

THE BUILDING OF A BARN, BYRE AND CARHOUSE ON GLASTONBURY ABBEY'S MANOR OF STREET BETWEEN 1340 AND 1343

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During early research into Glastonbury Abbey's Polden Hill manors I came across an account for the building of a new windmill at Walton in 1343,¹ the first year of Abbot Walter of Monyngton's rule.² Excited by the wealth of detail this contained I was a little disappointed to find that the document was known and had been reported many years previously.³ However, continuing researches revealed that, in Walton's neighbouring manor of Street, a sum far exceeding the £11 12s 11d cost of the mill was spent in a building programme commencing under Walter's immediate predecessor, John of Breynton. Indeed it was this abbot who, according to John of Glastonbury the abbey's chronicler, was responsible for the Walton mill and new barns at Nettleton in Wiltshire and at Street. Breynton also initiated work on a new byre (*boveria*) and carhouse (*domus carrorum*) at Street which, like the Walton windmill, were also completed in 1343.⁴ The detailed account for the Street barn is given as an addendum to the manorial account roll for 1341 and serves to illustrate the degree and extent of Glastonbury's control and organisation of its manorial possessions.⁵ Examination of the way that the projects were funded also throws some slanting light on levels of capital investment by the abbey.⁶

Under the overall direction of the cellarer, who was supported by the bailiff of the Polden manors, Peter de Schaldeforde, men, money and materials were requisitioned and marshalled in a complex enterprise.⁷ This involved a network of manors, some linked to the focus of activity only by common lordship, some by everyday exchanges between neighbouring vills, but all driven by the abbey's enterprise and perceived need for investment in strategically placed resources required to maximise the profitability of its estate. Glastonbury's ability both to mobilise a large labour force from the consolidated bloc of its Polden manors, and to make free use of the natural resources to be found within the bounds of its Somerset possessions, was clearly a significant factor underlying its huge wealth. To illustrate this point a comparison is made with the cost of building a barn on the Bishop of Winchester's manor of Ivinghoe in Buckinghamshire, c. 1310.⁸

Figure 1 illustrates the geographical extent of the various Glastonbury manors contributing money, men or materials to the building programme.

FUNDING

The cost of the new barn was funded in large part by *forinsec* receipts⁹ from manors many of which were unlikely to have had their harvests stored there. Most, if not all of them, had

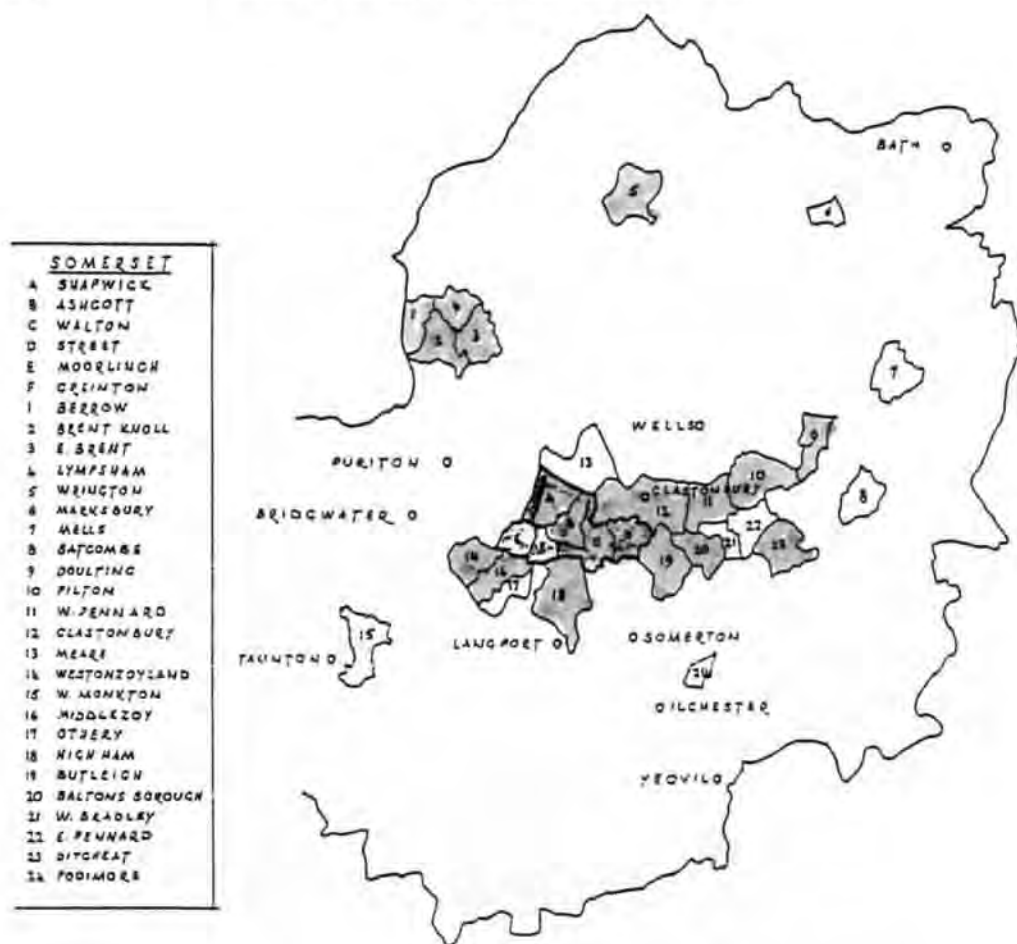


Fig. 1 The Glastonbury Abbey estate in Somerset with the Polden bloc shows as A to F and those manors which contributed men, money or materials towards the building programme of the 1340s are highlighted.

