558/9, winter 1559/60**

South Hale Farm is in quiet countryside between the villages of South Nutfield and Outwood. It is a central-smoke-bay house of four bays. The smoke bay is unusually wide, 2.9m, not much shorter than the other bays. The depth of the house is 5.8m and the hearth of the smoke bay was entirely to one side of a central spine beam, making the hearth almost square – another unusual feature. The roof is gabled and of clasped-purlin construction with queen struts and curved windbraces. The walls have a particularly fine set of curved down braces. The principal posts are without jowls. There is evidence for unglazed windows with diamond-set mullions, one preserved *ex situ*. The previously estimated date was late 16th century. Later, a timber-framed wing of similar quality was added to the north face. This is probably early 17th century work. A chimney with an inglenook hearth was inserted into the smoke-bay area, perhaps at around the same time.

OCKHAM, Ashlea & Church Gate Cottage

(TQ 0692 5668). TRS*#, *V439*

(a) Primary phase, felling date: **winter 1468/9**

(b) Inserted floor, felling dates: **1587–1619** (spot date)

Ashlea and Church Gate Cottage together make up a remarkable, five-bay, medieval open-hall house, quite close to Ockham parish church. Two bays together comprise a solar, with a fine open truss. This truss has hollow chamfers and five-pegged, arched knee braces. Under the solar is an overshot cross entry and evidence for spere screens. This implies that the service rooms were under the solar, which is very unusual. There was a dividing wall, which would have separated the buttery and pantry. There is evidence for arched doorheads into the service rooms and also for a third, simpler doorway to the rear, presumably to a stairway. The solar was furnished with a garderobe. The windows had square-set mullions (thought to be more of a Hampshire style). They had small mortices, suggesting that the mullions were hollow-

chamfered. This is another reflection of the status of the building.

The next two bays were the open hall, with another fine open truss. This has hollow chamfers along both the arch braces and the tiebeam, coming together to form a double chamfer in the centre.

The fifth bay seems to have been undivided originally and would have been the parlour bay. There are two pairs of decorative braces at this high end of the hall, over the site of the high table, and also high-end bench peg holes. The roof is of clasped-purlin construction with queen struts and curved windbraces. The windbraces are pegged at the top – perhaps another Hampshire influence – and the rafters are pegged to the purlins. The posts are jowled, and there are curved down braces in the framing. The previously estimated date was early 16th century. The tree-ring date is remarkably early for a clasped-purlin roof in these parts of Surrey. It would be much more usual in western Surrey and hints at the possible involvement of the diocese of Winchester. The proximity to the church lends weight to the theory.

It should be noted that the samples taken from the solar end failed to date, which tentatively suggests that the timbers may not be coeval with the hall timbers. Later, the open hall was floored over and a smoke hood inserted, to be replaced later still by a brick central chimney. A further timber-framed build was added beyond the parlour bay (‘The Cottage’). This is simple work, probably late 17th century.

OCKHAM, Bridgefoot Farmhouse (TQ 0569 5697). TRS, *V439*

Felling date: kitchen wing, **winter 1633/4**

Bridgefoot Farmhouse is set beside the stream separating the parishes of Ockham and Ripley. It is a complex, brick building. The first build was T-shaped, a two-bay front range separated from a back kitchen wing by a great chimney stack with backing hearths. This is an unusual plan for Surrey.

The front range is gabled, with butt purlins in-line, butt rafters and a complete set of eight straight windbraces. The central partition between the two bays is timber framed with square panels. This includes straight braces decoratively set in a ‘V’ in the centre of the first-floor framing. The timbering in all four rooms is ornamented with chamfers. The chamfer stops are a complex type of scroll stop, with bar and raised triangle. The rear kitchen wing is just one bay and has a similar roof structure. The inglenook is large, for cooking, unlike the smaller one for the front parlour. There is a bread oven and

a bacon loft. Windows remain with diamond-set mullions. The previously estimated date was early 17th century. The tree-ring date is from timbers in the kitchen wing, but applies equally to the front range, as the two builds are surely coeval.

Later, a new parlour wing was added to the east of the front range. This has its own, diamond-set, double chimney stack at the rear. There is a cellar. The spine beam that crosses the room has a strange spearhead chamfer stop, unknown elsewhere in the county. The junction between the two front ranges was then covered with a fine two-storey brick porch, now the aesthetic highlight of the house. All this work was thought to be mid-17th century. Later still, the north-east corner between the new parlour and the old kitchen was filled with a Georgian extension. This is brick, of two storeys, and with an M-section roof. There are bricks engraved 1727, a date which is thought to be valid.

OCKHAM, **Bridgefoot East Barn** (TQ 0569 5697). TRS, *V439*

Felling dates: **spring 1601, winter 1601/2**

This is the smaller of the two barns in-line at the site. The joining of these barns is in alignment from the front, but the different widths are clearly seen at the rear. The barn is of three bays with outshots front and back. It has a gabled, clasped-purlin roof with queen struts and straight windbraces in the end bays. The posts are without jowls. There are straight down braces in the framing, some full height. The previously estimated date was late 17th century.

The dimensions do not quite fit at the junction with the west barn. This, together with mortice evidence that there was once a central entrance, indicates that the barn was brought in. The tree-ring dating confirms this, being earlier than that for the West Barn, as a later date would be expected had it been added.

OCKHAM, **Bridgefoot West Barn** (TQ 0569 5697). TRS, *V439*

Felling dates: **c 1636, winter 1638/9, spring 1639**

This is the larger of the two barns standing in-line at the site and together they make an impressive sight, inside and out. It is a three-bay, aisled barn with a clasped purlin, gabled roof. There are vertical queen struts in the end trusses and raking queen struts in the centre trusses. The central bay carries a wagon entrance. There are some wide braces in the front and rear outer walls. Straight braces connect the arcade posts to the aisle plates and to the tiebeams. There are straight down braces in the western truss and straight windbraces in the

end bays. Only one post is jowled, but the felling date is slightly earlier (c 1636) implying that it was brought in from some previous use. The previously estimated date was early 17th century. The tree-ring date was something of a surprise, if only because it had been expected to be earlier than the East Barn. However, size is not a good indicator and raking struts tend to be later than queen struts.

OCKLEY, **Buckinghill Farm** (TQ 1545 4185). TRS*#, *V438*

Felling date: **winter 1414/15**

Buckinghill Farm is attractively situated on the now unmetalled part of the Roman road of Stane Street, as it starts to climb Leith Hill just north of the village of Ockley. The farm is of two main builds, the earlier being a medieval open-hall house of four bays, two of which were open. Much of the walling of the open-hall house has been replaced and both ends of the roof reworked, but a fine crown-post roof remains. The open truss is impressive with massive arch braces, 50cm wide and six-pegged. A continuous chamfer runs along the braces and tiebeam. The crown post has four upward braces. The other crown posts are braced two-up to the collar purlin, two-down to the tiebeams. There are heavy jowls to the posts but, very unusually, only in the corners and in the centre one of the five trusses. The previously estimated date was mid-late 15th century.

A parallel parlour wing of 2½ storeys was added, probably quite early in the 17th century. This has a jettied attic storey. It was linked to the main range by a short bridging build, probably contemporary. This wing could not be dated by dendrochronology. Later a smoke bay was inserted in the hall and, later still, a large chimney in the bridging build.

OCKLEY, **Waleys** (TQ 1519 3819). TRS*, *V435*

Felling dates: **winter 1654/5, spring 1656**

Waleys is a four-bay, timber-framed, central-chimney house of exceptional quality. It is pivotal in the sense that it seems to represent the transition between simple, box-style, timber framing and sophisticated brick architectural features. The front has twin forward-facing gables over two-storey bay windows. These have ovolo mouldings over moulded lintels and were fully glazed. Originally, there were smaller windows, flanking the bays, but set back into the main build, forming a T-shaped outline to the window. All these features are thought to be part of the first phase and are unusual in a heavily timber-framed house.

The gabled roof is of clasped-purlin construction with wide, raking, queen struts. There are straight windbraces at the corners only. Many of the rafters are sooted from an earlier roof, some of them split to provide two. The roof space is floored at tiebeam level, giving attic storage. The gables had windows to light this space. The main posts are without jowls. Hefty spine beams have chamfers and lamb's tongue stops. Minor joists have simple run-out stops. The walls have good timbers in square panels. The previous dating estimate was early 17th century.

OLD WOKING, see WOKING

OUTWOOD, see BURSTOW

OXSHOTT, see ELMBRIDGE

OXTED, **the Barn Theatre** (TQ 3948 5307, ex Limpsfield, TQ 402 533). TRS*#, *V441*

Felling date: **spring 1434**

The Barn Theatre is an imposing six-bay aisled barn. It was transported in 1923 from Limpsfield (NGR: TQ 402 533), where it was located near the sawmill. It is much altered, but twelve great arcade posts remain. The arcade plates, tiebeams, arch braces and roof timbers are replacements. Mid-rails and a number of struts appear to be old but may not be original. A painting of the interior as it was in Limpsfield shows two very long arch braces in two of the trusses. These rise from close to the ground on the arcade posts, and arch across towards the centre of the tiebeams. No mid-rails are shown.

The truss at the south end has two of the great posts. The next truss has brick (or brick encased) piers but a timber tiebeam. There are then five more pairs of posts going north. The first two pairs of these are slightly different. They are heavier and have mortice evidence for the long arch braces shown in the painting. The filled-in mortices are only 1m from the top of the brick bases that all the posts possess. All the posts have large jowls. There are arch braces in the arcades, replacing similar originals. The roof is hipped and of queen-strut construction, but is a replacement.

There was little previous evidence for dating on stylistic grounds, but jowled posts of this size are usually 15th century, and this was the estimate. The four slightly heavier central posts with mortice evidence for long arch braces did not date, so the possibility that these four different posts and the other eight are from different buildings or parts of a building, cannot be discounted. However, the

overall similarity of the posts suggests that they are most probably coeval.

OXTED, **Barrow Green Court** (TQ 3801 5305). TRS*#, *V440*

(a) Primary build, felling dates: **winter 1590/91, winter 1592/3, winter 1593/4**

(b) Short rear wing, felling dates: **winter 1591/2, winter 1593/4**

(c) Pine wing, felling date: **winter 1756/7**

Barrow Green Court is a considerable Jacobean-style mansion just outside Oxted. It is a complex brick building of many periods, but the first build, as far as can now be seen, is the L-shaped combination of the east and south ranges. The east range has three eastward-facing gables forming a continuous facade. The south range runs back from the most southerly of these gables and is a remarkable seven bays. It is unusually wide and very heavily timbered. Aesthetic features of both ranges include the parapet gables, fine brickwork and doorcases, and striking diamond-set chimneys – 21 flues in total.

The roof of the south range was accessible for dendrochronology and is believed to represent the whole of the primary build as described. The construction style is butt purlins in-line, without windbraces. The previously estimated date was early–mid-17th century. The tree-ring date is substantially earlier than this and shows that the building was not only grand, but also pioneering in its use of the aesthetic features mentioned. The dating also shows that it should now be referred to an Elizabethan mansion, rather than Jacobean.

Running backwards from the west end of the south range is a short rear wing, starting to form a square. This is of similar construction and was believed to be contemporary. The dendro-dating has confirmed this. Running backwards again from this short wing, and roughly in-line with it, is the 'Pine Wing', getting its name from some interior furnishings. It has a different roof structure: staggered butt purlins, again without windbraces. In the centre of the ridge is a lantern and bell. The previously estimated date for this wing was mid-17th century. The tree-ring date is substantially later than this, but the roof type was in use for a long period.

OXTED, **Oxted Court Farm** (TQ 3905 5294). TRS*#, TBP

Felling dates: **spring 1610, winter 1611/12, winter 1612/13**

Note: this is a recent dating and is not included in the report graphics or analysis.

Oxted Court Farm lies on the northern edge of the small town of Oxted, next to the church. It is a large central-chimney house of 3½ bays. A later bay was added to the western end, the whole making a striking frontage facing the church. The half-bay holds two inglenooks. One is particularly large, meant for cooking and serving the original farm kitchen. The other inglenook is smaller, just to heat the parlour. The ceiling heights and room dimensions add to the impression of a house of considerable status.

The roof structure is of staggered butt purlins, with the rafters butted onto the purlins. There are collars to the trusses and queen struts in the east gable. The chimney is ornate, fluted and capped. In the mid-19th century the house was faced in brick. The likely date of this is 1861, the date on a brick on the rear elevation. There are well-worked, rubbed-brick window heads. No external timber framing remains. A fragment inside is in small square panels (about 1 x 1m) and there are inner principal posts, with jowls, in the corners of the chimney bay. There are lamb's tongue chamfer stops to the spine beams and common joists. Some of the carpenter's marks are unusual, with scribed half-circles. Two unusually large brick ovens remain. The previously estimated date was mid-17th century.

The western bay is of similar construction except that a remaining corner post has no jowls. The first-floor room has heavy, cruciform beams with both lamb's tongue and broach chamfer stops. Another central chimney was incorporated to heat the bay. The date was estimated to be only slightly later than the main build.

There are more modern additions including two porches, a two-storey gabled face wing to the rear, and dormers front and back.

PIRBRIGHT, **Causeway Farm** (SU 9409 5634). ODL*, *V431*

Felling dates: **winter 1556/7, summer 1557, winter 1557/8**

Causeway Farm is a two-storey, central-smoke-bay house of 2½ bays. The half-hipped roof has clasped purlins with queen struts and curved windbraces. There are jowled posts and ogee down braces in the walls.

There is a marked difference between the quality of the rather rough joists in the hall and the chamfered and stopped joists in the parlour. This indicated that they might not be coeval, but the tree-ring dates of the two sets of joists were identical. The previously estimated date was *c* 1550.

A brick chimney was inserted into the smoke bay and, in the late 18th century, a new brick wing was added at the back. At the same time the parlour bay was extended slightly and given a brick facade continuous with that of the wing.

PIRBRIGHT, **Vynes Cottage** (SU 9449 5595). ODL*#, *V431*

Felling dates: **spring 1502, winter 1511/12**

Vynes Cottage was an open-hall house of three bays, with only one floored bay, two bays being open. Unusually, there was a fully-framed, overshot cross entry within the floored bay. The posts are jowled and there are arch braces in the wall framing. The roof is hipped and an early example of clasped-purlin construction, with queen struts and curved windbraces. The previously estimated date was early 15th century.

A framed smoke hood was inserted in the hall backing onto the cross entry. Later still, a chimney was inserted into the smoke hood. The house is now concealed by a 17th century brick facade and extensions of various dates.

REIGATE, **43 High Street** (TQ 252 502). SU, *V421*

Felling date: **1596–1632**

This building is now in the Weald and Downland Open Air Museum. It was originally an extension attached to the stair tower of an older house that had been demolished long before the surviving extension was rescued. It has three storeys, an attic and a basement, and consists of a single bay. The gabled roof has butt purlins with collars and queen struts. The posts are without jowls and the walls are framed with small square panels.

There is a large end chimney with remarkably good fireplaces. However, it is best known for the survival of extensive fragments of decorative wall paintings which have been carefully restored.

REIGATE (Reigate Heath), **Little Santon Farm** (TQ 2264 4927). TRS*#, *V444*

Felling date: **winter 1554/5**

Little Santon Farm is in a rural setting on the edge of Reigate Heath. It is now a large and complex house, united under tile-hanging. The oldest part is a 2½ bay, end-smoke-bay house, of two storeys that always had an attic. The roof is and was gabled. It is of clasped-purlin, three-queen strut construction with curved windbraces, although the end bay (away from the half-bay) has butt purlins into the end gable. Many of the common rafters are smoke blackened, reused from an earlier crown-

post roof. The roof trusses include central vertical struts to the ridge. These can be called 'king struts' although, as they are simply part of the panelling, they are not true king struts. There are jowled posts only at the corners of the building, and there are curved down braces. The two bays on the ground floor are now one room. The spine beam and all the minor joists of the old hearth room are chamfered with curved step stops – unusual in what was a simple farmhouse. The previously estimated date was *c* 1570.

Later, three forward-facing gables were added, giving a large attic storey between gable ends. A chimney with a bacon loft was built in the smoke bay. Then, probably in the 17th century, a cross-wing was added outside this half-bay, allowing back-to-back chimneys to heat both builds. Later again, a front face wing was added to house a front entrance, a hallway and staircase. A chimney with diamond-set flues was added at the west end. Improvements continued, mostly quite recently, with additions at both ends and no less than six fine Reigate stone fireplaces.

REIGATE, Priory School, Bell Street (TQ 2533 5003). UCL, *V435*

Felling date: main range roof, **1553–64**

An Augustinian hospital was founded on the site of the present Priory School in the early 13th century. By the end of that century it had been reordered as a priory, which was dissolved in 1536. Parts of the structure were retained and converted into a country house. An initial survey by Martin Higgins (Surrey County Council) highlighted this roof for investigation. The high-quality eight-bay queen-strut roof over the main range was thought to date from immediately before the Reformation, but is now shown to be part of the country house conversion.

RIPLEY, Vintage Cottage (TQ 0524 5668). TRS*#, *V438*

Felling dates: **c1388, winter 1390/91**

Vintage Cottage is in the centre of the village of Ripley, end-on to the road. It is believed to be the surviving cross-wing from an earlier, or contemporary, house. There are three bays, the rear two bays being a single room on both floors. The rear upper chamber had simple knee braces in the mid-room truss, giving much easier passage than if the truss had had the more usual, longer arch braces. This is good evidence of the room having been floored from the outset. The front bay was jettied to the front – the pressure mark of a jetty bressumer is clear in certain lights. This shows that

this bay would also have been floored. The problem with the building is that the roof is well sooted, including both sides of a partition between the two units. How this can have occurred with none of the bays being open is unclear. Perhaps there was free passage for smoke coming across from the earlier house.

The walls have hefty jowled posts and long passing braces in the framing. These long braces rise from close to the ground right up to the eaves, passing across the girding beams in the process. The roof is hipped to the rear. The front has been altered but would have been gabled above the forward-facing jetty. There are two crown-post trusses. Both crown posts are braced down to the tiebeams and up to the collar purlin. The previously estimated date was early 15th century.

There is an adjoining house in the position of the previous main range, but it is not thought to be the original building. It has not yet been examined but seems to contain some medieval timbers, and there is smoke blackening in the roof.

SALFORDS & SIDLOW (Hookwood), Crutchfield Farm (TQ 2592 4419). UCL, *V430*
Felling date: **middle house, 1439–71** (spot date)

Crutchfield Farm is a large and remarkable timber-framed house. It had four distinct early builds, and some later work. Two open-hall houses with crown posts stand adjoining at right angles. The later of the two is called the middle house, and is much rebuilt, but gave the only tree-ring date to be obtained. The previously estimated date for this part of the house was *c* 1450. A close-studded porch with two storeys was added, jettied on three sides and in-line with the cross entry of the middle house. About 1600, a face wing of two storeys was added. Both porch and face wing have carved bargeboards.