their own barns and Wrington, the largest contributor some 17 miles due north of Street, and Sowly to the west in Sedgemoor, each had two.¹⁰ Street itself had a pre-existing barn for the 1343 account details the wages of the 24 men involved in its demolition and the recovery of timbers and hinges from the *veteris grangiam* which were then reused in the byre and carthouse respectively. The list of contributory manors and the amounts given, as recorded in the account roll for 1341, is as follows: Glastonbury 18s, Brent £5, Wrington £12 16s, Doultling £1, Ditcheat £3, Pennard £1, Baltonsborough 10s, Butleigh £2 10s, Ham £1 1s, Sowly £8 16s 11d, Pilton £1 11s 8d, a total of £38 3s 7d.¹¹

To put these sums into context it should be noted that inclusive of the *forinsec* contributions, Street's total cash income in 1341, net of acquitances, was £80 10s 1d. The amount of cash generated within the manor was therefore £42 6s 6d against which must be set the

Table 1 Street's cash income and capital expenditure

Year	<i>Forinsec</i> income	a) Cash net of <i>forinsec</i> income	b) Rents and court perquisites included in a)	b) as % of a)	c) Capital investment cost	c) as % of a)
1301	£ 1 18s 8d	£21 3s 11d	£17 18s 9d	84.7	£ 4 4s 8d	20.0
1303	£ 1 1s 4d	£22 9s 11d	£16 18s 10d	75.3	£ 1 16s 3d	8.1
1305	£ 0 6s 8d	£29 1s 3d	£23 2s 3d	80.1	£ 2 12s 2d	9.0
1312	£ 1 0s 0d	£32 8s 7d	£23 12s 7d	72.9	£ 2 4s 4d	6.5
1313	nil	£36 7s 11d	£22 16s 2d	62.7	£ 4 5s 4d	11.7
1314	£ 0 3s 6d	£47 12s 5d	£34 17s 0d	73.2	£ 5 18s 11d	12.5
1315	nil	£34 15s 10d	£28 10s 3d	81.9	£ 1 11s 5d	4.5
1331	£ 2 6s 0d	£40 10s 1d	£37 16s 7d	93.4	£ 2 8s 9d	6.0
1334	£ 0 12s 2d	£56 11s 11d	£49 15s 5d	87.9	£ 2 0s 10d	3.6
1341	£38 3s 7d	£42 6s 6d	£37 6s 7d	88.2	£60 14s 0d	143.4
1343	£11 12s 10d	£51 15s 8d	£39 2s 1d	75.5	£20 11s 5d	39.7
1344	£ 2 0s 0d	£54 2s 11d	£50 17s 5d	94.0	£ 2 1s 1d	3.8

total of cash expenses which, including the manor's own direct contribution towards the barn of £16 0s 8d,¹² came to £64 10s 8d. Superficially, therefore, Street was showing a loss of £22 4s 2d in cash terms but this was slightly more than balanced by a cash livery of £22 15s 5d to the abbey. When other liveries — of 93 quarters of wheat worth £18 12s 0d at the going rate of 4s per quarter, 8 quarters and 6 bushels of oats, 13 pigs, 12 capons, and 8 $\frac{1}{2}$ *pisa* of cheese valued at £4 19s 2d — are taken into account, then the abbey was surely well satisfied with the profitability of its close manorial possession.¹³ Table 1 shows the rising trend of Street's net cash income (i.e. that generated on the manor) in the first half of the fourteenth century and the extent to which this was composed of income from rents (including the sale of labour services), and the proceeds of the manor court (fines including reliefs, heriot, merchet and the poll tax or *capitagium* levied on the resident landless men). Also shown is the exceptional nature of the *forinsec* income of 1341 and 1343¹⁴ and the level of capital investment in the form of expenditure on the upkeep of demesne buildings, equipment (ploughs, carts, etc.), ditching, and purchase of live- and dead-stock.

With the exception of Butleigh the absence from the *forinsec* subscription list of any of Street's most closely associated manors of the Polden Hills is noteworthy, but the position is redressed by the manpower contributed by these manors and, more to the point, is indicative of the integrated management approach of the abbey, the main concern of which would have been with strategically placed resources regardless of the contribution towards them of particular manors. Street, close to the abbey and, as in the case of all the Polden manors, with an increasingly profitable record in the early years of the fourteenth century was perhaps more likely than most to be a focus of capital investment.¹⁵ The table shows how very exceptional investment in the period 1341–43 was; although in the early years of the century investment levels exceeded those to be found on many estates, the later underlying rate was close to the levels instanced by Postan and Hilton as being indicative of shortsighted policy, geared to maintenance rather than increase of assets and expansion of production.¹⁶ We must not, however, forget that we are only seeing part of an integrated strategy, and that when account is taken of other developments elsewhere on the Glastonbury estate (such as the Walton windmill and one built at Shapwick between 1315 and 1325, and the other mills and barns to be found throughout the estate)¹⁷, it is clear that the real level of investment was significantly higher than one might be led to suppose from the examination of even a good run of accounts for any one manor.

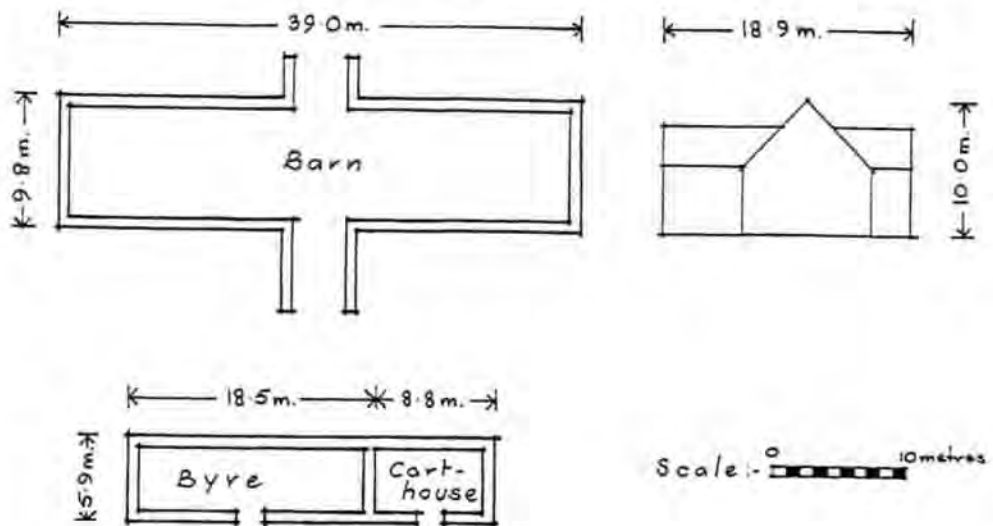


Fig. 2 Conjectural plan and elevation of Street barn based upon a rope of 20 feet and extrapolation from the proportions of Glastonbury Abbey's barns at Glastonbury, Doulling, Pilton and West Bradley as indicated by C. J. Bond and J. B. Weller. The comparative plan dimensions of byre and cart-house are also shown.

THE FORM AND SIZE OF THE BARN

There are several explicit references to the new barn in the main account roll but unfortunately this has blank spaces where the length and breadth of the building were to have been entered. However, there is, in the detailed account, a reference to the total length of walling for which the mason was paid, which is stated as being *xvij raparum super predictam fundament*. The 'rope' was 20 feet in length and it is therefore possible to determine the barn's overall dimensions, and from other details given in the account (for example the reference to two porches and two doors) and the descriptions of the four surviving Glastonbury abbey barns given by Bond and Weller, the probable ground plan of the Street barn can be postulated as illustrated in Figure 2, which also shows the elevation and the byre and cart-house to the same scale.¹⁸

These plan dimensions taken together with the height to the top of the longitudinal walls, which it is clear from the detailed account were 13½ feet high, enable comparisons to be made with the four surviving abbey barns as specified by Bond and Weller (Table 2).

Table 2 Comparative dimensions of Street and surviving abbey barns (metres)

	Glastonbury	Doulling	Pilton	W. Bradley	Street
Length	25.9	29.0	33.0	16.0	37.6
Breadth	7.9	8.2	8.4	6.2	8.3
Height of walls	6.8	4.8	5.8	5.0	4.1
Height to ridge	13.0	12.0	11.0	10.0	10.0
Length:breadth ratio	3.27	3.53	3.93	2.58	4.53

Table 3 Comparative wage-bills for barn, byre and carthouse

	Barn	% of total cost	Byre	% of total cost	Carthouse	% of total cost
Masons/site	£13 8 3	24.6	£2 14 4	22.3	£1 5 0	30.7
Mason/quarry	£ 6 17 0	12.6	£0 10 5 ²⁴	4.6	£ unknown	
Carpenters	£12 12 0	23.0	£2 10 0	22.2	£0 7 6	9.2
Tilers*	£ 3 6 8	6.1	£1 0 0	8.9	£0 8 0	9.8
Totals	£36 3 11	66.3	£6 14 9	58.0	£2 0 6+	49.7+

* Inclusive of quarrying.