SALFORDS & SIDLOW, The Cottage Staplehurst (TQ 2933 4829)

Documentary date: ***c* 1629**

The Cottage Staplehurst is a good example of a 3½ bay central-chimney house. It has two storeys and an integral attic. There is a lobby entrance in the half-bay and the stairs are in front of the chimney in the entrance lobby, an unusual arrangement. The chimney has backing hearths. The half-hipped roof has clasped purlins and queen struts to each truss. The framing is in small square panels. The documentary date is based on a 1629 lease of the house 'lately erected' (SHC: 371/8/449). An early outshot was added to the rear.

SALFORDS & SIDLOW, **Oakdene**, formerly **Cyprus Farm Barn** (TQ 2931 4650). ODL#, *VA38*

Felling date: **spring 1430**

Oakdene was originally a four-bay, timber-framed, threshing barn. The crown-post roof was hipped with gablets, but gables have been built over the former hips. The walls have a long passing brace in each bay (except for the original threshing bay) and one brace arching up to the mid-rail. There are substantial jowled posts. All the crown posts have braces down to the tiebeams and those on either side of the threshing floor also have braces up to the collar purlin. The added gables have clasped purlins. The previously estimated date was *c* 1500.

SALFORDS & SIDLOW, **Picketts Farm Barn** (TQ 2918 4570). ODL#, *VA37*

Felling date: **spring 1452**

Originally a three-bay barn with a crown-post roof, it has now been extended and partially reroofed. There are jowled posts and evidence for a previously hipped roof structure. The previously estimated date was early 16th century.

SEND, **Old Manor Cottage** (TQ 0389 5575). TRS*#, *VA38*

Felling date: southern bay, **1413–45** (two spot dates)

Old Manor Cottage is on the green in Send Marsh. The southern bay was the parlour bay of an early open-hall house, but now abuts the hall of a separately framed, rather later, open-hall house. The bay has strong framing, with jowled posts and pairs of long passing braces on all three external walls. These long braces rise from close to the ground right up to the eaves, passing across the girding beams in the process. The eaves are low, only 3m. The roof has undergone some rebuilding, but seems to have been of common-rafter construction, another early feature. It was an archaic structure, made up of simple 'A' frames, without any longitudinal support. If the battening were to be removed, the roof would collapse. The previously estimated date was early 15th century.

SHACKLEFORD (Eashing), **Jordans** (SU 9504 4377). TRS*#, *VA37*

Felling dates: cross-wing, **winter 1571/2**, **spring/summer 1573**, **winter 1574/5**

The aesthetic highlight of Jordans is an ornately-built cross-wing to the south-west. It is of three bays, but with the front roof bay divided into half-bays by a truss with principals and braces but no tie. The frontage has square-and-circle panels on

the gable end, together with ogee braces underneath. Originally there was an oriel window. There is close studding, with a mid-rail, on the ground floor. There is a jetty with a moulded jetty bressumer as well as moulded barge boards, the upper parts probably being original. The roof is of clasped-purlin construction and has trusses with three queen struts and with most of the original sixteen curved windbraces remaining. Apart from the front, the walls have small square panels and the posts are without jowls. There is a large lateral (side) chimney with diamond-set flues. The previously estimated date was *c* 1600. The central range is in the Georgian style and has a fine stone and brick frontage. It is probably a rebuild.

SHAMLEY GREEN, see WONERSH

SHERE, **Ash and Willow Cottages** (TQ 0725 4785). TRS*, *VA36*

Felling date: **winter 1493/4**

Ash and Willow Cottages together make up a Wealden house, attractively situated by the Tillingbourne in the village of Shere. This is a type unusual in Surrey, particularly in central and western parts. It is a medieval style, with both end bays jettied forward, but the roof plan is kept rectangular by means of a flying wall plate over the front of the recessed centre. This example has only three bays, though the open-hall bay in the centre was spacious (4.5m long). The moulded jetty bressumers are in place in the end bays and these frontages originally had decorative pairs of curved down braces. There is evidence for a tall hall window. The cross entry is still in place in the service bay, which was originally divided into a buttery and a scullery.

The posts are jowled. The roof was hipped. The two crown posts are braced downwards to the tiebeams with long, curved braces. The only longitudinal braces from the crown posts to the collar purlin are those reaching over the hall bay. There are chamfers and flat step stops to many of the beams, including the wall plates. The previously estimated date was late 15th century. Later, a central chimney was added and the hall floored over. Perhaps at this time, the flying wall plate was removed.

SHERE (Gomshall), **Edmonds Farm** (TQ 0856 4792). TRS*, *VA37*

(a) Solar wing, felling date: **spring 1443** (spot date)

(b) Hall range, felling date: **winter 1472/3**

Edmonds Farm is a substantial, medieval building, a superior build with an unusual plan. The archaeological highlight is a solar wing with a remarkable central truss. Five bays of the main range remain, including a large open hall, probably of three bays itself. A fragment of a finely-moulded beam survives. This is not quite in the right position to be a dais beam and may have been a high-end canopy beam. Unusually, there was a two-bay service end. This was 6m long in total and not partitioned between the bays. There was a wide (1.65m) cross entry included in this space and this was partitioned off. The other side of the cross entry was open to the hall, except for two spaces, the mortices for which remain.

Above the service end was a large, single chamber, the two bays separated by a truss with knee braces under the tiebeam. Much of the central hall bay is missing, replaced when a smoke bay was inserted. This was in turn superseded by a central chimney with a large inglenook (3.2m wide). The posts are jowled and there are down braces in the framing. The roof is a renewal, apparently replacing a crown-post roof.

At the parlour end there is the fine solar wing, but whether this replaced an earlier parlour end, or was in place before the main range was erected, was unclear before the dendrochronology. It has two bays and is jettied and gabled to the front, hipped to the rear. Again, the posts are jowled and there are down braces in the framing. There is a fine central truss, with a huge cambered tiebeam, 45cm wide. This is supported by hefty knee braces, also 45cm wide and six-pegged at each end. A hollow roll moulding crosses from post to post. The crown post is squat and braced only longitudinally, upwards to the collar purlin.

The previously estimated date for both builds was 15th century. The solar wing appeared to be the earlier, perhaps the second quarter of the century, with the main build possibly added in the third. The dendrochronology confirms these suppositions. This is, therefore, an example of 'alternate rebuilding', with a main range replacing an earlier build, but retaining an original portion.

SHERE (Gomshall), **Edmonds Farm Upper Barn** (TQ 0861 4790). TRS*#, VA37

Felling dates: **winter 1469/70, winter 1470/1**

Edmonds Farm Upper Barn is picturesquely situated on a slope above the historic farmhouse. It is a four-bay barn of high quality, heavily timbered with large jowled posts and massive tiebeams. A complete set of twenty arch braces is still in place, in arched pairs in each wall bay. Furthermore, there

were six arch braces up to the girthing beam from near ground level, though only two of these are still in place.

There are jowled posts and arch braces in the framing. The roof is fully hipped, with clasped purlins and raking queen struts. There are just three windbraces. The principal rafters diminish above the purlins only where there are windbraces, where the extra thickness lower down is necessary to accommodate the mortices for the windbraces. The previously estimated date was mid-16th century. The tree-ring date is much earlier. The estimated date was based to some extent on the roof and the raking-queen-strut structure. While such a structure at such a time is not impossible, it is unlikely, and reroofing is more probable. An adjacent barn has been altered in this way. The dated timbers were from the walls and one tiebeam, none of the timbers above the tiebeams being suitable for dating.

SHERE (Gomshall), **4 Malthouse Cottages** (TQ 0842 4758). TRS*, VA36

Felling date: **spring/summer 1581**

4 Malthouse Cottages is the handsome parlour wing of a building beside it, this being thought to be earlier. The wing is of three bays, the front two being combined into a single unit. It has two storeys and an integral attic. By Surrey standards, its quality and decoration are outstanding (fig 26). Both front and back gable walls have highly ornate panels in a square-and-circle, timber-framed pattern (the front renewed, the rear now behind tile hanging). Such decorative panels are rare in the county, with only a few examples, all in the western area. There are ogee-chamfered spine beams, with elaborate stops, but most of the ceilings were plastered from the start. There is a moulded four-centred front doorhead and the door jambs on each floor are chamfered and stopped. The ground floor partition is close studded. There was an unglazed attic window, but another window had ovolo moulding and glass from the beginning. The wing had its own chimneys, three of them, diamond set, now shortened. They served fine clunch fireplaces.

The posts are not jowled. The roof structure has clasped purlins with raking queen struts, the latter being unusually wide (37cm). Downstairs, the joists are square in section and plain, and were originally plastered. The upstairs joists are unusually deep and narrow (16 x 6cm) but are apparently original. The previously estimated date for this remarkable building was early 17th century.

SHERE, **Rookery Nook** (TQ 0733 4777). TRS*, *VA36*

Felling date: **spring/summer 1485**

Rookery Nook is well situated in the square by the church in the picturesque village of Shere. It is a Wealden house, a style unusual in Surrey. It is a medieval fashion, with both end bays jettied forward, but the roof plan kept rectangular, by means of a flying wall plate over the front of the recessed centre. This example is of three bays only, though the centre bay, which would have been an open hall, was spacious (4.5m long). Because of the slope, one end jetty is higher than the other, a feature not previously recognised in a Wealden house. The frontage has been converted to a type of continuous jetty house, so the Wealden structure is now disguised.

There is evidence that the eastern bay was a medieval shop, another rare survival. It had its own front door, with a window immediately alongside. The hall had full-height windows, front and back. The posts are jowled and there are down braces in the framing. The hipped roof had two crown posts, which were braced only downwards to the tiebeams – yet another unusual feature. The whole is well appointed, with chamfers and flat step stops on the main beams, including the wall plates. The previous dating estimate was late 15th century. Later a central hearth of some kind, probably a smoke bay, was added, and the hall floored over. There is now a central chimney.

SHOTTERMILL, see HASLEMERE

SMALLFIELD, see BURSTOW

TADWORTH, **Hunters Hall** (TQ 2362 5584)

Documentary date: **c 1557**

Hunters Hall was built originally as a two-bay, two-storey, timber-framed house, probably with an end smoke hood on the inside. There are arch braces in the framing. The roof is gabled and of clasped-purlin construction with queen struts and rather straight windbraces. The queen struts are raking in the centre truss only. The documentary date is based on an application of 1557 for a licence to farm the land ‘upon which he has now built a house’ (SHC: 187/4/4). The house has been extended at both ends and the back. The front is now tile hung to the ground, an unusual feature.

THURSLEY, **Church of St Michael and All Angels** (SU 9009 3938). SU*, unpublished
Felling date: belfry **1364–1400** (spot date)

This magnificent timber-framed belfry is one of six in Surrey (see also Newdigate). It has massive

corner posts (c 55 x 55cm) and huge knee braces supporting the higher stages. Only one tiebeam could be dated, but there is no reason to suppose that the date does not represent the belfry as a whole. The beam is clearly integral with the structure and pegged in, without any signs of being reused. See also Bott (2006).

THURSLEY, **Creedhole Farm** (SU 9079 3652). TRS*, *VA37*

Felling date: winter **1616/17**

Well situated on high ground near the Punchbowl, Creedhole Farm is a good example of a 3½ bay, central-chimney house. It is reminiscent of later brick, even Georgian, buildings, with its gables, the beginnings of symmetry and its front porch (which, although not original, appears to be a replacement for an original). Attractive tile hanging above brickwork hides the timber framing.

The chimney serves back-to-back hearths, a large inglenook for the original farm kitchen and a smaller one for the parlour, both having good brick arches. The front door opens into the chimney half-bay, as is normal, but the staircase was, and still is, in a stair turret at the back. The roof is of clasped-purlin construction with three queen struts per truss and straight windbraces. The walls have jowled posts and straight upward braces. These are usually 16th century features, less often associated with chimney houses in Surrey. In contrast, at least one window was glazed from the outset, more of a 17th century feature. The previously estimated date was late 16th century.

THURSLEY, **Hedge Farm** (SU 8975 3865). TRS*, *VA37*

Felling date: east wing, **winter 1467/8**

On a hill behind the church, Hedge Farm (east wing) is a two-bay wing of a medieval farmhouse. It stands next to a stone-built, 17th century main range. The roof of the wing contains a fan truss, combining a crown strut, collar and curved raking queen struts. This picturesque form is rare in Surrey, although it occurs more often in nearby Hampshire. This roof also has clasped purlins and long curved windbraces rising from the centre truss. It was originally hipped. There may have been an end jetty but, if so, this end has been cut back. The walls have arch braces. The posts are heavy and jowled. Wall plates and tiebeam are chamfered with flat stops (without a step). The previously estimated date was c 1500, although Hampshire examples are more in the first half of the 15th century.

THURSLEY, **The Old Parsonage** (SU 9013 3933). TRS*, V437

Felling date: **winter 1410/11**

The Old Parsonage is situated picturesquely in front of Thursley church. It is a four-bay medieval open-hall house, the two-bay hall having been strikingly reopened to the roof. The roof has clasped purlins with single crown struts, more usually a Hampshire structure. There are further unusual features. The crown struts are braced downwards to the tiebeams, and the braces are curved and wide (45cm). Long, almost straight, windbraces rise either side of the principal rafters of the open truss, but there are no other windbraces. The hall had an internal jetty. The walls have arch braces and heavily jowled posts. The previously estimated date was late 15th century. The tree-ring date is very early for a crown-strut structure, almost the earliest known in Hampshire or Surrey, and may reflect it being a church building, as church architects seem to have been innovators. Later, bays were added at both ends and a central chimney was inserted, to be moved after a time to be within the parlour bay.

THURSLEY, **Ridgeway Farm** (SU 8914 3859). TRS*#, V438

- (a) Hall range, felling date: **c 1436**
- (b) Kitchen wing, felling date: **winter 1626/7**
- (c) Inserted floor in the hall, felling date: **1602–34** (spot date)

Ridgeway Farm is one of a number of ancient farmsteads situated along an old ridgeway above Thursley. It has two main builds. The first build consists of three bays that remain from a medieval open-hall house, the parlour bay having been lost. The two-bay open hall was curiously small – bays of 1.63m and 2.23m – but enhanced by an overshot cross entry (with evidence for spere screens) at the service end and probably by an internal jetty at the parlour end. The roof is of clasped-purlin construction with crown struts, a type rare in Surrey, but more common in Hampshire. Judging from mortices in the collar, the open truss was different and would have been spectacular. In its original form, queen struts rose from the tiebeam to the collar and arch braces rose from these towards the centre of the collar, creating an arch. In addition, pairs of long, curved windbraces rose from the principal rafters to the purlins. Only the windbraces and collar remain, the tiebeam and struts having been cut out.

Throughout, the timbers are substantial. There are heavily jowled posts, 40cm-deep tiebeams and 39cm-wide arch braces. The principal rafters have

tenons rising into the clasped purlins, a rare refinement more often seen in Hampshire. Other features include square-set mortices for moulded mullions to a window, rafter jig holes, the remains of an arched door-head to the cross entry, and a ‘pseudo cross-wing’ (a tiebeam crosses the service bay upper chamber as if the axis of the chamber were at right angles to the main build). The previously estimated date was early 15th century.

A century or more later, a kitchen wing was built on at the rear. This has 2½ bays. The half-bay is adjacent to the old build and contains a large chimney with fine inglenooks serving both builds. The half-bay may have been intended for a smoke bay originally, but more probably the chimney was included from the outset. The roof is hipped at the end away from the junction with the old build and is of clasped-purlin construction with curved windbraces (sooted, so reused). One internal truss has three queen struts, but the two framing the chimney bay have raking struts. The walls have small square panels and the posts are not jowled. There are curved down braces in the framing. The previously estimated date was late 16th century. The single date for the inserted floor in the hall is consistent with it being made when the kitchen wing was built and the shared chimney came into use.

THURSLEY, **Upper Highfield Farm** (SU 8972 3846). TRS*#, V437

Felling date: **winter 1553/4**

The farmhouse is a copybook, 2½ bay, end-smoke-bay house, attractively situated high above the village of Thursley. The framing is substantial, with jowled posts and mid-bay posts in the hall. There are long down braces in almost square panels. Much of the original smoke-bay framing is intact. The roof is of clasped-purlin construction with queen struts, without windbraces. The smoke-bay end is, of course, gabled. The other end is hipped with gablet, unusual in Surrey smoke-bay houses, which are usually half-hipped. The previously estimated date was the second half of the 16th century. Later, a chimney was inserted in the smoke bay, and extra bays added at both ends. That to the south is timber framed.

TILFORD, **Bridge Farm** (SU 4342 5745)

Documentary date: **c 1601**

Bridge Farm is a five-bay house with two small central bays framed for back-to-back smoke bays. The wall framing is in small square panels with corner upward braces, some straight, some arched and some sagging. The posts are without jowls.

The half-hipped roof has clasped purlins with straight windbraces and raking queen struts except in the end trusses, which have three queen struts up to collars below the half-hip. The parlour ceiling has a spine beam with ovolo mouldings, but was otherwise always plastered. The central bedroom window has ovolo mouldings, like the spine beam in the hall, and narrow diamond-set mullions for attaching glass. Other windows had wider diamond-set mullions with no glass. The house is very little altered. Some of the nogging has been replaced with ironstone. The documentary date is based on a land purchase 'to build a cottage and barn' (SHC: 1487/4/8).

WANBOROUGH, **Great Barn** (SU 9342 4888).
SU#, VA28

- (a) Main range, felling date: **winter 1388/9**
- (b) Octagonal post, felling date: **1308–40**
- (c) Reconstructed north-east aisle, felling date: **winter 1705/6**

Wanborough Great Barn is one of the finest surviving medieval timber-framed buildings in Surrey (fig 15). A seven-bay aisled barn, it is built on a grand scale (33.6m long x 9.7m wide x 5.5m high to the wall plates) with massive timbers. It was built by the monks of Waverley Abbey, a Cistercian order, who owned and farmed Wanborough Manor as a grange between 1130 and the Dissolution in 1536. It has many outstanding examples of early features, including: long passing braces from the outer walls across the aisle posts and up to the tiebeams; crown posts with no side braces; aisle posts with no jowls, just very wide from top to bottom.

There are a number of reused timbers of considerable interest. There is an octagonal post, which is one of two that may have been brought from the abbey and is now tree-ring dated to the early 14th century. The absence of any capitals or mortices suggests that their height must have been reduced when they were installed here. The barn has other reused material, including great posts with the trenches remaining for open notched lap joints, which could be 13th or even 12th century. Unfortunately, they were not suitable for dendrochronology. Some reconstruction of the north-eastern aisle was successfully dated. The barn is now in the care of Guildford Borough Council and open to the public on some summer weekends.

WEST MOLESEY, see ELMBRIDGE

WESTCOTT, **Brook Farm** (TQ 1427 4721).
TRS*#, VA37

Felling dates: **spring/summer 1406, winter 1406/7**

Brook Farm is a substantially-built, four-bay, open-hall house. Unusually, the partition at the service-bay end of the hall existed only on the ground floor, leaving a total of three bays open to each other on the first floor (the two open-hall bays and the area over the service bay). There is a fine internal jetty, supported by a pair of long fan braces. There are arch braces in the wall framing but, unusually for the period, the posts are not jowled. The roof is hipped and of common-rafter construction. This archaic structure has no longitudinal bracing whatsoever; if the battening were to be removed, the roof would collapse. The roof is high and steeply pitched, over low walls. There are fragments of a smoke deflector to a gablet. The trusses have remarkably long and wide (37cm) four-pegged arch braces, rising to equally wide tiebeams. The open truss has a chamfer, continuous along the braces and tiebeam, with slightly curved step stops. The previously estimated date was mid-15th century.

WESTCOTT, **Crooked Acre** (TQ 1488 4853).
TRS#, VA42

Felling date: **winter 1551/2**

Crooked Acre is situated in the small stream-fed valley of Milton Street, just outside the village of Westcott. It is a well-built, timber-framed house of 3½ bays and a cross-wing. From the outside, the framing, with a half-bay for the smoke bay, looks typical for a smoke-bay house. The end bay behind the half-bay is rather narrow. It would normally be the 'service bay', but is now filled with a central chimney with back-to-back hearths and a bread oven. The cross-wing is next to it, with a modern cross-wing beyond that.

There are difficulties in the archaeological interpretation. There is no tiebeam in front of the half-bay for the smoke bay and no trench for one. Although there is some blackening of the timbers in this half-bay, there is no other evidence for it being a smoke bay, and the collar looks to be modern. There might have been a 'smoke hood', simply built out and essentially self-supporting, but this does not explain the, admittedly light, smoke blackening. Furthermore, the present chimney bay, behind the supposed smoke bay, is quite strongly smoke blackened, and the cross-wing is not convincingly a later date. It appears that the basic frame was purchased as a 'standard' 3½ bay building, with the half-bay either for a smoke bay

or smoke hood. Perhaps because of the quite narrow bays, the owner transferred the smoke control function to the 'service bay', thus enlarging his 'hearth room', and built the cross-wing as a new service wing. Later the smoke control would be modernised by the insertion of the brick chimney, with hearths heating both sides. The date of 1552 accords with the change from open halls to forms of smoke control and helps to confirm that it was probably built as a smoke-bay house before having chimneys inserted.

In terms of features, only the posts in one of the central trusses are jowled. This again is very unusual and may indicate some rebuilding. There are arch braces in the external framing. The roof is half-hipped and of clasped-purlin construction with queen struts and curved windbraces.

WESTCOTT, **Logmore Farm** (TQ 1404 4683). TRS*#, VA37

Felling date: **spring/summer 1464**

Logmore Farm is an open-hall house with three bays. The centre bay was open to the roof. The northern bay (the parlour end) had an internal jetty facing the hall. The southern bay (the service end) was probably also floored, although it is no longer partitioned off. It contained a cross entry against the hall. Further south is an additional bay, or rather an outshot, thought to be rather later. The walls have jowled posts and long down braces, decoratively placed. The west front is now brick faced. The roof is steeply pitched and hipped with gablets. There are fine crown posts with long sagging braces down from the collar purlin. The previously estimated date was late 15th century. Later a central chimney was inserted and, in more modern times, a small outshot was added to the north end.

WESTCOTT, **Lower Springfield Farmhouse** (SU 1383 4892). TRS*#, VA36

Felling dates: **spring/summer 1538, winter 1538/9**

Lower Springfield Farmhouse is a four-bay open-hall house of some quality. The open hall was of two bays, with a dais beam at the high end. Sets of four, carefully matched, sagging down braces adorn the front and back walls, an unusual feature. There are two more in at least one of the end walls. The timbers are of good scantling and the posts are jowled. However, there are later features. The roof is of clasped-purlin, queen-strut construction, with curved windbraces, whereas in Surrey, most open-hall houses have crown-post roofs. It is, and was, gabled, and this again is more usually associated with later chimney houses. The previously

estimated date was early 16th century. The tree-ring date is late for an open-hall house, these apparently ceasing to be built after about 1540. Later, a central chimney was inserted, although at some stage there seems to have been a service bay hearth of some kind.

WESTCOTT, **Stowe Maries** (TQ 1360 4887).

Felling dates: TRS*#, VA35

- (a) Main range, felling date: **winter 1571/2** (two spot dates)
- (b) 'Granary', felling date: **spring/summer 1632** (two spot dates)

Stowe Maries is a striking 3½ bay smoke-bay house with heavy timbers. It has a continuous jetty, unusual for the area. The roof is of clasped-purlin construction with queen struts. One jowled post remains and the walls are arch braced. There is a small, two-storey, two-bay building, 2.5m in front of the jetty. There is no visible framing on this building downstairs. It could have been a granary with a cart shed underneath. The rafters are smoke blackened, so a detached kitchen is another possibility. In either case, the position in front of the jetty is strange. Modern timber framing now encases much of both these builds and there has been some rebuilding of the older parts. There are suspicions that the north end and north-east corner are rebuilds (even the jetty at this corner may be a reconstruction). A date of late 16th century was expected for the main build, possibly 17th century for the granary.

WEST END, **Fellow Green House** (SU 9503 6062). ODL*, VA31

Felling date: inserted floor, **winter 1555/6**

Fellow Green House is a four-bay open-hall house with a two-bay open hall and, originally, low-level floored ends, which have since had their joists raised. The roof is hipped and of crown-post construction. The building is notable for the size of the braces in various places; the crown posts of square section; the open truss where the braces come to within 1m of the floor with a chamfered respond to ground level. Wall plates to the hall bays were chamfered. The dais beam, now raised, has a groove for virtually the full length on its underside suggesting former panelling, probably of plank-and-muntin form. The groove stops at the southern end suggesting a single door. No evidence of posts to this partition was found. The partition at the low end of the hall appears to be intact but was too obscured to see where the door(s) were. Unfortunately, only the floor inserted into the hall could be dated, but the house is believed to be 14th century.

WEST HORSLEY, **Church House** (TQ 0877 5265). TRS*, *VA36*

Felling date: **winter 1433/4**

Church House (fig 79) is, as its name implies, a 'church house'. (For a description of this type of building see, for example, in Friar 1998.) They were built by the parish for fund-raising 'church ales', and to provide a room for the vestry and other meetings. Such facilities became more necessary when fixed pews were introduced into churches. It is the only one so far identified in Surrey, although there may be others yet to be confirmed. It is situated next to West Horsley parish church. It is gabled, has only two bays, and was apparently unheated. The first floor was divided into two meeting rooms that would have been open to the fine crown posts.

The ground floor is extraordinary. It was arcaded in the manner of a church, so forming aisles either side of a central axial room. In terms of carpentry, both the main posts and the arcade posts are jowled. There are both arch and down braces in the walls. The crown posts are all braced up to the collar purlin and down to the tiebeams. The jetty bressumers are finely moulded. The previously estimated date was mid-15th century.

WEST HORSLEY, **High Bank** (TQ 0774 5240). Documentary date: **1387**

Note: this is a recent dating and is not included in the report graphics, though reference is made in Analysis.

High Bank is a four-bay open-hall house on the edge of the village, in an important position on a hill overlooking the route of an ancient trackway. The walls have arch braces to the rear, but long down braces to the front, framing the site of the hall window. There was an overshot cross passage with a moulded jetty bressumer and there is evidence of a spere screen. The roof is hipped with gablets and is of crown-post construction. The central crown post is braced only axially and none of the rafters come down directly to a tiebeam, only to the wall plates. This is the so-called 'old style' of crown post (see the Joan Harding Guidelines in Part 3, Analysis).

The open truss has long arch braces supporting a cambered tiebeam, with spandrel struts from the braces to the principal posts. All is simple, stout, and without ornamental chamfering.

Dendrochronology failed, owing to the use of elm for most of the less-exposed timbers, and fast-grown oak for the rest. However, in 2017, research by Brigid Fice gave a documentary date of 1387,

based on the Manor Court Rolls (John Rylands Library: Nicholas Papers/1 Membrane 6 1386; TNA, SC2/204/57). The previously estimated date was early 15th century.

Later a smoke bay was inserted, followed at some time by a central chimney.

WEST HORSLEY, **Lower Hammonds Farm** (TQ 0738 5341). TRS*, *VA36*

(a) Main range, felling date: **winter 1447/8**

(b) Parlour wing, felling date: **winter 1456/7**

Lower Hammonds Farm is an open-hall house, with a fine parlour face wing to the front. Two bays of the open-hall house remain, a floored parlour end and a one-bay hall. There would have been a contemporary service bay and this seems to have included an overshot cross entry. The dimensions are quite generous (6m wide). The high end had decorative pairs of braces at both levels. Above is a crown post, braced up to the collar purlin and down to the tiebeam with long, curving braces. The posts are jowled, and the walls include further curved down braces. There is evidence for a garderobe and also for a two-storey hall window. The previously estimated date was about 1500.

The parlour wing was added in front of the parlour bay and is a fine two-bay, crown-post structure. It had a jettied front and the original, heavily cusped, barge boards remain. The centre truss has a large cambered tiebeam, supported by wide (45cm) knee braces. Beneath is a transverse beam with another pair of knees. Both the beam and knees have concave chamfering. This wing was thought to be a little later than the main build, perhaps early 16th century. Both tree-ring dates are rather earlier than expected and it is of interest that the parlour wing should have been added quite soon after the first build.

Later a central chimney was inserted into the main range, although there is some evidence for an intermediate smoke-bay phase (or perhaps a secondary open hearth for the service end).

WEST HORSLEY, **The Old Cottage** (TQ 0805 5362). TRS*#, *VA37*

(a) Main range, felling date: **spring 1444**

(b) West bay, felling dates: **spring 1561, winter 1562/3**

The Old Cottage is a substantial, tall, stoutly-built, wool merchant's house (fig 8). It is an open-hall house of four bays in total, of which two were open. The high roof is hipped with crown posts. The open truss has huge arch braces, 60cm wide and seven-pegged. There is a continuous chamfer along the braces and tiebeam. The crown posts are

all braced both up and down. The central crown post is chamfered with a unique 'lug' stop. The roof is of a type that used to be called the 'old-style', with all the rafters resting on the wall plates, none on the tiebeams. (Dendrochronology is showing that this is not necessarily a particularly old style.)

The wall plates are chamfered, with short, almost flat, curved step stops. There are long arch braces in the external framing, the strongest being decoratively placed in a central bay. The previously estimated date was *c* 1500. The lack of a particular cross wall indicates that the westernmost (parlour) bay replaces an earlier, older structure. Significantly, the new corner posts are without jowls. The dendrochronology confirms that the bay is indeed a replacement. Later a chimney was added in a central bay and there are now, remarkably, a total of four floors. One of these is above the collars but still habitable in terms of headroom.

WEST HORSLEY, **The Old Soap House**

(TQ 0732 5359). TRS*, *V*A36

Felling date: **winter 1595/6** (spot date)

Deceptively, from the outside, The Old Soap House appears to be a 3½ bay smoke-bay house, half-hipped and with a framed-in central half-bay. In fact, there was always a chimney in the half-bay. The house has a number of late features. There are no jowls and the principal rafters do not diminish. There are simple, straight, down braces in the front wall, but not the back. One visible end wall has down braces of the sagging variety. Otherwise the walls have small, regular, square panels.

The roof is of queen-strut, clasped-purlin construction. The evidence for windbraces is unclear. There has been some rebuilding of the west end which, according to the owners, followed an explosion caused by some Irishmen lodging there during the First World War. The previous dating estimate was early 17th century.

WEST HORSLEY, **Sumners** (TQ 0778 5248).

TRS*, *V*A36

Felling dates: **spring/summer 1447, winter 1448/9, spring/summer 1449**

Sumners is a medieval open-hall house with a total of four bays (fig 24). All the trusses are closed, so there can only have been one open bay. It might have been a half-floored hall, but there are mortices, perhaps for spere screens, under the centre transverse beam, indicating a cross entry in the service bay. So the fourth, furthest bay seems to have been a second service bay. The smoke

blackening in the roof would support the theory that this last bay was a kitchen, also open to the roof. This is a rare, but not unknown, plan type for the area.

The roof is a good example of a common-rafter roof. This is an archaic structure, made up of simple 'A' frames, without any longitudinal support. If the cladding and battens were to be removed, it would collapse. In contrast, the walls seem less old. There are jowled posts and curved wall braces, but the latter are down braces rather than the sometimes-earlier arch braces. This is one of the earliest cases of down braces found by the Project.

Later a smoke bay was added in the supposed cross entry, later again to be replaced by a central chimney.

WEST HORSLEY, **West Horsley Place** (TQ 0880 5301). TRS#, TBP

(a) West wing, felling dates: ***c* 1422, winter 1424/5**

(b) North wing, felling dates: ***c* 1426, winter 1426/7, winter 1427/8**

(c) Main range, some 16th century dates, but uncertain provenance

(d) East wing, some early 17th century dates, but uncertain provenance

The work on this large, high-status house is outside the scope of this report. See *V*A49 for detail.

WEYBOURNE, see FARNHAM

WINDLESHAM (Bagshot), **44 High Street**

(SU 9116 6333). UCL, *V*A33

Felling date: **1485–1517** (spot date)

This complex building includes the remains of a galleried coaching inn, probably of 14th century origins, and with many post-medieval additions. It is notable for its post-Reformation wall paintings, and it was hoped that the tree-ring dating would help date these. The one dated timber gives the earliest possible period for the paintings, which are in fact thought to be a little later.

WISLEY, **Church Farm House** (TQ 0566 5963).

TRS*#, *V*A42

Felling dates: **1572, winter 1573/4, winter 1574/5**

Church Farm House is well sited next to the church in the small village of Wisley. It is a timber-framed, 3½ bay, central-chimney house, now faced on two sides with Georgian bricks. It has two storeys and an integral attic. The splendid chimney is square set, 'Tudor' style, and cruciform in

section. A particular feature is the hearth bay, which is extended by about 70cm beyond the truss opposite the hearth, out to timber-framed partitions on both floors. The structural truss remains. It appears to have been constructed from inception and is a feature not recognised previously in Surrey. The half-bay is quite large and contains the front entrance, the staircase and back-to-back chimneys, in that order. Curiously, there are mortices for diminished haunch tenons in the stairwell. These indicate that the stairwell was floored, but it seems the staircase has always been there. The mortices may have been cut in error, such mistakes being not uncommon.

The walls have large panels, rather than the small, square panels that would be expected at this time. The windows are bigger than usual, which may be the reason. There are braces only in the end walls: straight up-braces, from posts to tiebeam. The posts are without jowls. The roof is gabled and of clasped-purlin construction with raking queen struts and straight windbraces.

The previously estimated date was early 17th century. This is a much earlier date than expected. While it is true that this type of house, with chimneys, straight braces and posts without jowls is more typical of the 17th century, there are 16th century signs at Church Farm: the large framing panels; curved step chamfer stops; the square-set 'Tudor' chimneys. It is also true that the Project has pushed back the dates for the introduction of some of these 'Jacobean' features into the Elizabethan era.

There is a front face-wing, which may have been a bakehouse or scullery. It is later, partly timber framed, and seems to have been built in sections. There is also a well-preserved sunken cellar or dairy, with arched storage bins all around. It is underneath the service bay but is a later addition. Until quite recently, there was a two-storey front porch but, as there is evidence for a window behind it, it cannot have been part of the first build.

WITLEY (Milford), **Amberley Cottage and Ambergarth** (SU 9414 4252). TRS*#, VA37
Felling dates: **1434, winter 1434/5, spring 1436**

Amberley Cottage and Ambergarth together make up a strongly built, medieval, open-hall house. There are three bays; two were open, and the third (the presumed parlour end) was floored. At the other end is an earlier, much simpler, two-bay, service wing. The roof is hipped with gablets. The open truss has a heavy cambered tiebeam (38cm deep) with wide (30cm) arch braces. A chamfer continues from the tiebeam down the posts with a

mitre stop on the tie. Above is a crown post, braced upwards four ways and chamfered with flat step stops. There are two other crown posts, braced down to the ties and upwards to the collar purlin. The posts have jowls and there are arch braces in the framing, including a pair of braces at ground floor level, a rare feature in Surrey. The previous date estimate was early 15th century.

Later, one bay of the open hall was floored over (to make a half-floored hall) and, later still, a central chimney was inserted. The service wing is a mystery. The main range appears to have been built onto it, separately framed, the service wing being the earlier. It is not of comparable quality – just two simple bays. It has a hipped-with-gablet roof. The posts are not jowled. There were no struts rising from the central tiebeam, nor peg-hole evidence, so it could have been a common-rafter roof. One wall has quite long fan braces in the centre. The wall plates are chamfered with flat step stops. There is little dating evidence but, as it is thought to be earlier than the main build, a date of c1400 had been suggested. It could not be tree-ring dated.

WITLEY (Milford), **Chimneys** (SU 9397 4230). TRS*#, VA38

- (a) Main range, felling date: **winter 1601/2** (spot date)
- (b) Reused timbers or earlier phase, felling date: **1507–34** (two spot dates)

Chimneys stands a little outside the village of Milford. It is a 3½ bay, end-smoke-bay house. This is an unusual plan. In a house of this length, the smoke bay is usually in the centre. Next to the end smoke bay was a hall, and then there were two small service rooms in sequence, now merged. A further bay was added later. Now the house is clad in brick and stone. The facade is highly ornate, with arched door and window heads and ironstone oval recesses. Tall chimneys, equally decorative, give the house its name. This is all 17th century work. The bressumer of the fireplace of an inserted chimney is inscribed 1659, which seems likely for such a modification. Some timber framing remains, with small square panels and curved down braces. The posts are without jowls. The roof is gabled and of clasped-purlin, queen-strut construction, with straight windbraces. The minor truss between the two service bays has raking queen struts. The previously estimated date was late 16th century. The tree-ring date is in close agreement with this estimate and with the typology of the building. The two earlier timbers dated (a rafter and a wall plate) are likely to be reused.

WITLEY, **Church of All Saints** (SU 9467 3971).
SU*, unpublished

- (a) South transept roof, felling date: **spring 1531**
- (b) North chapel roof, felling date: **1521–57** (spot date)

The Church of All Saints, Witley, is of Saxo-Norman date, but the roof is later (Bott 2006). The south transept has a common-rafter roof which was believed to be early, perhaps 14th century. It is an archaic structure with no longitudinal bracing. It was hoped that its dating could assist with the interpretation of the development sequence of the church as a whole. In the event, the tree-ring date showed the roof to be later than expected. It may have been reconstructed in the 16th century, continuing an early form. A single rafter from the north chapel roof gave a similar date and could reflect a general period of repair or reconstruction. The framing of the early windows, believed to be Saxon, was too fragile to attempt dating.