The barn's overall design and proportions would thus have been similar to, if somewhat grander than, the barns at Pilton and Glastonbury, like them being without the two cart porches on each side that set Doulling's barn apart, but would not quite put it into Bond and Wellers' category of large barns.¹⁹ Although the conjectural ratio of length to breadth may seem anomalous compared with the other barns, such proportions are not improbable. The relatively squat West Bradley structure with its ratio of 2.58 may for instance be compared with the tithe barn of the Pastons in Norfolk which, at 48.4 metres in length but only 7.3 metres in width, displays a ratio of 6.68.²⁰

A translation of the detailed account for the barn is given as an appendix and provides much information about the numbers, wages and victualling of the men of Street and neighbouring manors involved in its construction, and the costs and sources of materials.²¹ The following points, together with some limited comparison with the data, provided in similar detail, from the accounts for the byre and carthouse, are of particular interest.²²

THE WORKFORCE

Thomas Everard, the Glastonbury cellarer, was the official originally in overall charge of the barn's construction but by 1343 this office, together with responsibility for the building of the byre and carthouse, appears to have passed to John de Cary. Peter Schaldeforde was the bailiff throughout the period of all four building projects and clearly acted for the cellarer on occasion as, for example, when he made an allowance of 6 bushels of wheat to Walter Michel the mason [*cementarius*]. Michel was the only named mason involved with all three buildings and was probably the man otherwise described as 'the mason of Doulling' although this might have been Roger le Smyth *cementarius apud Doulling* who broke and dressed the freestone for the gable-end of the byre.²³

Whether or not Michel was the only mason actually working on the building sites it was his work which accounted for the largest element of the wage-bill closely followed by that of the carpenters, named as Henry atte Cleve and, aptly, John Borde. The total wage-bill for the three projects (exclusive of payments in kind) is given, along with the related percentage of total building costs, in Table 3.

Daily wage rates are given, or can be calculated, for a few of the operations described in the account but this is not possible in the cases of the mason(s), carpenters or tiler, even though their total pay is given, as the length of their involvement is not known. However, if it is assumed that just one master mason was involved on site throughout the 26 week period, during which a man and his mate (*garcio*) were burning lime for mortar at rates of pay of 9d and 6d per week respectively, then this would give an improbably high rate of

20.6d per day on the basis of a 6 day week.²⁵ As the standard rate for such a craftsmen was probably of the order of 3½d to 4d per day it would seem that Walter Michel must have employed a gang of men to work under his skilled direction, perhaps up to a dozen altogether involved in stone dressing, mixing mortar, carrying, lifting and fixing.²⁶ Precise rates of pay are given for three men who tidied up the foundations for three days at a 1d per day; the aforementioned lime burners at 1½d and 1d per day respectively (their weekly rates clearly implying a 6 day week); and lastly a digger of sand at 1½d per day, the going rate for the heavier labouring tasks.

The amounts in the table are exclusive of the specified costs of payments in kind, including those to the numerous men of Street and its surrounding manors who received no more than food and drink for their labours. Had the abbey not been able to call upon the services of these men, no doubt largely recruited from the ranks of the local landless men (*garciones*) perhaps eager for extra work, the wage-bill would have been somewhat higher.²⁷ Sixty-six men from Shapwick, Ashcott and Walton on one day, followed by 32 men of Baltonsborough and 30 from Street itself on another, were engaged in digging and levelling the 340 or so feet of foundations. Their reward was to be fed with bread and cheese to the value of approximately 1d per man-day, with other relish (*companagium*) in the case of the men of Street and Baltonsborough, and to have their, one imagines considerable, thirst quenched with ale.²⁸ The 32 men who, under the supervision of the master carpenters, raised the main timbers for the barn roof were rather better fed. Over the 3½ days of their labours they had bread and cheese to the value of 13s 6d i.e. about 1.4d per man day, in addition to which they also had ale provided by the Glastonbury butler (*botelerius*). Such occasions of communal effort were probably quite convivial with the men able to take pride in their contribution to such a substantial enterprise. However, rather less opportunity for conviviality would have accrued to the men, also paid in bread, cheese and ale, who using their own oxen, contributed 104 man-days to the task of hauling 54 wagon-loads of timber from Pilton Park some 8 miles away (40 loads), or from *Northwode* (14 loads).²⁹

SOURCES OF MATERIALS

Taken together money wages and payments in kind accounted for approximately 74 per cent of the total building costs of the barn with the remainder being taken up by materials, a few tools, and the six acres of summer pasture bought from William Richard of Street for the demesne horses and 34 demesne oxen which hauled 1,700 wagon-loads (*plaustrata*) of stone from the Doulling quarry.³⁰ The cost of materials and their various sources are listed in Table 4.