WITLEY, **The Donkey Door** (SU 9473 3986).
ODL#, *V436*

Felling date: **spring 1519**

The Donkey Door is a two-bay building, parallel to the road. Some timbers in the clasped-purlin roof are smoke blackened, although the house has clearly been reroofed. The dating confirms the house to be late medieval, although its purpose is unclear.

WITLEY, **Littlebrook Farm** (SU 9337 3631).
TRS*, *V437*

Felling dates: **winter 1511/12, c1514, winter 1520/21, spring 1522**

Littlebrook Farm is a well-preserved and largely complete three-bay open-hall house. There are decorative sets of four arch braces front and back. The central hall bay has mid-bay posts and was augmented by an overshot cross entry. There was only one spere screen, a curious feature not recognised previously in Surrey. It may have arisen because of a steep drop at the other side inhibiting a true cross entry. There is evidence for a high-end bench. The entrance to the parlour has a four-centred arch with carved spandrels, another feature rarely seen in Surrey. The main posts carry jowls. The wall plates are chamfered with flat step stops. The roof has clasped purlins with queen struts and curved windbraces. The previously estimated date was early 16th century. It is half-hipped, very unusual in a Surrey open-hall house (half-hips are usually found in later smoke-bay or chimney houses).

Later, a smoke bay was created by partly flooring the hall and, later still, a chimney was inserted in the cross entry. An extra bay was added to the north and a small wing to the rear (which was probably the front originally).

WITLEY (Milford), **The Old House** (SU 9503 4226). TRS*, *V437*

Felling dates: **spring 1552, winter 1552/3, spring 1553, winter 1555/6**

The Old House is a 3½ bay, central-smoke-bay house in the centre of the village of Milford. It stands out because of the decorative ogee braces, rising to first-floor girding beams. There are two on the gable end facing the road, and five more remain to one side, previously the front. There are braces on the other side (previously the back) but these are straight. The posts are without jowls. The roof is gabled at the front (it is uncertain at the rear). It is of clasped-purlin construction with queen struts and straight windbraces. There are side-halved scarfs and curved step stops. There were unglazed windows on the roadside wall (in a location where glass would be used, if it were to be used anywhere). The previously estimated date was late 16th century. A little later, a well-timbered face wing was added to the original front, and a chimney inserted in the smoke bay.

WITLEY (Milford), **Turnpike Cottage** (SU 9519 4236)

Felling date: **winter 1567/8**. TRS*#, *V437*

Turnpike Cottage is in the parish of Witley, and lies on the Portsmouth Road by the milestone exactly halfway between London and Portsmouth. It is a 4½ bay, central-smoke-bay house. The central hall occupies two narrow bays. A single spine beam crosses both bays. The roof is half-hipped and of clasped-purlin construction with queen struts and straight windbraces. There are remarkably tall chimneys for two added rear hearths. The walls are now largely of stone, with attractive tile hanging, but some curved down braces remain. Internally, the posts remain and are without jowls. The spine beam in the hall has wide (8cm) chamfers and curved step stops. The previously estimated date was c1600.

Later a front gable was added (later again removed). The two rear hearths were added, the bressumer of one having lamb's tongue chamfer stops. A bay was added to the east, with a cellar under, and there are further additions to the rear.

WOKING (Old Woking), **the Great Oak Door, Church of St Peter** (TQ 0203 5682). TRS*#, *VA39*

Felling date: **1106–38**

The great oak door is set in a simple rounded stone arch, probably Norman, and today measures 2.43m high x 1.49m wide (figs 17–19). It is made up of four planks of differing widths. These planks are counter rebated. The door has no wooden frame but is held together by horizontal iron bars of various lengths on both front and back. There are three splendid C-straps, the upper one of which ends in a flat animal-head terminal. The door has been identified as one of only five picture doors in the country and the ironwork as medieval (Geddes 1999). The ironwork comprises a scrolled Latin cross, a saltire cross and what was described in 1911 as a spider's web with an insect in it (*VCH* 1911c).

Originally, the door had a rounded top in the Norman style, adding 0.68m to its height. This was cut off, but remains in place, unhinged. It is said that the door had to be cut when the Zouche gallery was built against the west wall in the 1620s. This seems strange given that the door opens outwards at the present time. However, an Edward Hassell watercolour painted in 1830 (LA: M1131) shows the door opening inwards, which would be logical since the door was the main entrance to the church before the tower was built in the early 13th century. This makes sense of the suggestion that the door was cut when the gallery was installed. There would have been no room for the door to remain opening inwards without being lowered, and this would have been done by cutting off the rounded top. It follows that the door must have been moved to open outwards sometime after 1830, possibly when the church was extensively restored in 1886.

There is considerable historical and popular interest in establishing the oldest securely-dated door in Britain. The north door at St Botolphs in Hadstock, Essex led the way with a dendrochronological dating of 'after 1034' (ODL; Miles *et al* 2004). This date left unanswered the question of how much after 1034 the door was constructed. The dendrochronologist estimated that a date in the region of 1050–75 was likely in comparison with other boards. Furthermore, it is argued that the lack of any record of significant church expenditure in the period after 1042 would indicate a pre-Conquest date.

Then the 'Pyx' door to the Chapter House at Westminster Abbey was dated by dendrochronology to the period 1032–64 (ODL; Miles & Bridge 2005) this time with no

equivocation (as some sapwood was detected). This is a more secure indication of a pre-Conquest date. Another ancient door is the 'Gundulf' door at Rochester Cathedral, also dated by dendrochronology to 1075–1107 (ODL; Miles & Worthington 2002). The door at St Peters in Old Woking is therefore not quite as early as these three doors. Nevertheless, it takes its place among the most remarkable and ancient pieces of church woodwork in the country, its interest enhanced by the ironwork which, although later than the woodwork, is rare and remarkable.

WOKING, **Langmans** (SU 9871 5824). ODL*, *VA31*

Felling dates: **winter 1522/3, summer 1536, winter 1536/7, winter 1537/8**

Langmans was an open-hall house that now has four bays, but there is evidence for a fifth bay at the north end. The roof has clasped purlins and windbraces and was originally hipped with gablets, but is now gabled. It is not an easy house to interpret. The south end bay was originally floored with heavy medieval-style joists and presented an internal jetty to the open hall. The next two bays were constructed as an open hall since the floor is clearly an insertion and the dimensions of the joists suggest a late 16th or early 17th century date, but the roof timbers above the first open bay are clean. The rafters in the third bay are smoke blackened. It appears that this bay probably served as a smoke bay while the adjacent bay was still open. This could be an example of 'Open hall with smoke control' (see 'Open halls with smoke bays' in Part 3, Analysis). Such an arrangement had not been recorded before in Surrey, but it is possible that the floor was added as an afterthought before the hall had been used. This bay now has framing for back-to-back smoke hoods. The next bay is also smoke blackened, but not very heavily and probably served as an open kitchen with the now missing service bay beyond.

WOKING, (Old Woking) **Old Cottage** (TQ 0125 5696). TRS*#, *VA43*

Felling dates: **winter 1549/50, winter 1551/2 and winter 1554/5**

The Old Cottage rests on the north side of the High Street, Old Woking, parallel to the road. It is a 3½ bay, central-smoke-bay house. The cross passage was overshoot by a large chamber. It was behind the smoke bay – a 'hearth passage' plan, unusual in Surrey. The smoke bay seems to have been only within one side of its half-bay, also unusual. The roof was originally hipped at the service end, but half-hipped at the parlour end. This is another

unusual arrangement but gave a better chamber for the master at a time when half-hips were beginning to be used. The fully-hipped end has a free collar to support the purlins. The roof structure is clasped purlins with queen struts and a full set of twelve straight windbraces. The walls have arch braces and posts with sharply-cut jowls. The previously estimated date was mid-16th century. Later a chimney, with back-to-back inglenooks, was inserted into the smoke bay. There is a fine 'Armada' fire back. This is a well-known pattern and is so called because of the moulded date of 1588. The reverse of the fire back is uneven, unlike those of reproductions, indicating that it could be original.

The normal interpretation of the tree-ring dates would be that construction is likely to have occurred in, or soon after, the latest of these precise dates, 1555. However, it would be unusual for principal timbers to have been kept for so long before use. Felling dates are, as a rule, more tightly clustered. Furthermore, the 1555 date is from a short rail at windowsill height on the first floor. It is, therefore, possible that the building was first erected in 1552 and the rail is a slightly later modification.

WOKING, (Old Woking) **Old House** (TQ 0214 5713). TRS#, TBP
Felling dates: **1603 (spot date), 1787 (spot date)**

Note: this is a recent dating and is not included in the report graphics or analysis.

The Old House is on the edge of Old Woking. Together with Old House Cottage, to the east, it is a brick-built farmhouse with internal timber framing. The Old House is a central-chimney house of two bays with a large rear face wing. There are two storeys and a large integral attic. The roof is gabled with a staggered-butt-purlin construction in both parts. The external brick work includes two string courses. The previously estimated date was early 17th century.

WONERSH, **Great Tangle Manor** (TQ 0195 4657)

Inscribed date: frontage, **1582**

The dating refers to the spectacular front of an older, much-altered house. It has elaborate panels with a pattern of squares and circles, three forward-facing gables, jetties and oriel windows. This is quite the best frontage of its kind in the county. The house stands on a moated site.

The date is carved (not graffiti) on the oriel corbels.

WONERSH, (Shamley Green) **Reel Hall** (TQ 0392 4362). TRS*#, *VA38*

(a) Front range, felling dates: **1445–77, 1498–1525** (two spot dates)

(b) Kitchen wing, felling date: **c 1507, winter 1507/8**

(c) Parlour wing, felling date: **1522–54**

Reel Hall stands ½ mile outside the village of Shamley Green, along a quiet valley, by the rill which may have given the house its name. It is a very complex and rather altered building, with some uncertain archaeology. The front range appears to be the first build and is a three-bay, open-hall house, originally with an overshot cross entry. There are jowled posts and arch braces in the framing. Everything is spacious and of high quality. However, the roof has been raised and rebuilt with clasped purlins and raking queen struts. When it was first built, it seems to have been hipped and of queen-strut construction. The two spot dates for this range are inconsistent. The earlier timber is thought to be reused.

Later, another three-bay open-hall building was added to the rear, probably to act as a kitchen, and indeed a probate inventory of 1575 lists a kitchen in addition to the other main rooms. The entire ground floor of this wing was apparently a single room. The front two bays were open to the roof, with just the rear bay having a ground-floor ceiling and a room over. Once again, there are jowled posts, arch braces and large panels. The roof is hipped and, like the supposed construction of the main range, of clasped-purlin construction, with queen struts and curved windbraces. This rear wing is offset slightly to one side, rather than forming an exact L-shape. This is strange, but may have been to allow the cross entry of the front range to remain in use, with the back door still opening to the outside. The previously estimated date for both of these builds was c 1500. Assuming the very early timber in the front range is reused, it would seem that the two ranges are coeval or nearly so. It is clear from the structures that the kitchen wing was added to the front range. As the kitchen wing is now dated to 1508, this effectively narrows the date range for the front range to 1498–1508.

A parlour wing was added, projecting forward from the front range. This wing comprises three short bays, just 5.5m long in total. It is jettied at the front. There are jowled posts and arch braces. The roof structure is unclear, but there are some indications of a clasped-purlin construction with queen struts and windbraces. The previously estimated date was late 16th century, so a tree-ring date in approximately the

second quarter of the century was something of a surprise.

WORPLESDON, **Frosbury Farmhouse** (SU 9697 5197). TRS*#, *VA34*, *VA39* and *VA40*

- (a) Front range, felling date: *c* **1552**
- (b) Rear wing, felling date: *c* **1550** (spot date)
- (c) Smoke bay inserted floor, felling date: **winter 1621/2**
- (d) Rear wing inserted floor, felling date: **1622–9** (spot date)
- (e) Porch, felling dates: **spring 1638, winter 1638/9**
- (f) Rear brick bay (scullery), felling dates: **winter 1647/8, spring 1648**

Frosbury Farmhouse occupies an ancient moated site, although only a fragment of the moat can now be seen. The building consists of a front range (with a jettied porch) and a rear service wing, which forms a 'T' with the front range (see Frontispiece). The rear wing has two timber-framed bays before ending with a brick scullery bay. The archaeology of the front range is not entirely clear. Much is now later brickwork and there are reused timbers and significant rebuilding. It has 3½ bays, and it is thought likely that it was originally an end-smoke-bay house. It has jowled posts and, originally, arch braces in the framing. The roof is of clasped-purlin construction with queen struts and curved windbraces, and was originally half-hipped. The probably precise tree-ring date of 1552 for the range is a date when a smoke bay would be expected. The western bay of the front range is a half-bay and is thought to be the remaining footprint from the end smoke bay. The ground floor of this half-bay now has ceiling joists, presumably inserted when the smoke bay fell out of use. These are the joists dated to winter 1621/2.

In the rear wing, the first bay was open to the roof, as shown by the sooting. The wing is a simpler structure. It is less heavily built and the posts are not jowled. Again, the roof is of clasped-purlin construction with queen struts and curved windbraces, and was originally half-hipped at the far end. The dendrochronology gave a probably precise felling date of 1550. It is unlikely that the wing preceded the front range and the crucial dating timber could have been stored for a year or two before use. On balance, it is believed that the two builds are coeval and that construction would have occurred in 1552 or soon after. Although the date is late for an open hall in Surrey, it is not unusual for the open hall of a service wing.

A tree-ring date of 1622–9 was found for the inserted floor of the service wing. This would have

been when the tall, diamond-set chimneys were inserted and is a typical date for this kind of conversion. It suggests that this floor was inserted at the same time as the closure of the front range smoke bay, in 1622 or soon after. This is a neat linkage. The rear open-hearth room and the front smoke bay would be sealed over together when the chimneys were built, these chimneys serving both builds.

The archaeological and aesthetic highlight of the house is the fine two-storey porch. It is jettied on three sides. The ground floor is of 55mm brick in English bond. It is open, with a four-centred arch entrance and pairs of lancet windows to the sides. There is a plinth and a rubbed-brick string course. Above the jetties, the upper floor is also of brick, although it is now tile hung. The little roof is gabled. It is apparently without purlins or ridge board, relying on the battens for stability. The previously estimated date was early 17th century.

The rear scullery bay is of brick with walls 35cm thick. There are two storeys. The upper floor was accessed not only from the inside, but also from the outside by means of a door from the courtyard side. Quantities of corn found under the floor suggest that it was used as a granary. The roof is gabled and of clasped-purlin construction with queen struts and no windbraces. The previously estimated date for the bay was mid-17th century.

WORPLESDON, **Frosbury Farmhouse Barn** (SU 9697 5197, ex Coolham, Horsham, West Sussex TQ 113 229). TRS*#, *VA34*

Felling date: **spring/summer 1549**

This barn was transported from Coolham and re-erected at Frosbury Farmhouse in Worpleston in 1980. It was originally of crown-post construction, as can be seen from the mortices in the tiebeams, the trenches in most of the rafters, and a mortice in the western jack-rafter for the collar purlin. Most of the wall timbers and tiebeams remain, but the crown posts and the collar purlin were removed at some time and replaced with clasped purlins and raking queen struts.

The first build was of three bays, but at some time, perhaps when the roof was converted, an extra bay was added to the east end. Both builds have jowled posts and down braces. The end tiebeam was moved out to be the end tiebeam of the extended barn. Few, if any, of the braces to the tiebeams appear to be original. The first build was hipped, the second build half-hipped.

The main interest of the barn is the late date of 1549 for a crown-post structure, the tree-ring dating including two tiebeams with the original mortices for the crown posts. This is later than any crown-post building securely dated in Surrey and much later than any in Hampshire. Not many have been dated in Sussex, but none so far in the 16th century. Kent has several in the 16th century and one, Bartons Farmhouse in Plaxtol, has a tree-ring date range of 1541–58. It would seem that these two buildings represent the final flourish of an impressive style, at least in the South East.

WORPLESDON, **The Green** (SU 9701 5357). TRS*#, VA34

Felling dates: **spring/summer 1501, winter 1503/4**

This cottage on the green in Worplesdon is the middle property of a group of three contiguous cottages facing the green at the southern end of the village. They are Rosendene (to the south), The Green and Inglenook (to the north). The Green is the earliest building, in the centre, and was originally a three-bay open-hall house with the open hall between two floored bays. This is shown clearly by the sooting in the roof, which has clasped purlins and queen struts. Many of the original timbers remain, although the original tiebeam between the north and centre bays has been removed and the jowls of the principal posts cut off. There are curved arch braces in the wall framing.

Probably quite soon after the initial build, alterations were made with the addition of two bays to the north, creating Inglenook. This was probably built as a service wing for the main house. The far bay of this wing has a sooted roof, indicating an open hearth. At some time, a smoke bay was inserted, to be replaced later by a central chimney.

The Rosendene wing was added to the south end of the cottage probably in the late 17th or 18th century. There are modern dormers and bay windows throughout the range.

WORPLESDON, **Whites Farm** (SU 9665 5225) Inscribed date: **1670**

Whites Farm (fig 11) is the front (later) portion of an L-shaped building with a stair turret in the angle between the two parts. The old portion to the rear consists of two bays, timber framed, well-built and probably 16th century, although no dating information is available. The front part, Whites Farm, is of two storeys with an integral attic. It has 4½ bays, with a central chimney, containing back-

to-back hearths, and two bays either side. On both storeys, the two bays are combined to form large rooms. The build is timber framed, although it now has a brick frontage, probably added in the 18th century. The old framing has small square panels and straight down braces in the walls. The posts are without jowls. The roof is constructed with staggered butt purlins.

The aesthetic highlight of the house is a fine two-storey brick porch, centrally placed in front. This carries the inscribed date, picked out in flints. It can be seen that the section of roof covered by the porch has never been tiled, so the porch and house must be coeval. This is an interesting example of brick and timber framing being used together, with brick used for the prestigious porch.

WRECCLESHAM, **The Royal Oak** (SU 8248 4478). TRS*, VA39

Felling dates: **c 1607, winter 1608/9**

The Royal Oak public house lies in the village of Wrecclesham on an important road running south from Farnham to Portsmouth. Originally, it was probably a substantial farmhouse (Heather 2008). It is a central-smoke-bay house of 4½ bays, the more usual plan of 3½ bays being augmented by an open-hearth service bay at the north end. This is a variant on the ‘detached kitchen’ arrangement thought to be quite common in larger houses of the time (see ‘Detached kitchens and service wings’ in Part 3).

The walls have arch braces and jowled posts. The roof is half-hipped and has clasped purlins with a three-queen-strut construction and curved windbraces. There are chamfers with both curved step stops and lamb’s tongue stops, but the latter could date to when the chimney was inserted. The previously estimated date was mid-16th century. Later an extra bay was added to the south and further chimneys were built at the ends. The front now has an applied facade, but the original timber framing is visible to the rear.

WRECCLESHAM, **Viners Mead** (SU 8411 4510). TRS*, VA40

Felling dates: **winter 1609/10, spring 1610, winter 1610/11, c 1611, winter 1613/14**

Viners Mead is on the main street of the village of Wrecclesham, just outside the town of Farnham. Nothing can be seen from the outside but, inside, 2½ bays remain from a central-chimney house. The numbering and direction of the joists indicate that it originally had 3½ bays, possibly with an end jetty

facing the street. There are small square panels in the wall framing and straight down braces. The posts are without jowls. The roof was originally half-hipped. It has clasped purlins with a three-queen-strut construction and straight windbraces. There are fine hearths on both floors. A bench faced the ground floor hearth. The previously estimated date was early 17th century. In addition to the changes to the parlour end of the house facing the street, the service end was modified to make a hallway.

The archaeological highlight of the house is the wonderful black lettering around the walls of the hall, making up religious texts.

WRECCLESHAM, **Yew Tree Cottage** (SU 8254 4492). TRS*#. TBP

Felling dates: ?1449, **winter 1550/1, Spring 1551**

Note: this is a recent dating and is not included in the report graphics or analysis.

Yew Tree Cottage is in a prominent position on the main street of the village of Wrecclesham, just south of Farnham. There are two parts. The older, to the north-east, consists of two bays, thought to be the hearth room and service bay of this early part. Originally with an end smoke bay, these formed a 2½ bay end-smoke-bay house. The original smoke bay has been replaced by a tall parlour wing, of two bays and an integral attic. The wing includes a central chimney, heating both builds.

The old part is timber framed, with jowled posts and arch braces in the framing. Unusually, there are full-height intermediate posts, two in the hearth room and one in the service bay. The roof is half-hipped at the surviving end, and of clasped-purlin construction with queen struts and straight windbraces. The previously estimated date was *c* 1570.

The parlour wing is thought to be slightly later, perhaps early 17th century. The roof is gabled, with clasped purlins and straight windbraces. The central truss of the attic is a simple collar-only construction. The walls have curved down braces and the posts are without jowls.

The old house has an early outshot along the back, together with a large scullery, with bread oven and a copper.

Buildings formerly in Surrey, now in Greater London

ADDINGTON, **Addington House** (TQ 3723 6421). UCL, *VA29*

Felling date: **winter 1490/91** (two spot dates)

Addington House is a medieval farmhouse with 18th century extensions. The house consisted of a two-bay open hall with a cross entry and storerooms on the north, to which an outshot was attached. It may have had a solar on the south, but if so, it was destroyed when the Regency house was built. The roof and upper wall timbers over the hall are soot covered. The roof, of three bays, was of clasped-purlin and windbrace construction, but has been replaced on the west side when the walls and roof were raised. The roof of the stores end was partitioned from that of the hall by a wattle-and-daub infill between the truss timbers, but the rafters were slightly sooted where smoke drifted over the top of the partition.

CHEAM, **Church of St Dunstan** (TQ 2428 6392). ODL, *VA35*

Felling dates: Lumley Chapel, **spring 1374, summer 1375**

This building recording was undertaken for the Churches Conservation Trust and included the dendrochronological analysis of nine principal roof timbers. St Dunstons is mainly mid-19th century, but the adjacent Lumley chapel survives from the medieval church. Most of the primary roof is extant, with common rafters resting on an outer wall plate and supported by ashlar posts set on an inner wall plate. The rafters are secured by collars and braces between which a barrel-vaulted plaster ceiling was inserted in the 1580s. A single large tiebeam spans the chapel.

CROYDON, **91/3 Church Street** (TQ 3202 6554). UCL, *VA30*

Felling date range: **1386–93**

This shop building incorporates the remains of an early crown-post roof, a rare survival in this urban area. The tree-ring date is much earlier than previously expected. There is a central stud tenoned into the tiebeam that appears to have no structural function, but which may indicate that the building was not originally floored.

KINGSTON UPON THAMES, **39/41, High Street** (TQ 1780 6892). UCL, *VA32*

Felling dates: **1459, 1466–95**

This complex building has four identified phases, not all with timbers suitable for sampling. The

south end of the building (No 41), thought to be the earliest part, has an elm crown post and braces with oak rafters and wall plate, but none of these could be dated. The northern part (No 39), which dated, has decorated timbers. A truss between Nos 39 and 37 (carriageway) is inscribed 1471 in Arabic numerals, which accords with the date found here.

Buildings in Greater London (cases close to Surrey)

HARMONDSWORTH (Middlesex), **The Great Barn** (TQ 0563 7785). MoL, *VA24*

Felling date: **spring 1426**

The Great Barn at Harmondsworth is a magnificent aisled barn with twelve bays and three great doors (fig 47). At 58m, it is the longest in England except for Frindsbury in Kent. It has an overall width of 11.3m and a similar height. The aisle posts are jowled and massive, some being 45 x 30cm. Long arch braces support the aisle plates. The cladding consists of vertical weather boarding, some of which is believed to be original. The roof is hipped and has butt purlins in-line, with collars, crown struts and a complete set of curved windbraces, four in each bay. The aisle roofs also have purlins, but these are clasped and supported by straight raking queen struts. Pairs of curved arch braces support the aisle ties.

Harmondsworth manor was purchased by William of Wykeham, Bishop of Winchester, in 1391 and formed part of the endowment of Winchester College (Impey 2017, 13). The College accounts refer to carpenters inspecting timber for a barn at Harmondsworth in 1425/6, and an entry in 1426/7 refers to a newly-made barn, so the tree-ring result confirms that these entries refer to the surviving barn (WCM: 22104). The tree-ring date is early for a crown-strut roof, a date in the middle of the 15th century being more usual. It is more of a Hampshire style and reflects the influence of the diocese of Winchester.

TEDDINGTON (Middlesex), **Hampton Court, Chapel Royal** (TQ 1574 6846). ODL, *VA37*, *VA38*

- (a) Chapel partition, felling date: **winter 1525/6**
- (b) Chapel ceiling, felling date: **1529–39**
- (c) Ante-chapel ceiling and roof, felling dates: **winter 1633/4, spring 1634, summer 1634**

Work outside the scope of this report. See *VA37* and *VA38* for detail.

Buildings in Hampshire (cases close to Surrey)

BENTLEY, **1 Somersets Cottages** (SU 7831 4396). ODL, *VA39*

Felling date: winter **1311/12**

This is the earliest cruck house so far dated in Hampshire (although Manor Barn, Rockbourne is the earliest cruck barn at 1282–4). It was of four bays with a two-bay open hall and two floored ends. The impressive central-hall truss has truncated crucks and an arch-braced collar supporting a tall king post that in turn supports the ridge beam. The truss at the service end of the hall has crucks held together at the top by a short saddle, which carries the ridge beam (cruck apex type C in the national classification by Alcock 1981). At the other end of the hall, the crucks also stop short of the ridge but carry a king post that links two high collars and then supports the ridge (a variant of the type F1 apex). The windbraces are almost straight and of square section.

The house shares features with the nearby Lords and Ladies at Dogmersfield (see below), another early cruck house.

BINSTED, **West Court** (SU 7659 4108). ODL, *VA39*

Felling date: **winter 1314/15**

West Court stands outside the village of Binsted on the western edge of the North Downs. It is now a substantial stone-built house built of chalk or clunch. Inside is a remarkable base-cruck fragment. Much of a two-bay, base-cruck hall remains with evidence for an in-line service bay and an early parlour cross-wing. Now there are later cross-wings at both ends. The remains of the open truss are impressive, supported by the base cruck and a heavy, four-pegged, arch brace clasping the wall plate under the tiebeam. This in turn supports a crown post with straight upward braces but no down braces, an early form. Arcade posts remain at the service end of the hall, chamfered on all four sides, with, curiously, no evidence for a partition. The posts are jowled with straight upward braces. Posts at the parlour end are without jowls but are still tenoned into the tiebeams, as in the barn (see below). There are square-section arcade braces at both ends of the hall, either straight or almost so. This is another early feature.

BINSTED, **West Court Barn** (SU 7658 4114). ODL, *VA39*

Felling date: **1296–1304** (unrefined 1288–1320)

West Court Barn is an imposing aisled barn, 34.5 x 11.3m. It was of four bays originally, but also with

end aisles. It now has seven bays with one end aisle. In addition to the extensions, the roof in particular has been reconstructed, making the archaeology complicated.

Nine aisle posts and four tiebeams remain from the five trusses of the first build. These trusses are distinguished by the trenches for straight passing braces. These passed from the wall posts, across the aisle posts and up to the tiebeams, where they ended in notched lap joints – a very early feature. These long braces have now gone. Great arch braces remain, rising from the posts to the tiebeams, and the dendrochronology shows at least one to be within the early date range. The braces are of square, or almost square, section – another sign of great age. This mixture of long straight passing braces and curved arch braces was not expected and may be transitional. Another possibility is that the trenches for the passing braces were cut, but not used.

The ancient posts are huge (some almost 40 x 40cm). They are without jowls, but are wide enough to allow the timbers to lap around the wall plates and tenon directly into the tiebeams. This again is a very early feature. The roof was hipped and seems to have been of common-rafter construction, but is now a mixture of crown struts and raking queen struts. It has been thatched at some time, quite possibly originally. At first, the walls were boarded vertically – yet another early feature.

BORDON, Shepherds Cottage (SU 8053 3401). TRS#, *VA34*

- (a) Primary phase felling date: **spring/summer 1583** (spot date)
- (b) Replacement joists, felling date: **spring/summer 1603** (two spot dates)

Remnants survive of a possibly four-bay, timber-framed structure with a half-hipped roof of clasped-purlin construction. The apparently original dated beam shows empty timber joints for low joists laid flat. The replacement joists set at a higher level are squarer in section.

DOGMERSFIELD, Lords and Ladies (SU 7864 5297). ODL#, *VA38*

Felling date: **winter 1335/6**

This is one of the earliest cruck houses so far dated in Hampshire (but see Somerset's Cottages, Bentley, above). A hall of two unequal bays survives largely intact. The hall roof has evidence for a louvre in one bay. The hall crucks have chamfered arch braces and collars. The truss at the high end is of Alcock type F1 construction and that

at the low end is a variant of type F1 with a king post tenoned into the tiebeam and halved over the collar (Alcock 1981). Windbraces are straight and about 10cm square in section.

HEADLEY, Huntingford Cottage (SU 8237 3866). ODL#, *VA33*

- (a) Main range, felling date: **winter 1556/7** (spot date)
- (b) Parlour wing, felling date: **spring 1566** (two spot dates)

Huntingford Cottage is a 2½ bay, end-smoke-bay house with an added two-bay parlour cross-wing. The earlier range has jowled posts and straight arch braces in the wall framing. The smoke bay seems to have contained the entrance and could be considered a precursor of the lobby-entry plan. The roof is of clasped-purlin construction with queen struts and straight windbraces. As confirmed by the tree-ring dates, the parlour wing was built not much later and is of similar construction, except that the roof is gabled. The chamber over is small, with the central tiebeam barely 1.22m above floor level. A brick chimney was inserted within the smoke bay – at an early date on the evidence of the bricks, which are on average only 45mm thick. The cottage was formerly a farmhouse of modest size.

HEADLEY, Moorhouse Farm (SU 8297 3877). ODL#, *VA32*

Felling date: **spring 1485**

Moorhouse Farm is a large open-hall house with five unequal bays. The smallest bay and its neighbour formed the central open hall. A bay at one end is thought to have been the service end. The parlour end comprised two in-line bays, apparently partitioned into two rooms from the start. There are jowled posts and arch braces in the wall framing. The roof is hipped and of clasped-purlin construction with queen struts and curved windbraces. The highlight is the open truss, where the inner side of the queen struts curve inwards, almost meeting at the centre and giving an unusual arch effect. Furthermore, all members of this truss, including the posts and principal rafters both above and below the collar, are chamfered and stopped.

The hall was later partially floored to convert the smaller bay into a smoke bay. There is evidence of the insertion of a smoke hood into the end bay of the two-bay floored end. This may have been for a separate kitchen hearth, and indeed it is possible that this was the purpose for the extra bay at this end of the building. The previously estimated date was late 15th century. Early in the 17th century, a parlour cross-wing was added and, probably

around the same time, a chimney was built into the smoke bay.

HEADLEY, Mellow Farm (SU 8215 3884).
ODL#, *VA32*

Felling date: **winter 1606/7** (spot date)

Mellow Farm is an isolated small house built on a high ironstone plinth. It is a central-smoke-bay house of 2½ bays. The posts are jowled at the corners but plain in the centre, perhaps to allow more comfortable passage past the smoke bay. There are small square panels and straight down braces in the wall framing. The roof is half-hipped with a gablet at one end and gabled at the other. This is an unusual combination but apparently the original arrangement. The structure is of clasped purlins with straight windbraces and queen struts. There is an end outshot at the half-hipped end and must be an early extension. The previously estimated date was late 16th century.

YATELEY, Monteagle House (SU 8047 6018).
TRS*#, *VA35*

Felling date: **c 1619**

This early chimney house has three bays with the chimney in the central one. A rear outshot replaces an earlier structure. A two-storey brick porch is apparently contemporary with the main build. The wall framing is in small square panels, originally without bracing. The spine beam in the parlour has ovolo mouldings and lamb's tongue stops with an extra bead. The roof is gabled and has staggered butt purlins without windbraces. The previously estimated date was early 17th century. The dendrochronology confirmed this and also showed that the porch is coeval with the main build, or at least nearly so. The dating of some timbers was hampered by growth reduction on an average 15-year cycle. This is probably the result of a management practice similar to 'shredding', the practice of stripping off the lower branches, previously recognised during dendrochronology in Brittany.

Buildings in Kent (cases close to Surrey)

CHIDDINGSTONE, Bayleaf (TQ 496 487). MoL,
VA24

- (a) Primary phase, felling date: **1405–1430**
- (b) Parlour bay, felling date: **after 1507**

Bayleaf is now at the Weald and Downland Open Air Museum. It is a particularly fine Wealden house. This is a high-fashion medieval style, with both end bays jettied forwards, but the roof plan kept rectangular, by means of a flying wall plate

over the front of the recessed centre. It is of 4½ bays in total. Two bays make up the open hall, with an additional half-bay for an overshot cross entry which, unusually, has a complete truss on both sides. The large parlour bay is later than the rest of the house, replacing something earlier. Its roof is constructed as a two-bay, 'pseudo cross-wing' (a tiebeam crosses the bay upper chamber as if the axis of the chamber were at right angles to the main build). In both builds, the posts are jowled and the wall framing includes pairs of long down braces set decoratively in pairs – largely a Kent fashion. The roof overall is hipped with gablets and of crown-post construction. Other features include a dais beam, spere screens and a garderobe. The parlour bay did not give a precise date. One sample gave the date as 'after 1391' and another gave it as 'after 1507'. The earlier date is presumed to be a reused timber.

CHIDDINGSTONE, Hoath House West Barn
(TQ 4912 4263). TRS, *VA45*

- (a) Primary phase, felling date: **winter 1458/9**
- (b) Door, felling date: **winter 1544–76**

Hoath House West Barn is a three-bay barn with remarkably complete framing. The roof is of crown-post construction. The wall framing consists of close studding with rails and curved down braces. The posts are jowled.

CHIDDINGSTONE, Lockskimmers (TQ 4902 4436). TRS*#, *VA43*

Felling date: **spring 1429**

Lockskimmers is set in the Kentish Weald just outside the village of Chiddingstone. Originally, it was a medieval open-hall house of four bays. Three bays remain, the service bay having been replaced. The house has an end jetty, a Kentish feature. There is a crown post roof, the open truss including a particularly noteworthy crown post, octagonal and with a moulded cap and base. The supporting braces are long, curved and three-pegged. The walls have jowl posts and curved down braces. (The tiebeam at the service end of the hall has a strange peg-hole pattern and could have been reused.) There is evidence for a spere.

In addition to the end jetty, there are other Kentish features that are perhaps surprising so close to the Surrey border. The roof is gabled, whereas in a rural situation in Surrey they would be hipped. There are curved step chamfer stops, which would be unusual in Surrey at this early date. Taken together, this is more evidence for there being local traditions in the Weald. The previously estimated date for the build was late 15th century.

There are a number of later extensions, which were not examined in detail nor sampled for tree-ring dating. The new service end is also of crown-post construction and probably almost as old. Yet another crown-posted build runs north and a 17th century addition runs south from the old parlour bay. To have such a collection of ancient builds is rare and a sign of considerable prosperity.

When the hall was floored over, possibly after a smoke-bay phase, the hall was heated by a rear-wall chimney with a large inglenook. Unusually again, this spanned both bays of the old hall.

CHIDDINGSTONE, Rock Inn (TQ 4973 4313).
TRS*#, VA43

- (a) Primary phase, felling date: **winter 1519/20**
- (b) Chimney bressumer, felling date: **1545–77**
- (c) Changes at east end, felling date: **winter 1571/2**

The Rock Inn is in the Kentish Weald in Chiddingstone Hoath, a small collection of houses 1 mile south of the village of Chiddingstone. It is a three-bay, 2½ storey, lateral chimney house with an unusual plan. It had a two-bay hall from the beginning but this was floored over, rather than being open to the roof in the medieval style. Two-bay halls were common in the 15th century but they were open to the roof. Then when chimneys were introduced, halls were built floored over but were of one bay only. They are more commonly referred to as 'hearth rooms'. So, with its double-sized hearth room, the Rock Inn does not have a domestic plan. Furthermore, it has a high level of decoration with ogee braces in the first-floor partitions and chamfered beams in all the rooms including the attic. There is evidence for a garderobe, which is unusual in a quite simple building. It seems likely that it was built to be an inn from the outset, perhaps serving drove roads nearby. The location adds to the case, as it is by the roadside at a junction and next to Spokeshave Cottage, a bigger and older house that would normally have more space around it.

The roof is of clasped-purlin construction with queen struts and curved windbraces. It is gabled to the front, but was originally hipped to the rear. The gabled front has an end jetty, a Kentish feature and perhaps not expected for a chimney house. The walls have jowled posts and curved down braces. The chimney on the rear wall has a large inglenook. Later, the rear hip was gabled out. The end chimney and the outshot were added later. The dendrochronology shows that the large inglenook was not part of the first build and raises the

question as to how the building was originally heated.