It may be that the largest item in this list, for stone from Doulling, should more properly be included under wages. The account entry can be read as payment for the stone itself (see Appendix) but the Doulling quarries belonged to the abbey and the reference to payments of wheat in addition to cash are suggestive of wages. Also, comparison with the equivalent entry for the byre which refers to 600 wagon-loads being paid for *ad tascham* (i.e. at piecework rates) suggests as much. If such was the case then material costs amounted to only some 17 per cent of the total. Either way the figures provide a stark comparison with the Bishop of Winchester's wooden barn at Ivinghoe built in 1310 when materials accounted for 62 per cent of the total cost of £83 3s 0½d. This virtually complete reversal of the amounts of the two main elements of cost almost certainly arose from Ivinghoe's isolation from other Winchester manors and, therefore, the kind of resources that Glastonbury enjoyed in such rich and local profusion. Timber and stone cost Glastonbury £9 4s 7d or just 17 per

Table 4 Sources and costs of materials used in construction of the barn

Material	Source	Cost	% of total cost
Stone	Douling quarries	£4 19s 6d	9.2
Lime	Polden lias	£ Nil	0.0
Coal	Mendip coalfield?	£1 10s 6d	2.8
Sand (bought)	<i>Madelodebrigg</i>	£0 3s 4d	0.3
Sand (dug)	<i>la Wenbrigg</i>	£ Nil	0.0
Main timbers	?	£2 17s 11d	5.3
Lesser timbers	Pilton & <i>Northwode</i>	£ Nil	0.0
Door timbers	Wales	£1 7s 2d	2.4
Roof laths	Glastonbury cellarer	£ uncosted	—
Roof tiles	Polden?	£ Nil	0.0
Alder <i>flakes</i>	Polden or <i>Herti</i> moor	£0 2s 6d	0.2
Hooks/hinges	Local smith?	£1 10s 0d	2.8
Lead	?	£0 1s 0d	0.1
Nails and pegs	?	£1 3s 0d	2.1
Ox pasture	William Richard	£0 5s 3d	0.5
Tolls/equipment	Carpenters	£0 1s 6d	0.3

cent of the total which contrasts with £33 1s 3d equal to 40 per cent of the much higher cost that Winchester paid for a possibly less substantial asset.

In general terms the accounts for the byre and carthouse reveal wages, costs and quantities of materials which are only crudely proportionate to their dimensions when compared with those of the barn. As we have seen 1,700 wagon-loads of stone went into the construction of the barn, 600 were needed for the byre and 300 for the carthouse, and yet their overall costs were only 21 and 7.5 per cent respectively of those incurred in building the larger structure. Table 3 illustrates some of the differences but the absence from the accounts for the lesser buildings of any equivalent to the Douling quarry mason's wage (except for the estimated ten shillings earned by Roger le Smyth) may be part of the reason, as it is almost certain that some of the stone for these buildings came from quarries in Street itself.³¹ The low cost of carpentry in the case of the carthouse partly arises from the use of the old barn's timbers but although the carpenters' wages only amounted to 7s 6d this is itemised to reveal that one man was paid 20d per week for 3 weeks, that is at a rate of between 3.33d and 4d per day, and the other 15d for two weeks, or 2½d per day assuming a normal six-day week was worked. An entry in the account for the carthouse also throws a little further light on both wages and the provenance of materials; this refers to the six men who each received 2d for a day's work felling and collecting 24 alder tie-beams (*copulas cheveronus alneti*) and then carrying them from *mora de herti usque ad terram*.³² Alder would have been one of the commonest trees of the surrounding moors and was, with oak and elm, the only specifically named timber in the accounts, but whereas the other two when named were always purchased, alder was there for the taking.³³

In their account of Glastonbury's surviving barns Bond and Weller refer to the lack of '...specific documentation for the sources of building materials for any of the extant barns ...', and it is hoped that this short account may go some way to closing the gaps in our knowledge of these structures which, next to the village church, were for many medieval countrymen the most substantial buildings within their everyday view.³⁴ At the same time, while it cannot claim to make other than a narrow and relatively shallow examination of the abbey's degree of capital investment, it does suggest that in the first half of the fourteenth

century, and particularly in the 1340s, this Benedictine house continued to be the improving landlord that R.A.L. Smith perceived it to be in the thirteenth century.³⁵

APPENDIX

TRANSLATION OF THE STREET BARN BUILDING ACCOUNT OF 1340/1

For 3 cheeses weighing 1 stone 10½ pounds bought for the expenses of masters Henry atte Cleye and John le Fougel and 66 men from Shapwick, Ashcott and Walton digging and clearing the foundations of the new barn for one day 17½d, the cost per stone 10d. And they had 4 bushels of bread, and ale for their expenses on that day by livery from the cellarer.

Also the expenses of 32 men from Baltonsborough and 30 men from Street digging and clearing the foundations of the new barn for another day, bread (4 bushels) 12d, and *companagium* bought for 4s 11½d.

Also for the wages of 3 men clearing and levelling the foundations *per lineam* before the mason [came] for 3 days 9d.

For the wages of the mason making the cement foundation up to ground level by piecework, 26s 8d, contract made by brother Thomas Everard cellarer. And furthermore he had 1 quarter of wheat under the same agreement as shown in the accounts this year.

For the wages of one mason building one new dressed stone wall 17 ropes long upon the said foundations to a height of 12 feet by piecework £9 7s, that is 11s per rope. And further he had 2 quarters of wheat by agreement with Thomas Everard the cellarer.