The date of 1520 is substantially earlier than the late 16th century date estimated. A chimney would not be expected at the earlier date. The felling date range of 1545–77 from the inglenook bressumer does indeed show that the chimney was added later. There must have been an earlier form of heating. As an inn, a detached kitchen is probable and these rarely survive. The chambers could have had braziers. The hearth room may have had an early chimney, perhaps a smoke hood, probably in the same position as the later inglenook, but how the large hearth room was heated is not understood.

CHIDDINGSTONE, Spokeshave and Cherry Cottages (TQ 4973 4316). TRS*#, VA43
Felling date: **winter 1397/8**

Spokeshave Cottage and Cherry Cottage together form a four-bay medieval open-hall house. It is situated in the Kentish Weald in Chiddingstone Hoath, a small group of houses 1 mile south of the village of Chiddingstone. It is next to the Rock Inn, a 16th century build that may well have been an inn from the outset. The construction of the cottage build is unusual in that the service bay to the north-east has a 'brought-in' hipped end. The gablet is set back further into the build, resulting in a deep hip extending from the ridge down to what would normally be the end mid-rail. This end has since been built out to be gabled. The other end was also hipped originally but had a further bay added, probably in the late 16th century, and made half-hipped.

The roof is of common-rafter construction. This is an archaic structure, made up of simple 'A' frames, without any longitudinal support. If the battening were to be removed, the roof would collapse. The walls have jowled posts in the framing. The only remaining external bracing is a pair of large arch braces rising from low down to support a 'spare' tiebeam, made necessary by the brought-in hip. The internal bracing in the trusses is impressive. This is particularly true at the service end of the hall, where a pair of 27cm-wide arch braces rise from only 60cm above the sole plate up to the tiebeam above. They would have been spectacular viewed from the high table.

The previously estimated date was late 14th century. Later the extra bay at the parlour end was added. The hall was floored over and a central chimney inserted. End chimneys were added at a later date.

CHIDDINGSTONE, **Watstock** (TQ 5076 4385).
TRS*#, *VA43*

- (c) Primary phase, felling date: **winter 1454/5**
- (d) Chimney bressumer, felling date: **winter 1591/2**

Watstock is in the Kentish Weald 1 mile outside Chiddingstone village. It comprises the central part of an unusually high status four-bay, medieval, open-hall house. There has been some rebuilding, perhaps because of subsidence. The service bay is missing and the 'lower' of the two open-hall bays renewed above the eaves. The parlour bay has also been replaced, although the timbers are ancient. The whole of the roof has a ridge board that must be 18th century or later and indicates the date of the rebuilding. The roof is of crown-post construction. The one in the open truss is unusually decorative in having a moulded base and in being cruciform in cross section. The walls have heavy jowled posts and very broad (35cm) down braces. The previously estimated date was early 15th century.

The highlight of the building is the remarkable high end of the hall, with a deeply moulded dais beam over a plank-and-muntin screen and an arched doorhead. The screen in particular is a rarity. A pair of large arch braces at first-floor level would have completed the view over the high table before the hall was floored over.

A two-storey bay window dominates the frontage. This is a later build, and probably of more than one period. The first-storey portion has ovolo-moulded mullions and may be the remains of a 17th century oriel. The whole is now surmounted by a gabled dormer, again ornately decorated, with moulded barge boards and a hanging king pendant. Later, the central chimney was added, the hall floored over and the chambers ceiled.

CHIDDINGSTONE, **Winkhurst** (TQ 497 492).
VA24

Felling date: **1498–1508**

Winkhurst was the first building to be erected at the Weald and Downland Open-Air Museum. Before it was transferred to the Museum, it formed the cross-wing of Winkhurst Farm, but it was probably built as the kitchen wing of a large medieval house. It consists of two bays, one of which was open to the roof. The crown-post roof is gabled at both ends. The walls include jowled posts and arch braces.

COWDEN, **Church of St Mary Magdalene**
(TQ 4662 4047). NU, *VA32*

- (a) Tower, belfry-and-clock stage, **1391–1411**
- (b) Tower ground floor (restructuring?), **1452–72**

The grade II* church has a slightly-tapering, timber-framed, belfry-and-clock stage which carries a pyramid roof, out of which rises a slim octagonal shingle-covered spire. The belfry-and-clock stage is carried on large joists and the whole upper structure is supported by the six massive posts of the ground-floor stage from which spring arch braces. It is believed on stylistic evidence and carpentry details that the timberwork of the tower and spire is of late 13th century date. However, from observation of the timber, it is clear that there has been some replacement of timbers, including two of the ground-floor supporting posts and their arch braces and some of the main joists supporting the floor of the upper stage. It is known from documentary sources that repairs to the tower were carried out in the 18th century and in the 1950s.

One of the timbers in the upper stage gave a date of 1395. It is quite possible that all the other less precisely-dated timbers in these stages were also felled at this time, early in the period from 1391 to 1411. The dating has shown that the two structural phases are later than expected on stylistic grounds. Furthermore, the lower ground-floor posts are 50 years or more later than the upper structure. One explanation is that the original 14th century structure needed alteration or repair within a relatively short time. One other timber, a spire base beam to the ceiling of the belfry stage, had a felling date of 1785. It is likely that this is from the repair work commemorated by a plaque at the base of the tower (AML Report 44/99).

EDENBRIDGE, **75/79 High Street** (TQ 4442 4608). NU, *VA23*

Felling date: **winter 1476/7**

Numbers 75/79 High Street comprise a medieval open-hall house of three bays (one open) in the Wealden style. Very unusually for this style, the roof is not crown post, but has queen struts and butt purlins (see also the Guest House, Lingfield). There is a dais beam.

EDENBRIDGE, **94 High Street** (TQ 4440 4603).
NU, *VA22*

Felling date: **1400–35**

This is a medieval open-hall house of three bays (two open), in the Wealden style, a so-called half-Wealden as it has just one floored end. It has a crown-post roof.

LEIGH, **Jessups**, Chiddingstone Causeway (TQ 5238 4716). TRS*#, *VA43*

- (a) Primary build, felling date: **c 1398**
- (b) Chimney bressumer, felling date: **winter 1646/7**

Jessups is in a rural situation in the Kentish Weald just north of Chiddingstone Causeway in the parish of Leigh. Originally, it was a medieval open-hall house of four bays. Two bays remain, one of the hall bays and the parlour bay. It has an end jetty, a Kentish feature rarely seen in Surrey, which is close by. It has a hipped roof of crown-post construction and a number of high-status features. The open truss is noteworthy with 45cm-wide arch braces. There is a moulded dais beam with extraordinary oak-leaf decoration at each end – a great rarity. Before the hall was floored over, the pattern of paired down braces between arch braces behind the high table would have been striking, and allied to the dais beam. The walls have jowled posts, but the wall braces are now absent. There are curved step chamfer stops (which would date later in nearby Surrey). It is clearly a Kentish house in style, despite being close to the Surrey border. The previously estimated date was early 15th century.

Buildings in Sussex (cases close to Surrey)

CRAWLEY (Lowfield Heath, formerly in Surrey), **Spikemead** (TQ 2635 3969)

Documentary date: **1604**

Spikemead is a three-bay, timber-framed house with one added bay. The central bay of the three-bay build seems to have been framed into two half-bays and probably included a smoke hood with a cross entry behind the hearth. This plan is rare in Surrey. The roof has been replaced. Any smoked rafters that might have existed have gone, but some were reported by Peter Gray in 1973. Even so, it is not possible to exclude the possibility that it originally had a chimney rather than a smoke hood. The walls have small square panels, curved down braces and jowled posts.

The documentary date is based on work by the late Mrs Sewell, a careful Charlwood local historian, although her papers have been lost.

CRAWLEY, **Vine Cottage**, 16 High Street (TQ 266 365). ODL, *VA28*

- (a) Main range, felling dates: **summer 1472, spring 1473**
- (b) Inserted floor, felling dates: **after 1542**
- (c) Cross-wing, **1548–80** (two spot dates)

Vine Cottage was a Wealden house with a crown-post roof, but it has now been demolished.

EAST GRINSTEAD, **Clarendon House**, High Street (TQ 3947 3793). ODL, *VA32*

- (a) Main range, felling date: **1438–67**
- (b) Inserted floor, felling dates: **1540–66, 1561–79**

Clarendon House is a four-bay Wealden-style house with the standard plan: a two-bay open hall between floored and jettied bays. It was built just outside the constraints of the burgage plots. It is a house of some quality with moulded crown post and dais beam. The two dated joists from the inserted floor suggest that the addition of three fine oriel windows was not directly related to the infilling of the open hall.

EAST GRINSTEAD, **Old Stone House**, High Street (TQ 3947 3793). ODL, *VA32*

Felling date: **winter 1640/41**

Old Stone House is a stone cross-wing added to the west end of Clarendon House (see above). The indicated felling date of winter 1640/41 agrees well with evidence in a deed dated May 1650 that states ‘ [...] which said messuage, [...] newly built [...] by Mr Robert Pickering’ (Bulletin of the East Grinstead Society 2004, 83, 13). This range retains an oak newel staircase.

EAST GRINSTEAD, **4 High Street** (TQ 3950 3793). ODL, *VA32*

- (a) Main range, felling date: **winter 1451/2**;
- (b) Inserted attic floor, felling date: **winter 1629/30**

This is one of the buildings on a typical burgage plot of two rods that restricted the layout to three bays, two open and one floored. The building itself has the form of a half-Wealden (just one floored end) with a moulded crown post to the open hall. The date of the axial beam for the attic floor indicates when the accommodation of the upper floors was improved.

EAST GRINSTEAD, **7 & 9 (Corals) & 11 (Wickendens) High Street** (TQ 3952 4798). ODL, *VA32*

- (a) Hall and cross-wing, felling dates: **winter 1450/1**
- (b) Rear wing, felling date: **winter 1452/3**

This building originated as a four-bay Wealden house. Most of the framing at ground level has either been destroyed or covered during modern conversion into shops, but the upper floor is substantially complete. The most notable features (and an indication of the status of the building) are the solid arch braces to the open truss, which are

90cm wide, and the octagonal crown post with moulded cap and base.

A major alteration to the eastern jettied bay and a large part of the adjoining hall bay involved the construction of a cross-wing (No 11), presumably for commercial reasons. One timber from this wing gave a date similar to that of the hall, no doubt implying reuse from the original building.

Otherwise, the date range obtained shows that the wing was added quite soon after the original build in the period 1451–69. Two reset rafters from an added rear wing gave a date of winter 1452/3, so are most probably reused. The rear of this cross-wing was altered in the 17th century when a further bay was added.

EAST GRINSTEAD, 34/40 (Broadleys) High Street (TQ 3958 3791). ODL, *V432*

Felling dates: **winter 1351/2, spring 1352**

This building is unlike any other in the town: it occupies a four-rod plot rather than the normal two-rod plot and was certainly an exceptional building of considerable importance in the town. Since the 15th century it has comprised two separate structures, the main range Nos 36–40, and No 34, a cross-wing of at least four bays, end on to the street. The main range is of four bays with an aisled open hall with crown posts and a floored bay at the eastern end. A cartway at the eastern end is integral with the structure, giving access to the rear. Quite possibly it had a courtyard arrangement with the present building forming the front range. The samples relate to the front range; no datable timber was found in the cross-wing.

EAST GRINSTEAD, 68 (Amhurst House) High Street (TQ 3970 3795). ODL, *V434*

Felling dates: **summer 1369, spring 1370**

The date of 1370 reinforces the conclusion (*V432*, 84–6) that the development of the High Street commenced at the east and progressed westwards. Amhurst House lies on a central burgage plot on the edge of the medieval market place, opposite the church. The plot is less than the normal width, suggesting that it was once in common ownership with the adjacent Sackville House, together making up two standard plots.

The build has three bays: a two-bay open hall and a floored end that incorporates an overshot cross entry. Even allowing for the space afforded by the cross entry, the hall is remarkably small (3.7m). Nevertheless, it was subdivided by a moulded tiebeam with crown post (since removed) into bays of 2.1m and 1.3m. It has a moulded dais beam with a Decorated-style profile with moulded stops. The

street end of the cross entry (only) had a short spere screen. The ground floor of the floored bay was undivided and the room above was of some pretension with a spine beam (since reset) with braces to the centre posts. The crown-post roof is complete except for the hall truss. The collar purlin is chamfered and the braces are straight, rather than curved. A date of ‘after 1540’ from a weatherboard between the western truss and the neighbouring Tudor Cottage must relate to later alterations or repairs at this junction.

EAST GRINSTEAD, 1/2 Judges Terrace, High Street (TQ 3948 3793). ODL, *V432*

Felling date: **winter 1447/8**

The building originated as a three-bay open-hall house without jetties. Like a number of other nearby buildings, it had a two-bay open hall with a plain crown-post truss. It appears to have been built originally on a two-rod plot but, judging by the date range of a single sample from the rear wall plate (felling date range 1432–64), it was extended by 1.5m very soon after it was built so as to abut the adjoining Clarendon House.

EAST GRINSTEAD, 1/3 Imberhorne Farm Cottages (TQ 3735 3839). UCL, *V436*

Felling dates: **spring/summer 1427, winter 1427/8**

Imberhorne Farm Cottages seem, from the exterior, to be Victorian farm workers’ cottages. The outward appearance, however, hides the remarkable remains of Imberhorne Manor House, containing an early arch-braced, false hammer-beam roof. The structure can be compared to other surviving arch-braced, hammer-beam examples and shows strongest similarities to the design of Westminster Hall, but lacking its elaborate mouldings and sculpture. The lack of adornment allows the detail of the design to be determined, showing considerable strengthening of the braces and retention of the hammer beam and post as single elements undivided by the arch. The construction of such a building within 30 years of the completion of Westminster Hall makes this property particularly important in the developing structure of the arch-braced hammer beam, and demonstrates the influence of Westminster Hall in a vernacular context.

HARTFIELD, Yew Tree Cottage (TQ 4654 3698). TRS, *V442*

Felling date: **winter 1575/6**

This 2½ bay smoke-bay house now has a steep gabled roof and dormers. Little of the timber

framing remains below first floor level. The roof is of clasped-purlin construction with queen struts and curved windbraces. The principal posts are jowled and there are curved down braces. Later an end chimney was added.

HORSHAM, **11 The Causeway** (TQ 1720 3042). TRS, *VA45*

- (a) Front range, felling date: **winter 1481/2**
- (b) Rear range, felling dates: **spring 1513, summer 1513, winter 1513/14**
- (c) Inserted chimney and floor, felling dates: **winter 1594/5, spring 1595, spring 1596**
- (d) Front range roof modification or repair, felling date: **1619/20**

Note: this is a recent dating and is not included in the report graphics or analysis.

The rear range is a four-bay open-hall house, of which two smoke-blackened queen-strut trusses survive with their associated elements. Elements of the roof have previously been tree-ring dated to 1513 (*VA33*, 77). Three bays of a front range survive. The roof of this is hipped and of crown-post construction with rafters laid flat. Most of the wall framing has been lost, but a forward-facing jetty with close studding survives. The posts are jowled.

HORSHAM, **15 The Causeway** (TQ 1717 3040). TRS, *VA45*

- (a) Front range, felling date: **winter 1499/1500**
- (b) Rear range, felling date: **spring 1376**

Note: this is a recent dating and is not included in the report graphics or analysis.

The front range is a timber-framed building, probably of five bays, which lies behind an early 18th century brick facade. The north-eastern three bays of the front range were examined but not the two bays at the south-west end (in separate ownership). The roof timbers of the front range are mostly intact and the absence of smoke blackening indicated that the building was floored from the start. The roof is gabled and of clasped-purlin construction with queen struts. The principal rafters diminish and the windbraces are curved. The roof covering is Horsham stone. The wall framing consists of close studs without rails, and the posts are not jowled. Unusually, the building appears to have full-length jetties to both the front and rear. Stops on both purlins in the third bay from the north-east end suggest that a partition, which may have formed a half-bay, could have been planned originally.

The rear range contains two bays, and heavy smoke blackening indicates that both bays were originally open to the roof. The roof is hipped and of crown-post construction. Little wall framing was visible, but appears to be close studded (probably without rails). One wall plate has a through-splayed and tabled scarf, a so called 'Trait-de-Jupiter' scarf.

HORSHAM, **Chennelsbrook Farm** (TQ 1880 3380). ODL, *VA36*

Felling dates: **winter 1295/6, spring 1296**

This remarkable house was first identified by Mason (1969) during his pioneering work in the Weald and described in more detail in 'Chennelsbrook Farm' (Hughes 1997). It is one of a small group of surviving early houses originally aisled, here on both sides, and made use of a base-cruck construction to the open truss to avoid the intrusion of the arcade posts into a two-bay open hall. The southern aisle has been removed completely, that to the north replaced with a later outshot. Part of a service bay also remains, along with most of a spere truss. At the other end, and integral with it, is an equally notable, two-bay, solar cross-wing.

The hall range carried a common-rafter roof: simple coupled rafters with collars, without any longitudinal timbers. This is an early, archaic form. There are strong indications of an end aisle and evidence for a louvre. The open truss has arch braces linking the base crucks to the tiebeam. This is standard but, possibly uniquely, each arcade plate is clasped by pairs of spandrel struts, one horizontal and one vertical. The spere truss was similarly complicated. A remaining arcade post is columnar with roll moulding at the springing of the braces to the arcades and tiebeam. Originally, the bracing between the arcade post and the tiebeam was extraordinary: a pair of straight, duplicated braces, themselves linked by a type of spandrel strut across to the apex. A number of other constructional details are rare and archaic. There are corner dragon ties and splayed scarf joints. Much of the timbering is of square section, another early sign. The end-wall trusses of the hall were planked, rather than infilled with wattle-and-daub, a sign of wealth. The whole is now brick clad and with a Horsham stone roof.

The cross-wing shares the end wall of the main range and is similar in general structure with heavily-jowled posts, substantial timbering and dragon ties across the corners. The roof is again of common-rafter construction, but this time a single moulded crown strut rises from the centre tiebeam, and there are raking spandrel struts. The wing had a

very low ground-floor ceiling, barely 1.5m, so the ground floor was probably used only for storage. The first-floor chamber would have been very large.

HORSHAM (Broadbridge Heath), **Field Place Farm Barn** (TQ 1463 3218). LGU, *VA24*

Felling date: **1466–91**

This four-bay barn always had the northernmost bay floored over, the upper floor being partitioned off from the rest of the barn. Although the cross beam to support the floor of the northern bay has been replaced, the original was supported by large integral corbels or brackets, a rare and high-quality detail. The timber is of very heavy scantling. Intermediate posts, without jowls, divide the bays, each carrying tiebeams inserted later. The original tiebeams carry peg holes at their centre for a crown-post tenon.