Also for the wages of the aforesaid mason for raising the said wall by 1½ feet and making the stonework for two gables and two porches for the barn to the height of the said wall, buttressing and pointing the wall within and without, 53s 4d — by agreement made with the cellarer.

For 1,700 wagon-loads of dug and broken stone for the masonry of the barn £4 19s 6d, of which 700 at 5s 6d per 100 plus 12d more for 2 bushels of wheat, and 1000 wagon-loads, per 100, 5s 6d and 1 bushel of wheat price 6d.

For payment made to the mason of Doultling for digging, cutting and making the whole of the freestone for the said new barn by piecework agreement made by the cellarer £6 17s.

Also for the wages of one mason for making a new lime-pit for lime-burning by the manorial servants (*famuli*), 15d.

For the wages of one man burning 120 quarters of lime by piecework, 5s namely at ½d per quarter.

Also for one man with his helper (*garcio*) making lime for the masonry and roof of the barn for 26 weeks, 32s 6d and so the mason received 9d per week and his *garcio* 6d.

For 122 quarters of pit-coal (*carbon' terrestris*) bought for burning the aforesaid lime, 30s 6d at a cost per *pisum* of 18d and per quarter 3d.

For the wages of one man digging sand in the furlong next to *la wenbrigg* for mortar for 16 days, 2s, he receiving 1½d per day.

For 132 (sic) hurdles (*flak'*) of alder made for scaffolding for which he had 2s 6d, namely for 2 hurdles 1d.

For 12 big hooks (*gumphis*) and 12 big hinges (*vertenelli*) and 4 small hooks and all hinges for hanging the doors of the barn, bought for 30s.

For half a measure (*fotmellum*) of lead bought for metalling (*firmand*) the hinges, 12d.

For 12 new barrows/stretchers (*civeris*) made to carry the stone, 9d.

For 2 new hods made for the mortar with boards and nails bought for them, 6d.

For one new shovel (*trobrius*) bought for mixing the lime and sand, 1d.

For 2 new troughs (*alviolis*) bought for holding water, 2d.

For the wages of a carpenter who made the woodwork for the whole of the new barn and its doors by piecework £12 12s, and the said carpenter had 1 quarter of wheat in addition to his contract by gift of the cellarer.

For 65 wooden tie-beams (*copulas cheveronus*) bought, 57s 11d, namely 40 at 10½d and 25 at 11d.

For 300 big spikenails bought for fixing the wood, 2s at 8d per 100.

For the wages of one tiler (*tegulator*) for roofing the whole of the new barn and digging the stone tiles for the said roof by piecework, 66s 8d by agreement with the cellarer, and in addition he had 1 quarter of wheat given by the cellarer.

For 21,000 lathnails bought for the barn roof, 21s at 1s per 100. And he had 9,000 laths for the roof provided by the cellarer.

For 3½ loads (*summagia*) of new ridge-tiles bought for the barn roof, 4s, namely per load 13½d plus in total 3s 4d and each load contained 24 ridge-tiles.

For 15 new ridge-tiles with finials (*cum pomella*) bought for 15d.

For 20 quarters of sand bought at *madelodebrigg* for the said roof, 3s 4d at 2d per quarter.

For the expenses of 44 men with 22 wagons and their own oxen carrying timber from Pilton to Street for one day, and 36 men with 18 wagons and their own oxen carrying timber from Pilton to Street on another day, and 28 men with 14 wagons and their own oxen carrying timber from *Northwode* to Street, for whom bread and cheese bought, 5s 5d and they had ale from the lord abbot's butler (*botelerius*).

Also for the expenses of masters Henry atte Cleye and John Borde the carpenters and 32 other men raising the big timbers for the new barn for 3½ days, bread and cheese bought, 13s 6d, and they had ale from the Glastonbury butler.

For one close containing 6 acres of pasture bought from William Richard of Street for horses and 34 oxen carrying stone for the new building of Street in the summer, 5s 1d by order of the cellarer.

For 23 Welsh planks each of them 20 feet long by 1 foot and a quarter wide for the big barn door, 23s at 12d each.

For 10 Welsh planks each of them 9 feet long by 1 foot and a quarter wide for the smaller barn doors, 4s 2d.

For 800 big spikenails bought for the above big barn doors, 8s at 12d per 100.

For 500 big boardnails for the smaller doors, 2s 1d at 5d per 100.

Total £54 4s 3d

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SOURCES

Longleat MSS, 10801; 10808; 5808; 10018; 10081; 10082; 10083; 10640.

BIBLIOGRAPHY

C.J. Bond and J.B. Weller, 'The Somerset Barns of Glastonbury Abbey' in L. Abrams and J.P. Carley, (eds), *The Archaeology and History of Glastonbury Abbey* (1991), p. 59.

- H.S.A. Fox, 'Exploitation of the landless by lords and tenants in early medieval England', in Z. Razi and R. Smith, eds, *Medieval Society and the Manor Court* (1996), pp. 518-568.
- R.H. Hilton, 'Rent and capital formation in feudal society', in *The English Peasantry in the Later Middle Ages* (1975), pp.174-214.
- I. Keil, 'Building a Post Windmill in 1342', *Transactions of the Newcomen Society* 34 (1962), pp. 151-154.
- D. Knoop and G.P. Jones, *The Mediaeval Mason* (1949), pp. 142-3 and J. Harvey, *English Mediaeval Architects* (1954), p. 185.
- H.E.J. Le Patourel in *The Agrarian History of England and Wales* vol. 3 (1991), pp. 865-884.
- M. McGarvie, *The Book of Street* (1987), facing p. 113.
- R.A.L. Smith, 'The Benedictine contribution to medieval English agriculture', *Collected Papers* (1947), pp.103-116.
- A. Watkin, ed., *The Great Chartulary of Glastonbury*, SRS (1952), p.341.
- J.Z. Titow *English Rural Society 1200-1350* (1972, first published 1969), pp. 203-4.
- M.M. Postan, *The Medieval Economy and Society: an Economic History of Britain in the Middle Ages* (1972), pp. 102-104.
- M.M. Postan, 'Medieval agrarian society in its prime', in *idem* ed., *The Cambridge Economic History of Europe I: The Agrarian Life of the Middle Ages* (2nd ed. 1966), pp. 564-5.

REFERENCES

- 1 Glastonbury's account years ran from Michaelmas to Michaelmas and the year dates given in this paper relate to the year end.
- 2 Longleat, MS. 10801.
- 3 I. Keil, 'Building a Post Windmill in 1342', *Transactions of the Newcomen Society* 34 (1962).
- 4 Detailed accounts for these two buildings are included with the account roll for 1343: Longleat MS 10808. The cost of the building programme, which also included a new pinfold, was £71 1s 0d, of which sum the barn accounts for £54 4s 3d, the byre £11 5s 8d, the carthouse £4 1s 4d, and the pinfold £1 9s 9d. Impetus for the burst of investment in capital projects was possibly given by the abbey's acquisition of the nearby manor of East Street in 1340 when Lucy, widow of Roger of *Estret*, granted it together with the services and rents of its tenants to the abbot and convent of Glastonbury: A. Watkin, ed., *The Great Chartulary of Glastonbury*, SRS (1952), p. 341. East Street does not, however, lie in the parish of Street but is some 4 miles to the north-east in West Pennard. While the Street barn has not survived, its seventeenth-century successor still stands on the probable site marked on the O.S. 6 inch map of 1884 as the Abbey Grange some 650 metres to the south-west of Holy Trinity Church. This location is within 2½ miles of the abbey via the bridge *Pons Perilis*: see M. McGarvie, *The Book of Street* (1987), facing p. 113.
- 5 Longleat MS 5808.
- 6 For conflicting views about the capital investment performance of thirteenth and fourteenth century ecclesiastical lords see R.A.L. Smith, 'The Benedictine contribution to medieval English agriculture', *Collected Papers* (1947), pp. 103-116 and R. H. Hilton, 'Rent and capital formation in feudal society', in *The English Peasantry in the Later Middle Ages* (1975), pp. 174-214.
- 7 Peter de Schaldeforde was Bailiff for all the Polden manors i.e. Shapwick with Moorlinch, Ashcott, Greinton, Walton, and Street from at least 1335 to at least 1345: Longleat MSS 10018, 10081, 10082, 10083, 5808, 10808, 10640.
- 8 J. Z. Titow, *English Rural Society 1200-1350* (1972, first published 1969), pp. 203-4: no dimensions are given for this structure, in which stone was only used for the foundations, but it cost £83 8s 0½d to build, of which £33 1s 3d was for timbers and £14 6s 8d for carpentry.
- 9 That is cash receipts from outside the manor, mainly from other parts of the Glastonbury estate.
- 10 C. J. Bond and J. B. Weller, 'The Somerset Barns of Glastonbury Abbey' in L. Abrams and J. P. Carley (eds), *The Archaeology and History of Glastonbury Abbey* (1991), p. 59.
- 11 Longleat 5808.
- 12 That is £54 4s 3d less £38 3s 7d *forinsec* income.
- 13 These liveries of grain and livestock were fairly typical of the manor's contribution to the abbey's

larder or marketable surplus; taking wheat alone (the most valuable product) we find that in 12 account-years between 1301 and 1344 liveries to the Glastonbury barn averaged 102 quarters per year, with a low of 34 quarters in 1305 and a high of 161 quarters in 1312.