HORSHAM (Southwater), **Parthings** (TQ 1566 2974). ODL, *VA38*

- (a) Main range, felling date: **1471–80**
- (b) Cross-wing, felling date: **summer 1477, summer 1479, winter 1479/80**

Parthings consists of a two-bay hall, with a rebuilt service wing, and a four-bay, integral cross-wing, jettied on two sides and with close studding on both storeys. There was no access at ground-floor level between the two ranges. Both ranges have crown-post roofs containing well-finished timbers. The crown posts in the open trusses are braced four-ways upwards. The closed trusses are braced two-up, two-down in the hall, but only up to the collar purlin in the cross-wing. There are several arched doorheads with sunken spandrel decoration, and a dais beam. The previously estimated date was mid-15th century. The dating confirms that the two ranges are coeval or nearly so.

IFIELD, **Old Plough Cottage** (TQ 2478 3761). TRS*#, TBP

- (a) Main range, felling date: **1576–1604**
- (b) Front wing, felling date: **1574–1604** (spot date)

Old Plough Cottage was once the Old Plough Inn. It is a very pleasing but complex and much altered assemblage. The first build, now entirely surrounded by additions, appears to be a 1½ bay fragment from a probably 3½ bay, 16th century dwelling, running east–west. The half-bay may have been a smoke bay. There is reported smoke blackening inside the remains of the truss at the end of the full bay, away from the half-bay, which is not understood. One jowled post is still visible

and there are slightly sagging down braces, quite heavy in scantling. There is a fragment of an ovolo-moulded, multi-light window that is now inside.

A good, half-hipped, probably jettied, face wing was added to the side facing the road. A single spot date taken from a brace suggested that the wing was coeval with the main range or nearly so. Four other timbers (dated 1485–1517, 1516–*c* 48, 1535–*c* 66, 1544–76) are thought to be reused, but the building sequence is far from clear.

KIRDFORD, **The Butts** (TQ 0170 2683). TRS#, *VA39*

Felling date: **winter 1604/5**

The Butts is in the centre of this Wealden village, without land, so presumably the owner was a tradesman of some sort. It is a remarkably unaltered, 2½ bay, end-smoke-bay house with an integral attic. There is a lobby entrance into the end smoke bay. The service bay is divided and, with a fixed bench opposite the hearth, is reminiscent of earlier open-hall houses. There are down braces in the framing, almost straight, and, unusually, the mid-rails butt against them. The posts are without jowls. The roof is gabled and of clasped-purlin construction with queen struts and straight windbraces, but the centremost bay has raking struts. The house is quite small but of high quality, as shown by chamfered doorways, the good height of the rooms and the provision of the fixed bench, but the windows were not glazed initially. The previously estimated date was *c* 1570.

Later a brick stack was inserted in the smoke bay, an outshot added to one end and an extension built to the rear.

RUDGWICK, **Hoglands Cottage** (TQ 0735 2918). ODL, *VA33*

- (a) Primary Phase, felling date: **winter 1369/70**
- (b) Reconstruction work, felling date: **winter 1550/1**

Hoglands was built as a three-bay house, with a two-bay open hall and one floored bay divided into two rooms on the ground floor. Beyond the other end of the hall was an end aisle, apparently divided from the hall by a plank screen, with no access between hall and aisle. There are passing braces in the hall walls and the posts have deeply cut-back jowls. The hipped roof, much altered, appears to have been of common-rafter construction. The end aisle was built up to two full storeys with timber felled in the winter of 1550/1, work that may be contemporary with the flooring of the low end of the hall following a severe fire. A chimney was inserted into the open bay at the end of the 16th

century. The original floored end of the house must have suffered from movement and stress, requiring new wall plates and a new side-purlin roof in the 17th century.

RUDGWICK, **Snoxall** (TQ 0817 3295). ODL, *V433*

Felling dates: **summer 1337, winter 1337/8**

Snoxall has four bays with a two-bay central hall, one bay being much narrower than the other. The upper end has an internal jetty. The steeply-pitched common-rafter roof is hipped with a gablet. The principal posts have deeply cut-back jowls. The external walls have arch braces and were originally infilled with vertical boarding, as were the internal partitions up to tiebeam level. Above the tiebeams, the partitions are of wattle and daub, the high-end one being decorated with a combed swirling pattern. Staves from this partition have produced the same date as timbers from the rest of the building: summer/autumn 1337, showing that it is of primary construction.

A lath-and-plaster chimney was inserted within the narrow hall bay around 1680 when the hall was floored, and a brick stack was built within the earlier chimney in the mid-1700s. The house is now divided into two properties, Snoxall and The Old Cottage.

RUDGWICK, **Swains Cottage** (TQ 0669 3286). ODL#, *V433*

- (a) Primary phase, felling date: **1378–9**
- (b) Reconstruction of lower end, felling date: **winter 1568/9** (spot date)

Swains Cottage was erected on the edge of common land. The four-bay house is of early design with a central hall of two almost equal bays. At one end, there is a low undercroft only 1.2m high, so would have been used only for storage. At the other end, there is an unfloored bay partitioned from the hall up to tiebeam level. The posts are jowled and there are arch braces in the wall framing. The house is now encased in brick under a steeply pitched roof with the upper rooms lit by dormers. The hipped roof is of common-rafter construction and the height from tiebeam to apex is greater than the height from ground to tiebeam. This is an example of ‘more roof than wall’, thought to be a sign of great age and indeed borne out by the dating.

The low floor was altered to one of conventional height using timbers felled in the winter of 1568/9. It is likely that the open bay at the other end was floored at this time, when the end wall was also

rebuilt. A smoke bay was constructed at one end of the hall around 1600, but the hall was not floored until a brick stack was inserted in the late 17th century.

RUDGWICK, **Warhams** (TQ 0890 3237). ODL, *V440*

- (a) Hall, felling date: **1213–39** (OxCal; unrefined **1212–44**, spot date)
- (b) North aisle rebuild, felling date: **1336** (spot date)
- (c) South aisle rebuild, felling date: **1439–68** (spot date)
- (d) Smoke-control partition, felling date: **1484–1502** (spot date)
- (e) Cross-wing two south bays, felling date: **winter 1548/9**
- (f) Cross-wing north bay, felling date: **summer 1607**
- (g) Inserted reused hall ceiling, felling date: **1598–1603** (spot date)

Warhams is in a rural situation south of the village of Rudgwick, deep in the ancient Weald. It is an exceptional and very early house, with a number of archaic features. Both ends have been rebuilt, but most of the original two-bay, double-aisled hall remains visible and well preserved. The open truss has huge, curved, square-section, arch braces, meeting in the centre of an equally large tiebeam and forming an almost perfect semi-circle. The roof was of common-rafter construction, an archaic form without any longitudinal bracing. Four arcade posts remain. All have carved capitals. The two for the open truss have cylindrical columns and ornate stiff-leaf decoration in the ‘Decorated’ style.

The wall and arcade braces are of large scantling, straight, rather than curved, and of square section. This combination of features is more evidence of a very early date. The bracing at the high end of the hall is duplicated, another early feature. The arcade posts are without jowls (which did not come into use until the 14th century). There seems to have been an end aisle at the parlour (west) end. There may have been another at the service end, but the evidence has been lost. There is evidence for a high-end bench and dais spere.

The previously estimated date was 1220–40, based largely on the style of the decorated capitals. It may have been built by Alard de Fleming, who died in 1263 (Annabelle Hughes, pers comm). Later a moulded cross beam was inserted in the open truss, cutting through the arcade posts just below the capitals. This created a ‘raised aisle truss’, clearing the hall area of the obstruction of the arcade posts – the same effect as a base cruck. There is evidence

for a smoke-bay phase of some sort, or perhaps a half-floored hall type of arrangement. There is now a central chimney.

A high-quality, timber-framed, two-bay cross-wing was added at the parlour end of the hall, replacing the end aisle. This has jowled posts and curved arch braces in the walls. The roof is of clasped-purlin construction with raking queen struts and curved windbraces. Later, a third timber-framed bay was added at the north end of the wing and the service end rebuilt. Three sets of tall Tudor-style chimneys now make a dramatic outline.

RUSPER, **Averys** (TQ 2055 3724). TRS*#, VA34
Felling date: **1581–1604**

Averys is in the centre of Rusper, just over the border from Surrey into Sussex. It is a 4½ bay, central-smoke-bay house with a jettied face wing to the front. The central half-bay is wide enough to have housed back-to-back hearths. This would be unusual but is likely in view of the bay configuration. There are narrow end bays with the larger bays either side of the central half-bay. The wall framing is quite late in style, with small square panels, straight down braces and posts without jowls. The roof is clad with Horsham stone and gabled. It is constructed with clasped purlins and queen struts, without windbraces.

The face wing is jettied on the front gable end at tiebeam level. The jetty has a moulded bressumer. The wing has a similar construction to the main build, but the roof has raking queen struts. The previously estimated dates were *c* 1600 for the main range and early 17th century for the wing. Only one timber was sampled from the wing, but it was identified as probably coming from the same tree as two timbers in the hall, indicating that hall and wing were constructed at the same time.

RUSPER, **Saykers** (TQ 2153 3630). TRS*#, VA35
Felling dates: **spring 1502, winter 1502/3, winter 1503/4**

Hiding behind a newer building, Saykers is a three-bay, open-hall house, with an unusual plan. One end bay, presumably the service end, was divided at ground-floor level into two half-bays. One was open to the hall bay, forming an overshot cross entry. The other half-bay was against the end wall, apparently with nothing beyond. It would have been some kind of service cupboard, and indeed it is still used for that purpose. The roof is hipped with crown posts. These are longitudinally braced only, and none of the rafters rest on the tiebeam, only on the wall plates. Sooting extends over the supposed solar, but not over the supposed service

end. The posts are jowled and there are long arch braces, particularly in the two internal walls. There are side-halved scarfs of unusual length and the bridles are double pegged. This, together with the type of crown post, led to a previous dating estimate of early 15th century.

Later a chimney was inserted and the hall floored over. The inserted spine beam has, curiously, straight step stops at one end and curved step stops at the other. This could infer reuse. It dated to *c* 1523–55, but this cannot be taken as firm evidence for the date of conversion to a chimney build. An inserted joist dated to winter 1497/8 and must surely be reused or stored.

SLINFOLD, **Gaskyns** (TQ 1225 3089). ODL#, VA33

- (a) Primary phase, felling date: **spring 1489**
- (b) Wing, felling date: **summer 1556**

Gaskyns farmhouse is an L-shaped building. The primary phase is a small building measuring just 8.1 x 4.7m, and consisting of a floored bay and a single-bay open hall. The sooted roof is of crown-post construction and was originally hipped with a gablet at each end. In line with this phase is a substantial brick stack that serves both the old hall and the second-phase cross-wing. The wing has four bays providing three rooms on each floor, the central rooms being of two bays. The roof has clasped purlins with diminishing principal rafters, queen struts and windbraces. There is, however, an anomaly at the chimney end of the wing. The end bay was rebuilt in the 20th century and the large cooking hearth cuts awkwardly across a principal post. It is likely that some form of smoke bay or timber chimney preceded the present brick stack and that some misfortune befell this part of the building, necessitating reconstruction. Neither hearth bressumer was suitable for dating.

WARNHAM, **Old Manor** (TQ 1583 3412). TRS*#, VA38

- (a) Main range, felling date: **winter 1495/6**
- (b) Main range inserted floor, felling date: **1581–1613**
- (c) Rear wing, felling date: **1479–1511, 1492–1517** (two spot dates)

Old Manor is finely sited on a hill on the edge of Warnham village. It is a high and wide, elaborately built, four-bay house in the Wealden style. This is an impressive form of open-hall house, with end bays jettied out forwards and a flying wall plate joining the two, making the centre bay look recessed under a rectangular roof. The timbers are huge and all major beams are chamfered, with a

mixture of flat and slightly curved step stops. The posts are jowled and there is evidence for close studding (now renewed). The roof is of crown-post construction. The open truss is particularly striking, with a cruciform crown post and a continuous chamfer along the principal posts, arch braces and tiebeam. The two-bay hall had unequal bays, but the narrow bay was augmented by an overshot cross entry. There is evidence for spere screens. There is decorative bracing at both ends of the hall. Curiously, there is a moulded low-end beam, rather than the more usual moulded dais beam found at the high end.

The previously estimated date for the build was *c* 1470. In addition to the tree-ring date of winter 1495/6, one tiebeam was dated to winter 1482/3, but this is thought to be reused. The date range of 1581–1613 is from the main spine beam of the inserted floor and accordingly indicates the date for the insertion of the chimney. However, a date for the chimney bressumer of 1476–1508 must surely show it to be another reused timber.

In addition, there is a separately framed, two-bay, floored, rear wing with simple crown posts, situated behind the high end of the front range. It was not possible to ascertain from the structure whether this wing was butted against the front range (or possibly its predecessor) or originally continued across the present footprint of the front range. However, two timbers produced felling-date ranges consistent with the date established for the front range, indicating that the two structures are coeval. Four other samples taken from the rear wing failed to date, so the conclusion that the entire wing was built at about the same time as the front range must remain tentative. As shown by the dating of the inserted floor, the central chimney was inserted about a century later. Much later, after being bricked for a period, the frontage was restored, with extensions made to the north.

WISBOROUGH GREEN, **Brinkhurst Cottage**
(TQ 0598 2868). TRS*#, *V443*

Felling date: **winter 1410/11**

Brinkhurst Cottage is in a rural situation in the rolling Low Weald of West Sussex, a little north of the village of Wisborough Green. It is a three-bay solar wing remaining from a medieval open-hall house. The wing was floored throughout. The solar on the first floor spanned two bays and had a splendid open truss that remains in a modern partition. The tiebeam is 45cm deep, cranked and with solid-spandrel braces. Chamfering runs continuously up the principal posts, along the braces and across the tiebeam. The tiebeam is

double chamfered, having a second chamfer above the first. The roof is hipped and of crown-post construction, the open truss crown post having no down braces, just upward braces to the collar purlin. There are massive jowled posts in the framing and pairs of long down braces in the Kentish style in both end walls. The side walls have long arch braces, one decorative pair facing into where the open hall would have been. The previously estimated date was early–mid-15th century.

Later, probably in the late 16th century, the original open hall was replaced by a timber-framed central-chimney build. This also is of high quality. A cross beam has ornate vertical mouldings where it is met by a spine beam – a feature not seen previously. This build has jowled posts, and a roof of clasped-purlin construction with queen struts and straight windbraces. Probably in the 19th century, the angle between the two builds was filled in to make a roughly rectangular footprint.

Unsuccessful dendrochronology datings in Surrey

Throughout the Project, there were buildings that were of interest but could not be dated. Much more often, the timbers were not suitable for dendrochronology, as has been described in ‘Success and failure’ in Part 1. As the Project progressed, area by area, a short list was drawn up for examination by the dendrochronologist. Usually, he was able to identify those cases very unlikely to date, without taking samples. These are listed below, but if in doubt, samples were taken. If they then failed to date in the laboratory, they are also included below and shown as ‘sampled’.

Many other buildings were deemed to be unsuitable without involving the dendrochronologist. But this was a more amateur assessment and it would be an assumption to list them here. It is also true that knowledge is growing and with the ever-increasing amount of data to help match samples. Any owner, whether already visited or not, should feel free to enquire.

ALBURY (Brook), The Cottage (TQ 061 463) sampled

ALBURY, the Old Rectory (TQ 047 478)

ALBURY (Brook), Quillet (TQ 061 463)

BLETCHINGLEY, Clive House (TQ 326 507) sampled

BUSBRIDGE, South Munstead Farm (SU 986 409)

BISLEY, Old Cottage (SU 951 597) sampled

CHARLWOOD, Primrose Cottage (TQ 238 410)

CHARLWOOD, Roundabout Cottage (TQ 239 436) sampled
CHARLWOOD, Temple Bar House (TQ 242 411)
CHERTSEY, Hardwick Court Farmhouse (TQ 027 658) sampled
CHOBHAM, Fowlers Wells (SU 973 626)
CRANLEIGH, Smithwood Farmhouse (TQ 047 415)
CRANLEIGH, Little Manor (Esso petrol station) (TQ 061 390)
CRANLEIGH, Kent House (TQ 057 392)
DUNSFOLD, 3 Elm Corner (TQ 005 358)
EFFINGHAM, Middle Farm (TQ 117 537) sampled
ELSTEAD, Parish church – timber tower (SU 903 435)
FARNHAM, Snayles Lynch Farm (SU 852 470)
FRENHAM, Old Farm (SU 841 431) sampled
GODALMING, Parish church – bell chamber (SU 968 440) sampled
GODALMING, Parish church – nave roof and spire (SU 968 440)
GUILDFORD, 13/14 Trinity Churchyard (SU 999 494) sampled
PYRFORD, Lady Place Cottage (TQ 041 583) sampled
PYRFORD, Church Farm (TQ 041 584)
PYRFORD, Wheelers Farmhouse (TQ 041 581)

RIPLEY, The Barn & Little Barn (TQ 054 568)
LEATHERHEAD, Patsom House (TQ 150 580)
LEIGH, Chantry Cottage (TQ 224 469)
LEIGH, Shelwood Cross (TQ 211 454)
NUTFIELD, Porters (TQ 312 499)
SHERE, Dial Cottage (TQ 072 477)
SHERE, Manor Cottage (TQ 074 479)
SHERE, Tudor Cottage (TQ 073 479)
THURSLEY, Upper Ridgeway Farm (SU 891 385) sampled
WEST CLANDON, Cuckoo Cottage (TQ 045 526)
WEST CLANDON, Fludyers (TQ 044 518)
WEST HORSLEY, Hammonds ‘Tithe Barn’ (TQ 077 528) sampled
WEST HORSLEY, High Bank (TQ 077 523) sampled (since then dated by documents)
WEST HORSLEY, Lower Hammonds Farm Barn (TQ 073 531)
WITLEY, Culmer Farmhouse (SU 948 391) sampled
WITLEY, Tigbourne Farm (SU 956 377) sampled
WITLEY, White Hart (SU 948 397) sampled
WONERSH, Reel Hall Barn (TQ 043 436) sampled
WORPLESDON, Littlefield Manor (SU 958 520) sampled
WRECCLESHAM, Partridge House (SU 824 446) sampled

GLOSSARY

Glossary of terms

Term	Definition
aisle	The portion of a house or barn separated only by posts from the main body of the building but under the same roof (like some church aisles).
ashlar	Vertical timber rising in line with the inner face of a wall forming a triangle between the rafter and the horizontal
bay	The portion of a building between adjacent principal posts or principal rafters of a box-framed building.
- half-bay	Short bay often used for a smoke bay or chimney.
- smoke bay	Short bay used for a hearth with closed partitions to confine the smoke.
beam	Major horizontal timber.
- cross beam	Ceiling beam across the width of a house. Sometimes called a transverse beam.
- spine beam	Ceiling beam along the length of a house. Sometimes called an axial beam.
- dragon beam	Horizontal timber which runs diagonally over a corner post, into which floor joists are tenoned to allow adjacent walls to be jettied.
- girding beam	Horizontal beam in a wall frame at the level of an upper floor.
brace	Timber, curved or straight, running between vertical and horizontal members of a frame.
- arch brace	Brace running from vertical timber such as a post to a higher horizontal timber such as a wall plate. Sometimes called a head brace.
- down brace	brace running from a vertical timber such as a principal post to a lower horizontal timber such as a girding beam. Sometimes called a tension (or foot) brace.
- (long) passing brace	Long brace from the head or foot of a principal post to the ground sill or wall plate, halved across a girding beam.
bressumer	Horizontal beam above a fireplace or set forward to support a jettied wall.
chamfer	Angled surface formed by cutting off the long edge between two faces of a timber, usually at 45°.
collar	Transverse timber connecting rafters at a point above their feet and below the apex of the roof.
cranked	Used of a timber with a pronounced change of angle such as a tiebeam higher at its centre than at its ends.
cross entry	Entry through opposed front and back doorways but with no wall to separate it from the hall. If separated by a wall it is called a cross passage, which is rare in Surrey.
- overshot cross entry	Where the first floor overshoots the cross entry below.
cruck	A pair of curved timbers (blades) serving as the principals of a roof with a variety of arrangements to form a truss.