- 14 The latter sum included contributions from Brent, Walton and Meare, towards the new byre and carthouse.
- 15 Street alone of Glastonbury's Polden manors (with the exception of Butleigh if that is counted as such) had a dairy herd at farm in the 1340s. Cash revenues from the milk of 19 cows in 1341 came to £4 15s, and from 22 cows in 1343 to £5 5s.
- 16 M. M. Postan, *The Medieval Economy and Society: an Economic History of Britain in the Middle Ages* (1972), pp. 102–104; Hilton, 'Rent and Capital Formation', pp. 187–190.
- 17 There were at least 15 abbey barns scattered amongst Glastonbury's Somerset manors c. 1300 including three on the Polden manors: Bond and Weller 'Somerset Barns', pp. 59–61.
- 18 The length of the 'rope' as determined by the use of cross-references to 'ropes' and feet in the accounts for the byre comes to 20 feet 9 inches as its long walls are specified as being 63 feet long and gable-end walls 20 feet making a total of 166 feet on which the mason then built 8 ropes of new wall; however, the three walls of the carthouse, which must have been built end-on to the byre, are specified as being 30 × 20 × 30 feet on which the mason raised 4 'ropes' of wall giving an exact equation. The wall of the pinfold is specified as being of 5 ropes and this could have made it a 25 feet square construction which seems quite practical: the *OED* quotes the authority of Billingsley, *Agric. Somerset 79* (1797) for a rope of 20 feet.
- 19 Bond and Weller, pp. 73; they define 'large' as being over 40 metres in length and 9 metres in width: pp. 83–84.
- 20 The width of a barn was probably set at a minimum by the need to have at least two wains unloading at once, and its maximum by the problems entailed in constructing a roof to span an open space of much more than 8.5 metres.
- 21 As with all of the abbey's manorial documents of the fourteenth century the original is written in the medieval Latin of its clerks.
- 22 An account of late-medieval barns, byres and other farm buildings is given by H. E. J. Le Patourel in *The Agrarian History of England and Wales* vol. 3 (1991), pp. 865–884; amongst other matters this notes that the typical width of byres was of 20 feet to allow for two rows of stalls separated by a central drainage channel.
- 23 See D. Knopp and G. P. Jones, *The Mediaeval Mason* (1949), pp. 142–3 and J. Harvey, *English Mediaeval Architects* (1954), p. 185; Harvey lists several Michels but none earlier than 1426 although it is possible that, given the peripatetic nature of the craft, one John Michell, leading mason on the rebuilding of the Constable Tower at Scarborough, described as the probable common ancestor of several other masons of that name, was himself a member of the family to which Walter belonged.
- 24 This amount is omitted in the account but estimated by subtraction of the itemised costs from the total.
- 25 The two limeburners were involved at both the wall building and roofing stages and so the later part of their 26 weeks on site probably entailed supplying the tiler rather than the mason.
- 26 See Knoop and Jones, pp. 109–125, 235–239 for wage rates, and pp. 69–72 for masons' servants and labourers.
- 27 There were 44 landless men (*garçiones*) in Ashcott, 29 in Shapwick, 28 in Street and 27 in Walton at Hocktide in 1340; H. S. A. Fox, 'Exploitation of the landless by lords and tenants in early medieval England', in Z. Razi and R. Smith, eds, *Medieval Society and the Manor Court* (1996), was the first to establish that Sir Michael Postan was mistaken in his belief that the long lists of chevage payers to be found in Glastonbury Abbey court rolls were living and working outside the manor: M. M. Postan, 'Mediaeval agrarian society in its prime', in *idem* ed., *The Cambridge Economic History of Europe I: The Agrarian Life of the Middle Ages* (2nd ed. 1966), pp. 564–5.
- 28 The 24½ lbs of cheese consumed by the 66 men on the one day equated to about 6 ounces per man. Based upon the given cost of 10d per stone (i.e. 14 lbs as confirmed by the 17½d cost given for total weight consumed) it would seem that total costs of food and drink were probably close to the 1d per day that was the standard rate for light labouring tasks when food was not supplied.

- This view is strengthened by the 4s 11 0½d costs of bread and accompanying relish fed to the 62 men of Street and Baltonsborough for their day's work, equivalent to 0.96d per day.
- 29 James Bone has pointed out to me that *Northwode* was almost certainly Norwood Park, the largest of Glastonbury's deer parks at about 570 acres, situated to the east-north-east of Glastonbury Tor, around Nat. Grid ref. ST. 525390.
 - 30 It is possible that some of the stone came from the Blue Lias quarries in Street itself but Doulting is recorded as the specific source of all the freestone for which the mason there was paid £6 17s. There were 4 demesne horses in 1341 apart from the 34 oxen.
 - 31 In respect of the pinfold the main account roll for 1343 specifically refers to 200 *plaustrata* of stone *frangend et fodiend ad tascham 12s*, which entry in the absence of any indication to the contrary, strongly suggests that this activity took place within the confines of the manor.
 - 32 Herty Moor in East Sedgemoor just 2 miles north-east of Glastonbury (see Table 4).
 - 33 Two other sources of material, and a further named person, emerge from the account for the byre; Nicholas Maynard was the vendor of Welsh timbers—*copulas cheveronus Wallensis*—bought for 10s. The source of local sand is named as *la vennyecastele* (Fenny Castle on the edge of Wookey parish 3 miles due north of Glastonbury) wherefrom 12 quarters and 6 bushels were collected and washed for tiling, and for pointing of the walls: I am grateful to James Bond who first identified this location for me.
 - 34 Bond and Weller, p. 80.
 - 35 Smith, *Collected Papers*, pp. 112–116.

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