GLOSSARY

Glossary of terms

Term	Definition
dais	Originally a raised platform at the upper end of the hall. Now used as shorthand for the moulded beam at the upper end of an open hall. A bench was normally fixed to the upper end wall below the beam.
durn door	Doorway made by pairing two timbers halved from a naturally curved timber.
end	The distinction in the plan of a house between the private and the service rooms.
- low (or service) end	The end of the house used for service rooms or of the hall towards that end.
- upper (or high) end	The end of the house used for private rooms or of the hall towards that end.
face	A frame is marked up as if it were lying on the ground.
- upper or fair	The upper or fair face is on top and timbers are set flush with one another so that it is the best side. The pegs are driven in from this side which has the assembly marks on it
- lower	The lower face is underneath and timbers will not be flush.
fillet	A narrow flat architectural member.
gabled	A small gable above a hip.
garderobe	A small privy projecting from an upper storey.
ground sill	Horizontal timber at the bottom of a framed wall into which posts and studs are tenoned. Sometimes known as a sole plate.
hall	Traditional term for the main living room of a house.
- open hall	Where the hall is open to the rafters and has an open hearth. Can be one or two bays, occasionally more.
- half-floored hall	Open hall where one bay is floored to give it an upper storey and the other is open to the rafters.
jetty	Cantilevered overhang of one storey over the storey below it.
- internal jetty	Where the first-floor internal partition overhangs the ground floor wall below it, giving a larger hall without forfeiting space upstairs.
joist	One of a series of horizontal timbers supporting a floor or carrying a ceiling.
jowl	Expansion of the inner face of the top of a bay post to accommodate housings for wall plate and tiebeam.
mortice	Socket in a timber to receive a tenon of another to form a joint.
mullion window	Window with vertical timbers in the opening rather than glass.
oriel window	A projecting window not reaching the ground.
pentice	Narrow roof projecting from a wall.

GLOSSARY

Glossary of terms

Term	Definition
post <ul style="list-style-type: none"> - principal/bay post - crown post - king post - queen post 	Vertical timber, usually substantial and usually forming part of the main framework (cf stud). Main post rising the full height of a building on the line of the tiebeams. Upright timber standing on a tiebeam supporting a collar purlin and not rising beyond the collar. Upright timber from a tiebeam or collar to the apex of a roof to support a ridge piece. Can rest on the tiebeam or be suspended from the apex. Paired posts set on a tiebeam and directly supporting purlins.
purlin <ul style="list-style-type: none"> - butt purlin - staggered butt purlin - collar purlin - clasped purlin 	Longitudinal timber set in the plane of a roof slope and supporting common rafters. Purlin tenoned into principals at either end of a bay. Purlin tenoned into principals but staggered at different levels to avoid weakening the timbers. Purlin supported by crown posts and bearing the collars. Sometimes called a crown plate. Purlin supported by a collar, queen post or raking strut.
rafter <ul style="list-style-type: none"> - common rafters - principal rafter - diminished principal rafter 	Inclined timber, usually one of a pair, which supports laths/battens under the roof covering. Rafters of uniform size regularly spaced along the length of a roof, or intermediate between principals. A common-rafter roof is a roof in which only common rafters are used. A rafter which is part of a truss, as opposed to the common rafters in between the trusses. In a roof with clasped purlins, a principal rafter cut back above the purlin to the thickness of a common rafter.
rail <ul style="list-style-type: none"> - mid rail 	Horizontal timber of wall frame between posts or studs. Beam in a wall frame centrally placed in a storey or between sill and wall plate in an open hall.
ridge board/piece	Longitudinal timber at the apex of the roof.
roof <ul style="list-style-type: none"> - gabled - hipped - half-hipped 	Where the end of a roof is vertical rather than sloped. Where the end of a roof is sloped towards the apex. Where the end of the roof is partly vertical and then slopes towards the apex.
saddle	Short timber set on top of two cruck blades.
scarf joint	Joins the ends of two timbers to make a longer structural member.

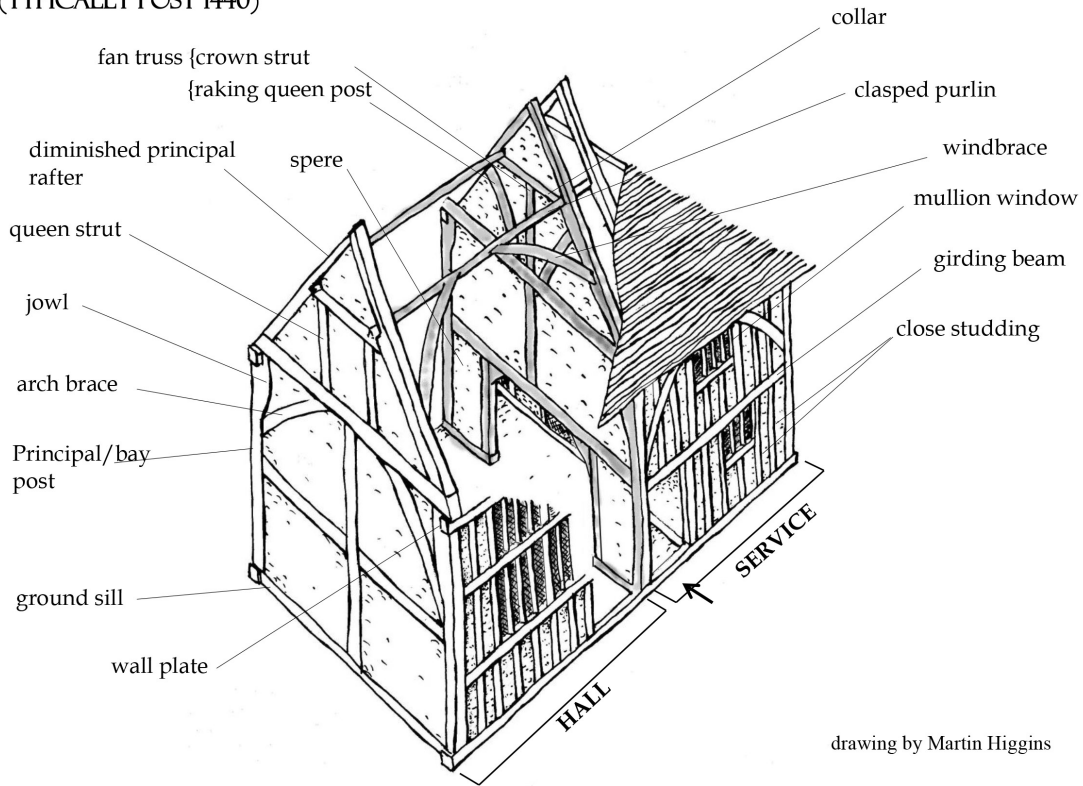
GLOSSARY

Glossary of terms

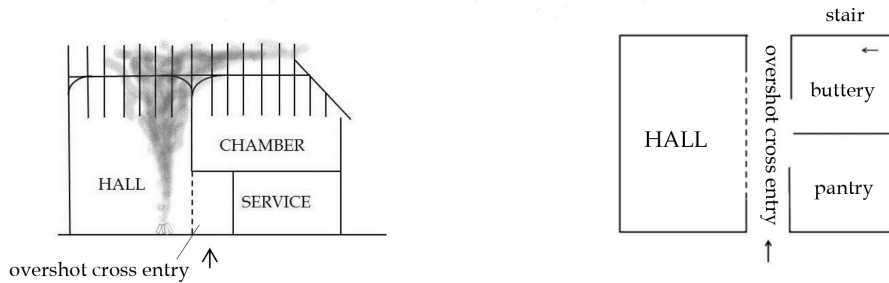
Term	Definition
smoke hood	Timber framed structure within a bay, supported on a bressumer and tapering to an outlet in the roof, to contain smoke from the hearth.
soulace	Straight brace from rafter to collar in a common rafter or crown post roof.
spere	Short screen to stop a draft from a doorway, typically used with an overshot cross passage.
stop	Decorative ending of a chamfer on a beam, doorpost etc. to return the timber to a square section.
strut	Timber in compression, normally between tiebeam and collar or principal rafter.
- crown strut	Upright timber similar to a crown post but not supporting a collar purlin.
- queen strut, upright	Paired struts framed between tiebeam and collar and not supporting a longitudinal timber.
- raking queen strut	Paired struts, straight or curved, set at an angle to the tiebeam and framed into the principal rafter.
- spandrel strut	Short timber set in the spandrel of an arch brace between the brace and the bay post or tiebeam.
stud	Subsidiary vertical timber, in a framed wall or partition.
- close studding	Where the spaces between studs are approximately the same width as the studs.
tenon	Projection from the end of a piece of timber to fit into the socket (mortice) of another to form a joint.
tiebeam	Main transverse timber connecting the tops of walls.
truss	Rigid cross-frame from tiebeam to ridge constructed at bay intervals to carry longitudinal timbers that support common rafters.
- open truss	Where there is no wall in between the timbers of the truss to allow free movement.
- closed truss	Where there is walling between the timbers of the truss to separate the bays and to prevent smoke escaping into the next bay.
- fan truss	A truss with a collar with a central strut to it (like a crown strut) but also raking queen struts. Sometimes called a butterfly truss.
wall plate	The plate on top of a wall frame or a masonry wall, on which roof trusses and rafters rest.
windbrace	Brace in the plane of the rafters, tying together a principal and a purlin.
wing	Section of a house roofed at right angles to the adjacent main range. The main roof will typically oversail the wing up to the ridge of the wing's roof.
- cross-wing	
- face-wing	Section of a house built onto the face of a building. The roof will typically fit on top of the rafters the main roof.

GLOSSARY

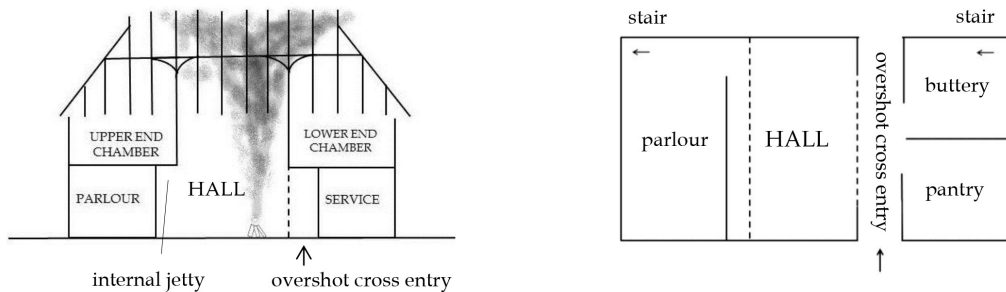
ILLUSTRATIVE ONE-BAY OPEN-HALL HOUSE (TYPICALLY POST 1440)



drawing by Martin Higgins



Section and plan of a one-bay open-hall house with one floored end

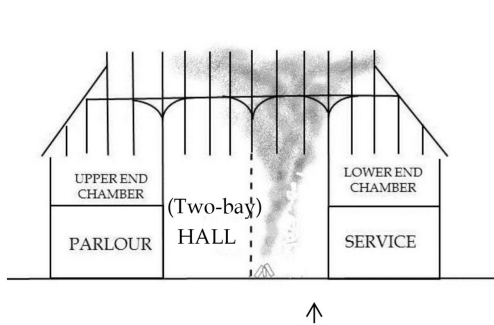
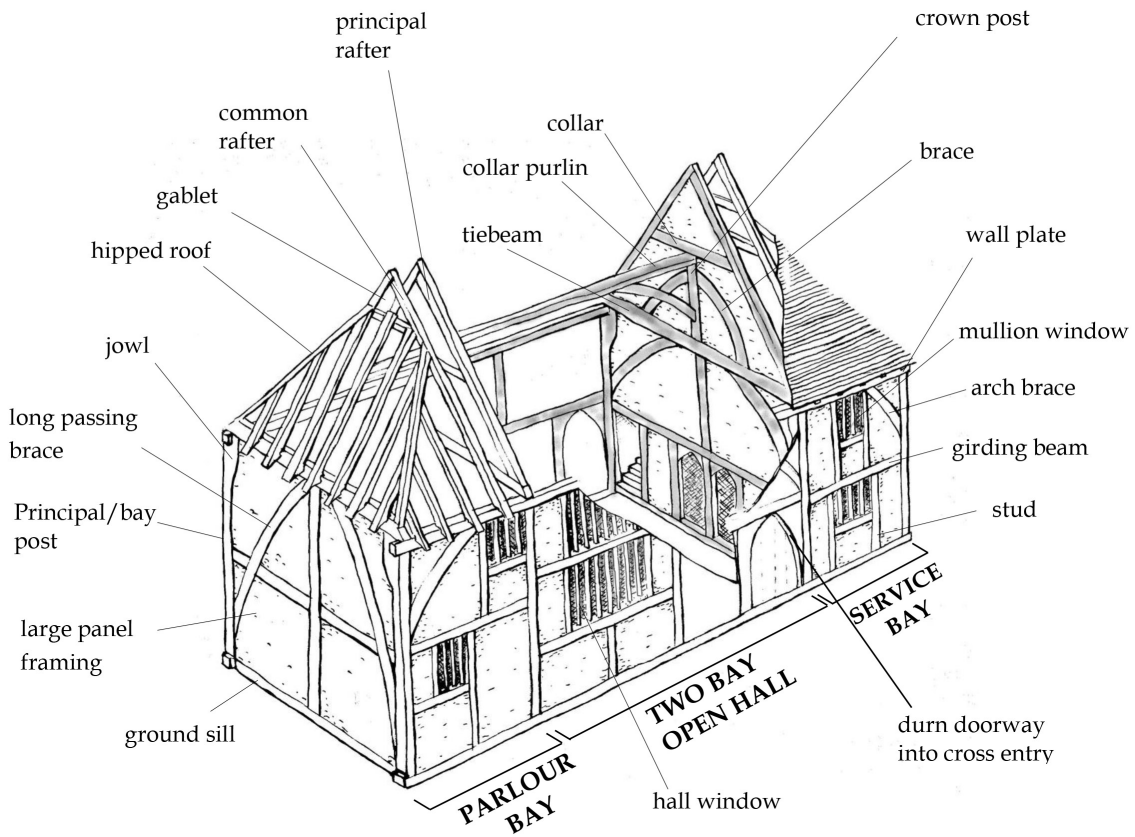


Section and plan of a one-bay open-hall house with two floored ends and an internal jetty

© DBRG

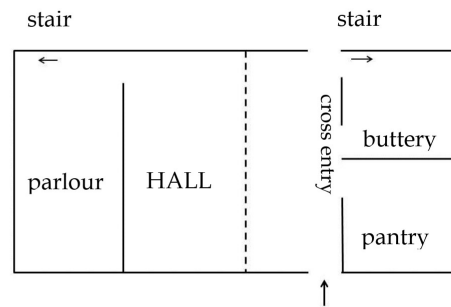
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ILLUSTRATIVE TWO-BAY OPEN-HALL HOUSE



Section of a two-bay open-hall house

Cutaway drawing by Martin Higgins

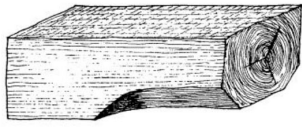


Plan of a two-bay open-hall house

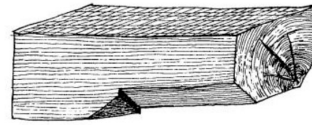
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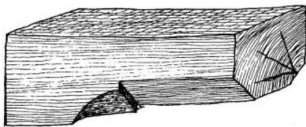
Chamfer stops



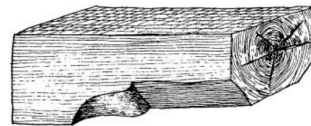
Run out stop



Flat step stop

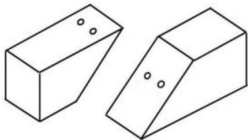


Curved step stop

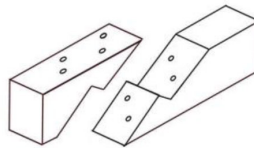


Lambs tongue stop

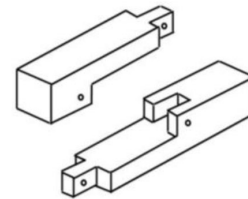
Scarf joints



Splayed scarf

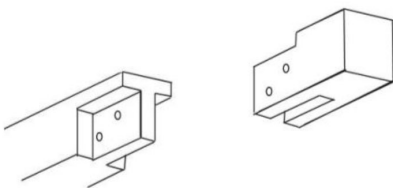


Splayed and tabled scarf
(Trait de Jupiter)

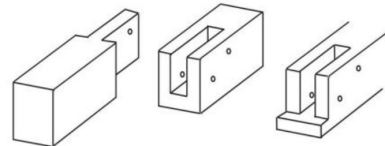


Side-halved and
bridled scarf

Three-quarter depth scarfs

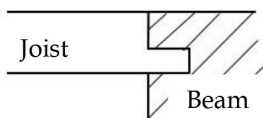


Face-lapped and bridled three-quarter depth scarf

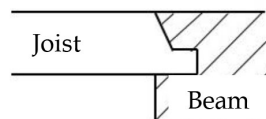


Three-quarter depth scarf
variations

Joists



Joist with bare-faced tenon



Joist with diminished haunch tenon

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M1131 Watercolour by Edward Hassell
- SHC: Surrey History Centre, Woking
G85/12/2 View of Frankpledge for Godley Hundred, held at Hardwick in Chertsey, 1446
G120/24/3 & 4 Assignment of lease
187/4/4 Manor of Tadworth: court roll 1557, application for licence to farm
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